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“From classroom to home: Automatized-implicit and explicit knowledge among young EFL learners and the impact of instruction and extramural English“

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## ABSTRACT

One of the main debates in second language acquisition research revolves around the relative significance of implicit and explicit learning conditions in learners' language development. This question is pertinent especially in exploring how learners achieve high levels of implicit and/or automatized knowledge. These types of knowledge should be aimed for in language teaching and learning, given they can be employed rapidly and effortlessly in spontaneous language use. Today, the debate needs to be revisited in light of implicit learning conditions created through extramural, i.e., out-of-class, English, which is currently sharply increasing across Europe and beyond. Yet, to my knowledge, no study to date has explored the effect of extramural language use on implicit and/or automatized knowledge (henceforth automatized-implicit knowledge). This research gap was addressed in the present project, which further enquired into the interactions of out-of-school learning contexts with traditional foreign language learning in the classroom. This was done by adopting a cross-country perspective.

A total of 213 learners aged 13–14 years, 110 in Austria and 103 in Sweden, were recruited together with their respective English teachers ( $n = 14$ ). The two countries differ in the kind of learning environment they provide, providing more explicit and implicit instruction respectively. Through a learner and teacher questionnaire as well as a teacher interview, information on the type of instruction (e.g., systematic vs. incidental grammar instruction) and the frequency, starting age, and weekly use of extramural English was collected. The data were explored using (Multivariate) Analyses of Variance and qualitative interview analyses. To measure the learners' grammatical knowledge, they performed tests of automatized-implicit knowledge (oral narrative test, elicited imitation, and aural and written timed grammaticality judgment tests) and explicit knowledge (untimed grammaticality judgment test and metalinguistic knowledge test). A Confirmatory Factor Analysis was computed on these widely-used measures to gauge their construct validity among young, non-academic learners in the two different types of learning environments. To enquire into the interplay of instruction, extramural English, and levels of automatized-implicit and explicit knowledge, Linear Mixed Models were computed.

Concerning classroom practices, questionnaire and interview data point to more systematic and explicit grammar teaching in lower secondary English instruction in Austria as compared to Sweden. Among Swedish learners, regular extramural English use on average started earlier and occupied more time on a weekly basis. This population typically does not have wide access to dubbed foreign-language media. Given the more implicit learning environment in

Sweden, the participants there presumably performed the six grammar tests largely based on automatized-implicit rather than (unautomatized) explicit knowledge. This would explain why Swedish students' performance on the six grammar tests loaded on a single factor in the Confirmatory Factor Analysis. Compared to Swedish learners, Austrian participants scored significantly higher on the metalinguistic knowledge test, and, as expected, the factor analysis produced two factors, which were labelled automatized-implicit and explicit knowledge. The effect of extramural English emerged as significantly positive only in the Swedish sample, most consistently so in terms of watching audio-visuals and gaming. Contrarily, in Austria, instruction apparently currently holds a greater potential in aiding the construction of automatized-implicit knowledge than spare time English. I therefore conclude that extramural English use *may* predict automatized-implicit knowledge, notably if it starts early and is extensive and multimodal. This study appears to be the first to demonstrate the impact of out-of-class English on the development of automatized-implicit knowledge. In addition, it shows interesting disparities between more implicit vs. explicit learning environments. Such contextual differences are accounted for in a proposed theoretical model of *Context-Dependent Skill Acquisition*, an elaboration of Robert DeKeyser's *Skill Acquisition Theory* (2015).

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## LIST OF ABBREVIATIONS

AHS	Austrian Academic High School
AIC	Akaike Information Criterion
AMS	Austrian Middle School
ANOVA	Analysis of Variance
AT	Austria
ATGJT	Aural Timed Grammaticality Judgment Test
CEFR	Common European Framework of Reference
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
CLIL	Content and Language Integrated Learning
CLT	Communicative Language Teaching
EE	Extramural English
EFA	Exploratory Factor Analysis
EFL	English as a Foreign Language
EIT	Elicited Imitation Test
ELT	English Language Teaching
ESL	English as a Second Language
FonF	Focus-on-Form
FonFs	Focus-on-FormS
GJT	Grammaticality Judgment Test
HISEI	highest parental ISEI score
IELTS	International English Language Testing System
ISCO	International Standard Classification of Occupations
ISEI	International Socio-Economic Index of Occupational Status
ISLA	Instructed Second Language Acquisition
L1	First language
L2	Second Language (including all languages learned after the L1)
LEQ	Learning Experiences Questionnaire
LOR	Length of Residence
MANOVA	Multiple Analysis of Variance
MKT	Metalinguistic Knowledge Test
ONT	Oral Narrative Test
PISA	Programme for International Student Assessment

PPP	Presentation – Practice – Production
RMSEA	Root Mean Square Error of Approximation
SE	Sweden
SES	Socioeconomic status
SLA	Second Language Acquisition
SLEP	Secondary Level English Proficiency Test
SRMR	Standardized Root Mean Square Residual
TGJT	Timed Grammaticality Judgment Test
UGJT	Untimed Grammaticality Judgment Test
WTGJT	Written Timed Grammaticality Judgment Test

**Statistical symbols and abbreviations**

[]	95% confidence interval of a given point estimate [lower limit, upper limit]
CI	95% confidence interval
<i>d</i>	Cohen's <i>d</i>
<i>M</i>	mean
<i>Max</i>	maximum
<i>Med</i>	median
<i>Min</i>	minimum
<i>n</i>	sample size of subgroup within sample
<i>N</i>	total sample size
<i>p</i>	<i>p</i> -value of statistical significance
<i>r</i>	Pearson's correlation coefficient
<i>SD</i>	standard deviation
<i>t</i>	<i>t</i> statistic
VIF	variance inflation factor
$\eta^2$	(partial) eta-squared
$\chi^2$	chi-square

## 1 INTRODUCTION

One of the main debates in Second Language Acquisition (henceforth SLA) research revolves around the relative significance of implicit and explicit grammar teaching and learning. These different learning conditions have been explored in numerous studies (see Kang et al., 2019; Norris & Ortega, 2000). However, many of these studies were laboratory-based, and an extrapolation to a real, classroom-based learning setting is not always possible. Moreover, the bulk of such studies integrated only outcome measures of explicit knowledge, rather than tests of implicit knowledge or a combination of the two. This is despite the fact that researchers seem to agree that it is learners' development of implicit knowledge that should be aimed for in foreign language instruction (e.g. Doughty, 2001; R. Ellis, 2005a, 2005b; Gotseva, 2015; Krashen, 1982). Implicit knowledge can be accessed rapidly and effortlessly in spontaneous language use—a characterization also applicable to (highly) automatized knowledge (DeKeyser, 2017; Pawlak, 2021b). Hence, both automatized and implicit knowledge allow for greater fluency than an unautomatized explicit understanding of rules. Developing any of the two types of knowledge—implicit or automatized—should be a primary goal in foreign language teaching and learning.

Indeed, grammar forms an integral part of language, and grammatical knowledge is comprised in communicative competence (Canale & Swain, 1980; see also Hedge, 2008). It remains unclear, however, what type of instruction best supports the development of grammatical knowledge to be readily used in communication. In general, little in the field of SLA has been as controversial as the role of grammar in instruction (Nassaji, 2017, p. 205). The dissatisfaction with grammar-focused, structural methods in the 1960s and 1970s, as well as the desire to facilitate cross-national communication in Europe resulted in the implementation of communicative language teaching (Richards & Rodgers, 2014). Despite this shift in national English Language Teaching (henceforth ELT) curricula towards a skills-based, meaningful embedding of form, grammar is often still seen as a major building block that needs to be taught separately from and prior to introducing a more communicative focus in teaching (Ortega, 2008; Sato & Oyanedel, 2019; Thornbury, 1999; Uysal & Bardakci, 2014).

The debate of the relative effectiveness of implicit vs. explicit teaching and learning needs to be reassessed especially considering implicit learning conditions created through extramural, i.e., out-of-class, English (henceforth EE; Sundqvist, 2009a). EE has become pervasive for language learners across the globe. A population's EE use is high especially in countries where foreign-language media is typically supplemented by subtitles in the country's majority

language (e.g., in the ‘subtitling countries’ Sweden, the Netherlands, and Finland). In countries where such content is usually dubbed, EE use may still be lower but has certainly increased with the growing popularity of YouTube, other social media platforms, and on-demand streaming platforms such as Netflix. Regardless of the geographical context, though, if an individual’s EE use is extensive, this can effectively foster the incidental acquisition of language. For instance, vocabulary knowledge, especially of a receptive nature, has been observed to be positively influenced through out-of-class language use (De Wilde et al., 2019; Olsson, 2016; Peters & Webb, 2018; Schwarz, 2020; Sundqvist, 2019a). The same might hold true for grammar knowledge, in particular automatized and/or implicit knowledge (henceforth automatized-implicit knowledge<sup>1</sup>).

Against this background, it is surprising that, to the best of my knowledge, no study to date has explored the effect of extramural English on automatized-implicit knowledge. Further, there is a lack of research enquiring into the interactions of out-of-school learning contexts with traditional foreign language learning in the classroom. If extramural English holds the potential of aiding grammar acquisition whilst providing a pressure-free, enjoyable, motivating learning environment, research needs to flesh out its affordances and implications for the classroom. In order to do so, measures of automatized-implicit knowledge must first be validated with young, non-academic learners, who are often ignored in research (Andringa & Godfroid, 2020), and in contexts that vary in the degree they provide implicit vs. explicit learning conditions.

To address these gaps, this project adopted a cross-national perspective and explored the development of automatized-implicit and explicit knowledge among lower secondary learners aged 13–14 years in Austria and Sweden. While Austria is a dubbing or low-EE country, Sweden represents a subtitling or high-EE country. Additionally, the two countries seem to differ in the type of instruction applied in secondary school ELT, apparently more explicit in Austria and more implicit fluency-based in Sweden (Schurz & Coumel, 2020). In order to confirm and further examine these context-based assumptions, the first aim was to investigate the type of instruction in lower secondary ELT in Austria and Sweden. The second aim was to enquire into the learners’ starting age and current levels of extramural English use according to different types of activities. Another objective was to measure the young learners’ automatized-implicit and explicit knowledge and to gauge the construct validity of six grammar tests

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<sup>1</sup> As further explained in 2.1.4, the functional similarity of automatized and implicit knowledge, as for instance suggested by DeKeyser (2017), is an important underpinning of this dissertation and its applied pedagogic perspective. The term automatized-implicit knowledge is used to refer to an amalgam of those two constructs.

administered on them. The final and most important aim was to examine the relationship between the learning environment, i.e., the type of instruction learners receive and the nature of their extramural English use, and learners' levels of automatized-implicit and explicit knowledge. To pursue these objectives, a combination of quantitative methods—yielding learner and teacher questionnaire data and learner test performance scores—with qualitative teacher interview data proved instrumental. To my knowledge, this project is the first to enquire into and show disparities between more implicit vs. explicit learning environments in young learners' development of automatized-implicit and explicit knowledge.

The outline of this thesis is as follows. Chapter 2 is concerned with the definition of the concepts of implicit, explicit, and automatized knowledge, their delimitation from related constructs, and the issue of measuring those types of knowledge. Chapter 3 addresses key constructs of instructed language learning, such as meaning-focused vs. form-focused instruction and communicative and action-based language teaching. Chapter 4 targets uninstructed language acquisition, providing a definition of extramural English and outlining the observed effect of extramural language use on different areas of learning. Previous research is reviewed in chapter 5, reporting the observed effectiveness of different types of instruction and, importantly, the effect of naturalistic learning on grammar knowledge. Zooming in on the research context, chapter 6 provides more specific information on English language teaching and extramural English use in Austria and Sweden. Having laid out the theoretical and contextual background, chapter 7 introduces the material and methods of this empirical study. It presents the research questions and hypotheses, the grammatical target structures, the design of the test instruments, and the procedures followed in the collection, preparation, and evaluation of the data. The results of this study are presented and evaluated in the subsequent two chapters, with chapter 8 reporting them and chapter 9 providing a discussion. Concluding this thesis, chapter 10 summarizes key findings and their pedagogical implications and outlines the study's limitations and directions for further research. In the appendix, the interested reader can find supplementary material, including the letters of consent, blueprints and copies of the test instruments, the transcripts of teacher interviews, and additional descriptive statistics. Output files of the statistical computations are accessible online at Phaidra (see 11.12).



## 2 IMPLICIT, EXPLICIT, AND AUTOMATIZED KNOWLEDGE

First language acquisition clearly happens unintentionally and with a lack of awareness. Through massive input, children—naturally and seemingly effortlessly—acquire a complex system of grammatical structures together with a massive vocabulary. In contrast, the role of unconscious processes in second and foreign language learning has long been debated in SLA research (Rogers et al., 2016). The distinction between unconscious (i.e., implicit) and conscious (i.e., explicit) processes involved in learning a language originated in the field of cognitive psychology, which engendered extensive research in this area. The seminal work by Arthur Reber and colleagues (A. S. Reber, 1967, 1976; A. S. Reber et al., 1980; A. S. Reber, 1989) provoked criticism disputing the idea of multiple systems of language learning (for a summary, see R. Ellis, 2009a). This controversy exists also in SLA research, where the renewed interest in implicit and explicit learning was first and foremost sparked by Stephen Krashen's (1982, 1983, 1985) proposals on L2 *learning* vs. *acquisition*, i.e., the conscious and unconscious processes involved in constructing linguistic knowledge. According to Krashen (see *input hypothesis*, 1985), true language competence is derived from natural input, and acquisition should therefore be attributed the biggest role in language pedagogy (see 3.1.1 on meaning-based instruction). Krashen's proposal of this binary system was critiqued for ignoring the complexity of such a distinction (see R. Ellis, 2008a). Schmidt (1994), for instance, demarcated the notion of consciousness from related concepts, thereby reinstating its validity as a means to describe linguistic learning and knowledge (R. Ellis, 2009a). While Schmidt (1994) described awareness as a criterion of implicit vs. explicit learning, intentionality, control, and attention were defined as concepts distinct from, albeit related to, awareness. *Implicit* vs. *explicit learning* cannot be equated with *implicit* vs. *explicit knowledge*, the former concepts describing a process not necessarily leading to (the respective type of) knowledge. Likewise, *implicit* vs. *explicit learning conditions* do not automatically imply that implicit vs. explicit learning is taking place (e.g. Hulstijn, 1989; Robinson, 1996b; Richard Schmidt, 1994).

While research on the binary distinction of implicit and explicit knowledge thus has a long tradition, voices for the need to distinguish between a third type of knowledge, of an automatized explicit nature, grew louder only more recently (Godfroid & Kim, 2019; Maie & DeKeyser, 2020; Spada et al., 2015; Suzuki, 2017; Suzuki & DeKeyser, 2015, 2017). Awareness of grammatical structures can certainly aid learning; and yet, automatized and implicit knowledge are what allow the learner to successfully take part in real-time communication (e.g. Doughty, 2001; R. Ellis, 2005a, 2005b; Gotseva, 2015; Pawlak, 2019) (see 2.1.4).

In an attempt to define the implicit, explicit, and automatized knowledge distinction, on which the focus of the current study lies, the terms will first be demarcated from the related concepts of implicit vs. explicit learning (2.1.1), incidental vs. intentional learning (2.1.2), and implicit vs. explicit instruction (2.1.3), before elucidating the constructs of implicit, explicit, and automatized knowledge themselves (2.1.4). Thereupon follows a discussion of measurement methods (2.2).

## 2.1 Delimitation and Definition

### 2.1.1 *Implicit and Explicit Learning*

Implicit and explicit learning have been defined in various ways, yet generally pointing to the same concept. Arthur Reber (1976) defined implicit learning as “a primitive process of apprehending structure by attending to frequency cues” (1976, p. 93). Hayes & Broadbent (1988) further described the process as an “unselective and passive aggregation of information about the co-occurrence of environmental events and features” (1988, p. 251). Both definitions are based on the ideas that implicit learning precludes awareness of the object being learned (DeKeyser, 2008). In contrast, in explicit learning, underlying (morphosyntactic) rules are being searched for, constituting a process in which “various mnemonics, heuristics, and strategies are engaged to induce a representational system” (A. S. Reber, 1976, p. 93). According to N. Ellis (1994b), it is “where the individual makes and tests hypotheses in a search for structure” (1994b, p. 1).

As pointed out by Andringa and Rebuschat (2015), more research is needed to clarify what exactly the underlying processes of the respective type of learning are. So-called *statistical learning* has been increasingly investigated as a primary mechanism in first language (henceforth L1) and second and foreign language (henceforth L2) acquisition (Andringa & Rebuschat, 2015; see, for instance, Caldwell-Harris et al., 2015). Statistical learning is not domain-specific, and allows mammals to analyze and incorporate frequencies of (co-)occurrence (Andringa & Rebuschat, 2015). It takes place automatically and unconsciously through extended periods of repeated exposure, through which knowledge is gradually accumulated based on distributional properties of the input. While the terms of implicit and statistical learning have mostly been used separately, elsewhere a more unified approach is suggested by the term *implicit statistical learning* (see Christiansen, 2019; e.g. Godfroid & Kim, 2021) given the shared background of these concepts.

Much of experimental work in the fields of psycholinguistics and SLA has endeavored to manipulate learning from the outside by creating particular learning conditions (see upcoming sections). While explicit learning seems to take place through explicit instruction, implicit learning tends to occur under meaning-focused input (DeKeyser, 2008; N. Ellis, 1994a; R. Ellis et al., 2009; A. S. Reber, 1996). Yet, such learning conditions are at least conceptually different from the processes underlying learning and might still allow for the unintended form of learning to occur.

### **2.1.2 *Incidental and Intentional Learning***

Incidental vs. intentional learning are conceptually different from implicit vs. explicit learning, instruction and knowledge (e.g. Hulstijn, 1989; Robinson, 1996b). Schmidt (1994) defined incidental learning as “learning without the intent to learn or the learning of one thing (e.g., grammar) when the learner’s objective is to do something else (e.g., communicate)” (1994, p. 16). Closely related is the notion of attention, with Ellis & Shintani (2010) defining incidental learning as “the learning of one L2 feature without intention while attention is focused on some other aspect of the L2 such as semantic meaning” (2010, p. 608). Intentional learning, then, happens when it is the learner’s intention to learn a given grammatical feature. In experimental studies, however, incidental vs. intentional learning refer to the (implicit vs. explicit) learning condition imposed on learners (Williams, 2009). For example, Loewen, Erlam and Ellis (2009) illustrated incidental learning as an exposure to input containing a high density of a certain linguistic feature, with the real focus of the study and/or the information that participants will be tested being obscured. An intentional learning condition, then, would for instance be a scenario where students know that they will be tested and on what (Loewen et al., 2009). By means of incidental vs. intentional experimental arrangements implicit vs. explicit learning (respectively) is hoped to be provoked. Implicit learning is indeed frequently characterized as happening incidentally rather than in an intentional setting (e.g. A. S. Reber, 1976).

In the present study, an implicit/explicit learning condition is equated with incidental/intentional learning, a setting precluding/including explicit instruction. Such a setting for instance applies to the use of extramural English (EE), one of the main areas of inquiry of the present study. The terms implicit/explicit learning refer to the underlying process in learning from the learner’s perspective, as defined in 2.1.1.

### 2.1.3 *Implicit and Explicit Instruction*

Similar to incidental and intentional learning, implicit and explicit instruction describe the learning setting rather than the process of learning itself. Thus, it is “defined from a perspective external to the learner, i.e., the teacher’s, material writer’s or course designer’s perspective” (R. Ellis, 2009a, p. 18). For example, despite the teacher’s explanation of a grammatical rule, “the learner may end up acquiring implicitly and incidentally a number of lexical or grammatical items that happen to figure in the teacher’s explanation” (Loewen et al., 2009, p. 18). Conversely, learners may notice specific structures in a meaning-based task and potentially arrive at explicit knowledge. However, while incidental/intentional learning are terms predominantly used in research settings aiming to elicit implicit/explicit learning (DeKeyser, 1995; A. S. Reber et al., 1991; Rebuschat, Révész, & Rogers, 2015; Robinson, 1996b, 2005), the term instruction seems to be favored when enquiring into the impact of the learning condition on one or both types of knowledge (e.g. Goo et al., 2015; Kang et al., 2019; Norris & Ortega, 2000).

Implicit instruction encourages learners to infer underlying rules despite being unaware of this process and while focusing on something else (R. Ellis, 2009a). In Graus and Coppens’ (2016) conceptualization of implicit instruction, grammar features occur naturally in meaningful input, but are not addressed—an approach relying on “exposure (input) and communication with more advanced speakers, a paradigm based on first language acquisition” (2016, p. 575). Within implicit instruction, Ellis (2009a) proposed the distinction between *direct* and *indirect intervention*. The first term designates the exposure to enriched input, containing a high density of targeted structures with different levels of saliency. Indirect intervention is where participants or students are sought to learn through communicative tasks rather than modified input.

On the other hand, explicit instruction aims to make learners aware of a grammatical rule, including or excluding the technical language involved (see analyzed vs. metalinguistic knowledge, 2.1.4). Such rules can be taught deductively or inductively. In the deductive approach, a rule is presented to the learner up-front and in turn often practiced and produced (R. Ellis, 2001b) (see *Presentation Practice Production (PPP)* in 3.1.2, Hedge, 2008, p. 264). In the inductive approach, rules are discovered by learners themselves (Hedge, 2008), a principle rooted in the notion of *consciousness-raising* (see Sharwood Smith, 1981). Consciousness-raising tasks are claimed to make learners aware of certain features through increasing their salience (e.g., the frequency of examples), thereby allowing them to work out the underlying structure and its rule themselves (Hedge, 2008). For instance, by providing learners with

pairs of adjectives ending in *-ed* and *-ing* (e.g., *surprised/surprising, tired/tiring, confused/confusing*) in context, they can be asked to work out the distinction by themselves (Hedge, 2008, p. 163). While the inductive approach starts out somewhat implicit, it is commonly considered to form part of explicit instruction given its purpose of working out a grammatical rule.

Implicit and explicit instruction can alternatively be looked at from a more pedagogic-applied perspective. Along these lines, Achard (2018) referred to the given concepts as *grammar as usage* and *grammar as concept*. The first suggests that “grammatical constructions arise as a matter of language use” and calls for inductive or implicit instruction, providing input through which learners (subconsciously) infer rules. Grammar as concept recognizes grammatical categories as a means for speakers to categorize the world. It advocates a deductive, explicit presentation of grammatical rules and potentially metalanguage. This should allow the mature learner to reorganize and appropriate their conception of the target system based on the mental representation of their L1. Pointing out the weaknesses of each approach, Achard (2018) contended that grammar as usage does not account for neither the difference between the L1 and L2 and the respective entrenched grammatico-semantic categories nor the learners’ actual wish to grasp underlying rules. On the other hand, grammar as concept evokes focus-on-formS and the synthetic approach (see 3.1.2), neglects other areas of language learning (e.g., pragmatics, discourse competence, fluency), and might not work well with features showing a blurry form-meaning relationship. Importantly, Achard (2018) recommended a combination of both methods rather than hypothesizing the superiority of one over another.

#### **2.1.4 *Implicit, Explicit, and Automatized Knowledge***

Traditionally, the main distinction that psychologists and applied linguists have drawn between different types of knowledge is the one of implicit and explicit knowledge. Implicit knowledge is assumed to emerge primarily through implicit learning mechanisms via meaning-based input (e.g. Paradis, 1994), and explicit knowledge is assumed to be the result of explicit learning processes (e.g. R. Ellis, 2006a). In turn, even if the newly memorized implicit and explicit knowledge tends to remain implicit and explicit respectively, the level of awareness may alter (DeKeyser, 2008) (see *interface debate*, 2.1.4.2). According to Ellis (2006a), implicit knowledge is

procedural, is held unconsciously, and can only be verbalized if it is made explicit. It is accessed rapidly and easily and thus is available for use in rapid, fluent communication. (2006a, p. 95)

In contrast, explicit knowledge is

held consciously, is learnable and verbalisable, and is typically accessed through controlled processing when learners experience some kind of linguistic difficulty in using the L2. (2006a, p. 95)

As to explicit knowledge, Ellis (2006a) further differentiated between *analyzed* and *metalinguistic knowledge*. These terms refer to conscious knowledge of how a grammatical structure functions on the one hand, and understanding and knowing the grammatical rules and the technical language it involves on the other hand. Although Ellis and Han (1998) described learners as not necessarily being fully aware of their analyzed knowledge, Ellis stated in a later study (2006b) that analyzed knowledge does indeed entail that learners are consciously aware of the structural mechanisms. Metalinguistic knowledge does not seem to be a prerequisite for the existence of analyzed knowledge, "although it may be preciser, clearer and better-structured if the learner has access to metalingual terms" (R. Ellis & Han, 1998, pp. 5–6).

The existence of the implicit-explicit knowledge distinction has been supported by neuropsychological evidence (Gabrieli, 1998; for reviews, see Hazeltine & Ivry, 2003; Kalra et al., 2019; Paradis, 1994). A dissociation is for instance suggested by studies on amnesics (e.g. Graf & Schacter, 1985; Knowlton et al., 1992; Meulemans & van der Linden, 2002, 2003) and Alzheimer's disease patients (Gabrieli et al., 1993; Nosofsky et al., 2012; P. J. Reber et al., 2003), who perform poorly on measures of explicit memory but demonstrate implicit learning capacities despite injuries of certain structures of the hippocampus (Kalra et al., 2019). In contrast, impaired implicit learning has been traced back to disorders of the cerebellum and basal ganglia, such as Parkinson's (e.g. Ashby et al., 2003; Foerde & Shohamy, 2011) and Huntington's disease (e.g. Knowlton et al., 1996). Yet, the proposed distinction based on how the two types of knowledge are stored in the brain is not always as clear-cut in neuropsychological studies (see Kalra et al., 2019). Such doubts are also apparent in SLA research, with task-dependent performance possibly reflecting differential accessibility of the same kind of knowledge (see Williams, 2009). Since it is likely that implicit and explicit knowledge are not entirely separate systems, this study conceptualizes them as coexisting, connected systems that are both drawn on in language usage (see Bialystok, 1982; R. Ellis, 2009a; Paradis, 2009; Suzuki, 2017; Ullman, 2001) (see also my stance on the interface hypothesis, 2.1.4.2).

Thus, originally, the main distinction as to different types of knowledge was made only between implicit and explicit knowledge. The need to distinguish between a third type of knowledge, of an automatized nature, has been raised only more recently. About three

decades ago, Robinson (1996a) distinguished between three sub-types of implicit knowledge as based on its source: (A) L1 knowledge that is innate, (B) the resulting knowledge of implicit learning, and (C) automatized knowledge. Today, rather than equating implicit knowledge with automatized knowledge, the latter term is more and more commonly being used to denote an automatized version of explicit knowledge (e.g., Suzuki & DeKeyser, 2017). Accordingly, automatized knowledge is said to result from explicit learning and may hold the potential of facilitating the development of implicit knowledge. Hence, in recent years, SLA researchers have emphasized the importance of delimiting implicit knowledge from automatized knowledge in theory and test design (Godfroid & Kim, 2019; Maie & DeKeyser, 2020; Spada et al., 2015; Suzuki, 2017; Suzuki & DeKeyser, 2015, 2017). The key point that has been made is that while both automatized and implicit knowledge are accessed rapidly and thus hardly distinguishable behaviorally, only the latter precludes awareness (Suzuki, 2017).

It follows that despite differences in the level of awareness that implicit and automatized knowledge imply, the latter are “functionally equivalent” (DeKeyser, 2017, p. 19; Suzuki, 2017, p. 1230) and indistinguishable in “communicative interaction” (DeKeyser, 2017, p. 19) and “mundane language use” (Suzuki, 2017, p. 1230). Moreover, a recent study shows that the assumption of their conceptual distinctness might not be as solid after all (Godfroid & Kim, 2021) (see last paragraph in 2.2.2.5 for an elaboration). Since both automatized and implicit knowledge allow the learner to successfully participate in real-time interaction, these types of knowledge should be aimed for in language teaching and learning (e.g. Doughty, 2001; R. Ellis, 2005a, 2005b; Gotseva, 2015; Pawlak, 2019). Contrarily, if explicit knowledge remains unautomatized, one’s ability to use grammatical features accurately and meaningfully in spontaneous communication will be limited. This is what Larsen-Freeman (2003) referred to as the *inert knowledge problem*.

The functional similarity of implicit and automatized knowledge are an important underpinning of this dissertation and its applied pedagogic perspective. Even though their conceptual distinction is surmised, they will not be teased apart by the test instruments used in the present study. To refer to an amalgam of the two constructs, automatized and/or implicit knowledge, the term automatized-implicit knowledge will be used. Automatized explicit knowledge and unautomatized explicit knowledge will be referred to as automatized and explicit knowledge respectively. In the following sections, the defining features of implicit, explicit, and automatized knowledge will be illustrated, and their interconnectedness discussed.

### 2.1.4.1 Defining Features

The constructs of implicit and explicit knowledge can be characterized according to seven defining features—awareness, systematicity and certainty, accessibility, the nature of L2 use, verbalization, learnability, and proceduralization—as laid out in previous research (R. Ellis, 2005a; R. Ellis & Roever, 2018). In the following outline, this characterization will be elaborated by also looking at automatized knowledge (see Table 2.1).

*Table 2.1 An overview of the characteristics of implicit, explicit and automatized knowledge (adapted from Ellis, 2005a)*

	Implicit	Explicit	Automatized
Conscious awareness		✓	✓
Systematicity & learner certainty	✓	✓	?
Automatic access	✓		✓
Available for fluent language use	✓		✓
Verbalizable		✓	?
Learnable regardless of age		✓	?
Proceduralized	✓		✓

**Awareness.** In L1 speakers, Karmiloff-Smith (1979) distinguished between epilinguistic and metalinguistic awareness. The first term refers to intuitive awareness of grammaticality, allowing children to recognize incorrect language, whereas the latter emerges later and is based on (more) conscious awareness of ungrammaticality, enabling the acquirer to tentatively explain incorrect morphosyntax. Similarly, in L2 learners, implicit knowledge is tacit and can be used intuitively, whereas explicit knowledge involves conscious awareness (R. Ellis, 2006b) and can be constructed when the learner's level of cognitive maturation allows for the integration of such declarative information (Bialystok, 1991). As a form of explicit knowledge, automatized knowledge, too, involves awareness of given structures (e.g. Maie & DeKeyser, 2020; Suzuki, 2017; Suzuki & DeKeyser, 2017), although its availability may decrease with increasing automatization (e.g., DeKeyser, 1998, 2008).

**Systematicity and Certainty.** Although both implicit and explicit knowledge generally are not fully systematic and do not involve absolute learner certainty, the first has been described as more structured and as being used with greater certainty in terms of its correctness (R. Ellis, 2005a). Explicit knowledge seems to be less consistent and accurate: “Learners frequently have hunches, rather than a clear understanding, about how specific rules work” (R. Ellis, 2005a, p. 149). This claim might be supported by observations of greater score dispersion in the case of tests of explicit rather than implicit knowledge (A. S. Reber et al., 1991; Zobl, 1995),

and a (strong positive) correlation of subjective confidence ratings and accuracy in task performance (Chan, 1992; Rebuschat, 2013) (see 2.2.1.1); yet, the relationship between all these factors does not seem consistent (e.g. R. Ellis, 2005a). Likewise, we remain agnostic as to the extent to which automatized knowledge is systematic and/or involves high learner certainty.

**Automaticity.** As previously mentioned, according to Krashen's (1983) monitor theory explicit knowledge sets in after the use of implicit knowledge, if necessary. In this vein, implicit knowledge entails automatic processing and explicit knowledge controlled processing (R. Ellis, 2005a). It follows that access to explicit knowledge, if unautomatized, is predicated on sufficient time and attention and therefore can hardly be drawn on in spontaneous communication (R. Ellis, 2009a). However, frequently repeated use and practice can give rise to automatized knowledge, allowing for "rapid online processing in much the same way as they access implicit knowledge" (R. Ellis, 2009a, p. 12), a view shared by other researchers (e.g. Bowles, 2011; DeKeyser, 2017; see *strong interface hypothesis*, 2.1.4.2).

**The Nature of L2 Use.** Whereas explicit knowledge has been reported to be employed primarily for tasks not requiring online performance and/or ones that prove difficult to the learner, implicit knowledge appears to enable fluent language use (e.g. DeKeyser, 2017; R. Ellis, 2009a; R. Ellis & Han, 1998). Further, implicit knowledge has been claimed to be responsible for "default L2 production" (R. Ellis, 2009a, p. 13) and to best represent *actual* language competence (Doughty, 2001; R. Ellis, 2005a; Gotseva, 2015; Krashen, 1982). Such attributions clearly extend to automatized knowledge, which—as addressed in 2.1.4—has been reported to be functionally similar to implicit knowledge (e.g. DeKeyser, 2017; Suzuki, 2017). Although the type of knowledge used is certainly influenced by the nature of the task being performed, it seems doubtful that implicit and explicit knowledge are entirely separable in language use (Bialystok, 1982; R. Ellis, 2009a; Ullman, 2001). For instance, measures of both implicit and explicit grammatical knowledge<sup>2</sup> seemed to predict performance in the SLEP (Secondary Level English Proficiency Test) and IELTS (International English Language Testing System) (Elder & Ellis, 2009; R. Ellis, 2006b; R. Ellis & Han, 1998). Despite the assumption that language users draw on an amalgam of implicit *and* explicit knowledge, one type of knowledge might be more dominantly used, primarily as contingent on the learner's existing knowledge and the nature of the task.

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<sup>2</sup> The following measures of implicit/explicit knowledge were used in the studies: oral imitation test, untimed and timed grammaticality judgment tests, metalinguistic knowledge test (Elder & Ellis, 2009; R. Ellis, 2006b), timed oral production test, a timed grammaticality judgment test, a delayed grammaticality judgment test and an interview designed to tap metalingual knowledge (R. Ellis & Han, 1998). For a definition of measures, see 2.2.2.

**Verbalization.** Implicit knowledge is manifested solely in the form of its application (R. Ellis, 2009a), and it remains covert for both the learner and observer which particular rule the learner draws on to perform systematically (see Paradis, 1994). Learners cannot give explanations for their morphosyntactic choices when drawing purely on implicit knowledge, unless they first form a declarative representation of it (R. Ellis, 2005a). In contrast, explicit knowledge is potentially verbalizable, despite existing “in the minds of the learners independently of whether they can verbalize it” (R. Ellis, 2005a, p. 10). Verbalization does not necessarily entail the use of metalanguage but can be based on nontechnical language (e.g. Paradis, 1994) (see 2.1.4). Whether automatized knowledge is verbalizable likely hinges on whether the declarative, unautomatized type of explicit knowledge is still available (e.g., DeKeyser, 1998, 2008).

**Learnability.** Native-like proficiency in L2 learning is frequently linked to early exposure. Therefore, one can assume that there are age constraints as to the learnability of substantial L2 implicit knowledge, with early users more likely to develop high levels of implicit knowledge (e.g. Pawlak, 2021b; Philp, 2009). This is consistent with research proposing that young learners can successfully exploit implicit learning conditions, whereas adult learners seem to benefit more from explicit learning conditions (DeKeyser, 2000; see *Fundamental Difference Hypothesis*, Bley-Vroman, 2009). Conversely, explicit knowledge has been reported to be learnable regardless of age (Bialystok, 1994; P. S. Green & Hecht, 1992), which might hold true especially for formally simple structures with clear form-meaning mappings. Even though explicit knowledge can be expected to be automatizable regardless of age, the extent to which this is possible requires investigation.

**Procedural and Declarative Knowledge.** Although functionally, implicit and explicit knowledge share characteristics with procedural and declarative knowledge respectively, this similarity does not seem to hold true from a cognitive perspective (DeKeyser, 2017). While the concepts of implicit vs. explicit knowledge are based on awareness, the characterization of procedural vs. declarative knowledge rely on Bialystok’s (1991) construct of control, incorporating for instance selective attention and online processing. Thus, procedural knowledge allows for effortless language use as based on automatic processes, whereas declarative knowledge is effortful and drawn upon using controlled processing (R. Ellis, 1993). However, procedural knowledge is not so much a type of knowledge as it is a learned behavior resulting out of the repeated mental act of choosing a given structure (DeKeyser, 2017, p. 16). According to DeKeyser (2017), a more felicitous definition therefore is

Declarative representations are objects of thought, whereas procedural representations provide the (cognitive) actions to work upon these objects (Gade et al., 2014, p. 174).

In typical English as a foreign language (henceforth EFL) classrooms, grammar learning often begins with the construction of declarative explicit knowledge, which learners are aware of and which they can make use of only given enough time and a focus on form (DeKeyser, 2017, p. 16). Such declarative explicit knowledge can however be proceduralized and in turn automatized, even if the latter can be a lengthy procedure hardly reaching asymptote according to DeKeyser (2014, 2017, p. 16) (see *strong interface* in 2.1.4.2). Likewise, when it comes to implicit knowledge, it can be declarative—in the sense of Chomsky's Universal Grammar—or proceduralized, most prototypically represented by L1 or very fluent foreign language use of intuitive knowledge (DeKeyser, 2017; see also R. Ellis, 2006b). This proceduralized nature of implicit knowledge is how the term is employed in the present study.

#### 2.1.4.2 *The Interface Debate*

Closely related to the issue of proceduralization and automatization is the interface of implicit and explicit knowledge, which has been debated for at least 40 years. Typically, SLA research has been interested in the question of whether explicit knowledge can be proceduralized and bring about implicit knowledge (R. Ellis, 2005a; K. M. Kim, 2020; Loewen & Sato, 2017). The given question has been discussed based on three positions of the interface debate: the strong interface, weak interface, and noninterface (R. Ellis, 2009a), each position implying a different approach in instruction (Dalili, 2011; R. Ellis, 2005b).

**The Noninterface Position.** The noninterface position describes implicit and explicit knowledge as distinct systems, with neither explicit knowledge aiding the development of implicit knowledge, nor vice versa. For instance, this view is reflected in Krashen's (1983) theory of *language learning vs. acquisition* (see 2) and Paradis' (1994) proposal that what he labelled as declarative vs. procedural memory are "neurofunctionally and anatomically different" (1994, p. 393). Krashen's theoretical frameworks (1982, 1983, 1985) exclude the possibility of declarative representations of rules being proceduralized or automatized. Since it is assumed that practicing explicit knowledge cannot bring about automatized and/or implicit knowledge, the noninterface position calls for meaning-focused rather than form-focused instruction as envisaged in Krashen's input hypothesis (Krashen, 1985) (see 2).

**The Strong Interface Position.** The strong interface position deems possible the development of implicit knowledge through extensive practice while initially drawing on explicit

knowledge. Originally, this interface position was promoted by Sharwood Smith (1981), and in turn by Robert DeKeyser, one of its most important proponents. DeKeyser (1998, 2008, 2014, 2017) argued that through substantial communicative practice, declarative knowledge of grammatical rules can be proceduralized and in turn also automatized. The learner initially performs language tasks by means of rule-based knowledge, which are steadily constructed into larger, more accessible chunks eventually manifested as implicit or highly automatized knowledge. Importantly, even though the rule-based knowledge itself may eventually be lost, this is not necessarily the case. Such a trajectory towards implicit or highly automatized knowledge is traced in DeKeyser's *Skill Acquisition Theory* (DeKeyser, 2014, 2017) (see 9.5). This position advocates explicit grammar teaching, such as the sequence of the presentation, practice, and production (henceforth PPP) of a grammar rule until it is eventually automatized. In this procedure, DeKeyser attributed a great role to "the right kind of practice, i.e., the type of communicative behavior that can draw on declarative knowledge and lead to procedural knowledge" (personal communication) (see focus-on-formS in 3.1.2 and focus-on-form, 3.1.3).

**The Weak Interface Position.** According to the weak interface position, explicit knowledge can indirectly aid the construction of implicit knowledge via other processes if the learner is developmentally ready (Pienemann, 1999). This is hypothesized to be possible in different ways. Explicit knowledge can facilitate *noticing* certain structures in implicit input, and so-called *noticing-the-gap* allows for a comparison of a given structure as occurring in the input with one's own output or existing mental representation of the feature (see *Noticing Hypothesis*, Richard Schmidt, 2001). Indeed, the noticing of form has been found to aid learning in incidental contexts (e.g. Mackey, 2006). Further, an utterance can be constructed through working memory based on analogy or explicit knowledge, which in turn serves as input and promotes implicit learning (R. Ellis, 1993; see *output practice* in N. Ellis, 2011). Thus, both the learner's output and input through other speakers (or writers) can influence the two types of knowledge (see model of *linguistic input and output* in Sharwood Smith, 1981). The weak interface position advocates a focus-on-form approach in teaching (see 3.1.3), which can be applied in tasks such as focused communicative tasks (Dalili, 2011) as well as ones raising learners' consciousness about underlying structures (R. Ellis, 1991) (see *consciousness-raising* and *inductive instruction*, 2.1.3).

In contrast to a situation where learning first happens in the classroom, in contexts providing high exposure to the target language (e.g., English in Sweden), implicit knowledge is likely to be constructed first, with explicit instruction perhaps being delivered only afterwards. The idea of implicit knowledge allowing for the construction of explicit knowledge is a manifestation of the

so-called *reverse interface hypothesis*. Starting from there, Cleeremans (2008) proposed the *radical plasticity thesis*, according to which knowledge and skill development passes three stages: the one of implicit, explicit, and automatized knowledge. Following the natural construction of implicit knowledge, increasing exposure and language use is argued to gradually bring about more conscious inspection, which certainly can be fostered through instruction. In turn, explicit knowledge can be automatized through extensive practice.

Despite existing uncertainties, I envisage a bidirectional interplay of implicit and explicit grammatical knowledge, i.e., with explicit knowledge allowing for the emergence of implicit (or at least highly automatized) knowledge, and vice versa (Ishikawa, 2019; K. M. Kim, 2020; Spada & Tomita, 2010). It seems possible that a learner who initially develops explicit knowledge through explicit instruction can proceduralize and automatize this knowledge. Sometimes, automatization may even reach a level where the grammar rules themselves are no longer accessible to the learner, which could then be labelled implicit knowledge. Likewise, implicit knowledge could be supplemented by explicit knowledge provided there is explicit instruction and/or the learners' own curiosity in how a structure works. A recent dissertation by K.M. Kim (2020) was among the first studies to demonstrate that not only appears explicit knowledge to aid the construction of implicit (or, arguably, automatized-implicit<sup>3</sup>) knowledge; the latter also seemed to bring about higher levels of consciousness ultimately leading to explicit knowledge. I further assume that which developmental pattern is at play is likely to be contingent on the learning environment and the affordances provided by learning inside and outside the classroom. In addition to such contextual factors, the debate of the implicit-explicit interface might be ongoing because of the difficulty of designing valid measures of the two types of knowledge (Ebadi et al., 2015; R. Ellis, 2005a; Truscott, 2014).

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<sup>3</sup> Based on the test instruments Kim (2020) used to tap into what she labelled implicit knowledge (a WTGJT, ONT, and EIT, see 2.2.2), a more accurate denotation would be automatized-implicit knowledge. This claim may be better understood with the help of section 2.2.2.

## 2.2 Measuring the Types of Knowledge

To investigate the bearing that different learning conditions have on implicit, explicit, and/or automatized knowledge<sup>4</sup>, valid measurement is paramount. Yet, the research area of implicit vs. explicit knowledge thus far has suffered from shortcomings in its testing methodology, especially when it comes to tapping implicit and what I refer to as automatized-implicit knowledge (see, for instance, Pawlak, 2019; Rebuschat & Williams, 2012; Rogers, 2016). Newly developed measures in more recent, mainly psycholinguistic research nevertheless seem promising. This section will give an overview of the implicit vs. explicit knowledge testing methodology of this millennium, essentially including the seminal work by Ellis (2005a) and its development into state of the art methods. First, the two existing strands in measuring the different types of knowledge, learner self-report and factor-analytic testing, will be elucidated in 2.2.1. In turn, the design of the testing instruments that have been used most frequently in research will be outlined in 2.2.2.

### 2.2.1 Two Approaches in Testing

#### 2.2.1.1 Learner Self-Report

Learner self-report of implicit and explicit knowledge<sup>5</sup> mainly appears in the form of retrospective verbal reports and subjective measures (Rebuschat, 2013). Such methods have been adopted in particular by experimental research on implicit learning of new (and often artificial) features (R. Ellis & Roever, 2018). Retrospective (or offline) verbal reports are used after an incidental training of grammatical features (i.e., a training precluding explicit instruction) and a subsequent task, in which, for instance, correct word combinations have to be indicated (e.g. Hama & Leow, 2010; Williams, 2005). Participants are asked to verbalize any rules or patterns which they have detected during the experimental task. Here, the assumption is that knowledge is implicit when participants show an effect of learning despite being unable to verbally account for their successful performance (Rebuschat, 2013). For example, in a study by Williams (2005), 58% of the subjects performed accurately in a task testing newly acquired knowledge of a semi-artificial language despite having indicated a lack of awareness of the underlying rule of determiners marking animacy. However, retrospective reports are deemed

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<sup>4</sup> Originally, most test instruments presented in this section were described as measures of either implicit or explicit knowledge. As already mentioned, more recent studies typically make a distinction between implicit and automatized knowledge. In the case of tests that were originally described as measures of implicit knowledge but that may likewise tap into an amalgam of automatized-implicit knowledge, this information is supplied in the following outline.

<sup>5</sup> As argued in the last paragraph of this section on learner self-reports, the terms automatized and automatized-implicit knowledge arguably are not applicable to measures based on learner self-reports.

problematic in multiple ways. First, it remains nebulous at what point during training, testing, and reporting awareness of rules comes into play. Moreover, the participants' memory of the nature of their knowledge might have decayed by the time they report on it, and finally, despite existing rule-based knowledge, test takers could be unable to verbalize it (Maie & DeKeyser, 2020; Rebuschat, 2013; Rebuschat, Hamrick, et al., 2015). Indeed, in a follow-up study to Williams (2005), Hama and Leow (2010) revealed divergent results when comparing nonconcurrent to concurrent measures of awareness—i.e., retrospective verbal reports to think-aloud protocols—and consequently expressed the need to measure awareness also online, i.e., during test performance. Although such proposed concurrent measures of self-report obviate the risk of memory decay and more clearly indicate at what point in time awareness is raised, they seem to be problematic as well. For instance, in Rebuschat, Hamrick et al. (2015), a generalization of a newly acquired determiner system to new instances was not possible for participants thinking aloud during training but only for those responding to retrospective reports.

Similar to think-aloud protocols, subjective measures are used concurrently to gather confidence ratings or source attributions at the same time as participants are performing the measure of grammatical knowledge (e.g., a timed grammaticality judgment test, see 2.2.2.3). While in confidence ratings participants indicate how confident they are in their responses, source attributions are statements on whether test takers relied on guessing, intuition, memory, or rule-based knowledge (R. Ellis & Roever, 2018). The underlying assumption of such subjective measures is that when applying implicit knowledge, learners are less confident in their answers and tend to guess them while still achieving above-chance accuracy (Chan, 1992; R. Ellis & Roever, 2018; Rebuschat, 2013). For instance, in the study by Rebuschat, Hamrick et al. (2015), participants performed a forced-choice test after being exposed to an artificial determiner system. Confidence ratings and source attributions were reported to have revealed the development of implicit knowledge. Although it is claimed that subjective measures are more successful than retrospective reports in eliciting subliminal levels of confidence (Rebuschat, Hamrick, et al., 2015; Rebuschat & Williams, 2012), response bias is still a major issue. Despite existing conscious knowledge, participants might not be confident enough to indicate their application of rule-based knowledge and instead opt for the systematic response of having guessed the answers (R. Ellis & Roever, 2018; Rebuschat, 2013).

To conclude, learner self-reports as employed in the afore-mentioned studies seem to rely on the binary distinction of implicit and explicit knowledge. Because such self-reports are commonly based on source attributions or the learners' ability to verbalize rules, they seem to tap into the distinction of participants' unconscious (i.e., implicit) vs. conscious (i.e., explicit)

knowledge of rules. Findings pointing to explicit knowledge could conflate unautomatized and automatized knowledge. This is problematic, given that the research agenda often has been—and clearly should be—to explore how implicit *and/or automatized knowledge* can be reached.

### 2.2.1.2 *Factor-analytic testing*

Factor-analytic testing is perhaps a more exhaustive approach than learner self-reports (see Rebuschat, 2013) in that it is based on test batteries covering two or three types of knowledge, implicit, explicit, and/or automatized. It is widely used in the field of SLA and has been implemented by means of a minimum of five so-called objective measures, two to three per type of knowledge. The scores obtained on the different tests allow the computation of a factor analysis, hence the reference to such research as factor-analytic (R. Ellis & Roever, 2018). This method is also referred to as direct and indirect testing, alluding to the overt vs. covert direction of the participants' focus of attention to grammar in measures of explicit vs. implicit knowledge (Rebuschat, 2013). While the focus on form is transparent in measures of explicit knowledge, asking participants directly to, for instance, correct sentences, measures of automatized and implicit knowledge are sometimes more meaning-based and trigger the application of grammar knowledge more indirectly. By means of using measures of at least two knowledge types, results can be compared and, if indirect tests show a learning effect and direct tests do so only negligibly, implicit and/or automatized knowledge are assumed to prevail.

It is true that tapping into implicit vs. explicit knowledge in isolation is likely to lie outside the realm of possibility (e.g. R. Ellis, 2005a; Pawlak, 2019). Whilst explicit knowledge poses fewer problems in that it can be elicited directly, implicit and automatized knowledge are more difficult to be tapped into, since they manifest themselves in natural language behavior that is hardly separable from the knowledge being used (Han & Ellis, 2016, p. 5). The issue of finding valid measures of implicit (or, rather, automatized-implicit) vs. explicit knowledge was first taken up genuinely by the seminal work produced by Ellis (2005a). In this study, the two types of knowledge were systematically defined according to factors such as learner certainty, automaticity in access, and learnability (see 2.1.4.1). Measures that were envisaged to tap into implicit vs. explicit knowledge were characterized according to the factors of the degree of awareness applied (feel vs. rule), the time available to perform the task (pressured vs. unpressured), learners' focus of attention (meaning vs. form), and the use of metalinguistic knowledge being encouraged (no vs. yes) (R. Ellis, 2005a, p. 157). Against this backdrop, five grammar tests targeting 17 morphosyntactic structures, such as possessive -s, regular past tense and modal verbs, were designed and administered on 20 native and 91 nonnative,

mostly Chinese, speakers of English. A subsequent exploratory principal component factor analysis produced two separate factors (see Table 2.2).

*Table 2.2 Factor loadings in Ellis (2005a)*

Test	Component 1	Component 2
Oral Imitation	.824	.270
Oral Narrative	.805	.065
Timed Grammaticality Judgment	.721	.357
Untimed Grammaticality Judgment	.522	.730
Metalinguistic Knowledge	.103	.929

While the oral elicited imitation test, the oral narrative test and the timed grammaticality judgment test were claimed to be valid measures of implicit knowledge, the untimed grammaticality judgment test and the metalinguistic knowledge test were reported to tap into explicit knowledge. This work has been adopted in numerous studies (e.g. Bowles, 2011; Ebadi et al., 2015; Godfroid & Kim, 2021; Gutiérrez, 2012; K. M. Kim, 2020; Loewen et al., 2009; Philp, 2009; Zhang, 2015). The characteristics and shortcomings of these measures as well as of instruments with a more psycholinguistic agenda are subjects of the following section.

### **2.2.2 A Taxonomy of Test Instruments**

To this day, the problematicity of measuring implicit knowledge and delimiting it from (automatized) explicit knowledge is still debated. But perhaps, as I argue in this thesis, such a delimitation is not needed from an applied pedagogic perspective. As mentioned in 2.1.4, applied educational linguists appear to attach to a two-fold distinction of implicit vs. explicit knowledge as put forward by Ellis (2005a) (e.g. DeKeyser, 2017; R. Ellis & Roever, 2018). In contrast, psycholinguistically oriented researchers have emphasized the need to distinguish between implicit vs. automatized knowledge in testing (Godfroid & Kim, 2019; e.g. Suzuki, 2017; Suzuki & DeKeyser, 2017). Yet, their distinctness cannot be consistently proved, as for instance in a recent study. In Godfroid and Kim (2021), Ellis' (2005a) measures of 'implicit knowledge' loaded on the same factor as measures claimed to more truly represent implicit knowledge (real-time comprehension tests, see 2.2.2.5). An untimed grammaticality judgment test and a metalinguistic knowledge test loaded on the other factor, named explicit knowledge.

Drawing on both fields of research, the great gambit of test instruments available to date can be classified according to four groups: oral production tests, judgment tests, metalinguistic

knowledge tests, and real-time comprehension tests. As rightly remarked by Ellis & Roevers (2018), these tests differ in their degree of authenticity of language use, ranging from the free oral narrative test representing the most ecologically valid measure, to others that bear little resemblance with real-life situations (e.g., grammaticality judgment and metalinguistic knowledge tests, comprehension tasks). The choice of such measures should be contingent on the study's purpose and learner characteristics (see R. Ellis & Roevers, 2018; Pawlak, 2019). For an overview of these test instruments and their design features, see Table 2.3. Their targeted type of knowledge is indicated using \* for explicit knowledge, \*\* for implicit knowledge, and \*\*\* for what I here refer to as automatized-implicit knowledge. Tests belonging to the last group have traditionally been used rather confidently as measures of implicit knowledge (e.g. R. Ellis, 2005a; Erlam, 2006) but were more recently claimed to tap into automatized knowledge (e.g. Spada et al., 2015; Suzuki & DeKeyser, 2015). Nevertheless, as I will argue in the following sections, these tests are unlikely to shut off implicit knowledge, hence the term automatized-implicit. Based on the recent findings of Godfroid and Kim (2021) (see 2.2.2) and the similar functional affordances of implicit and automatized knowledge (e.g. DeKeyser, 2017; Suzuki, 2017), the type(s) of knowledge they tap into is/are labelled automatized-implicit in this thesis.

*Table 2.3 Overview of the design features of the most widely used test instruments (based on Ellis and Roevers, 2018)*

Criteria	Oral Production		Judgment Tests		Metalinguistic Knowledge Test	Real-time Comprehension
	ONT *	OIT *	UGJT **	TGJT *	MKT **	Self-paced Reading, Word-Monitoring, Visual-World Task ***
Requires use of 'feel'	✓	✓		✓		✓
Time pressured	✓	✓		✓		✓
Meaning-focused	✓	✓				✓
Requires meta-language					✓	

**Note.** The asterisks refer to the following: \* for explicit knowledge, \*\* for implicit knowledge, and \*\*\* for automatized-implicit knowledge.

### 2.2.2.1 The Oral Narrative Test (ONT)

Oral narrative tests (henceforth ONT) exist in different forms depending on the extent to which reproduction is controlled vs. free (R. Ellis & Roevers, 2018). The oral narrative test in its original design (R. Ellis, 2005a; adopted for instance in Mostafa & Kim, 2020) can be described as a rather free and uncontrolled measure. In the respective studies, participants first read through a story twice and then had to retell it orally within three minutes. This test was

designed to measure implicit knowledge by prompting participants to rely on intuition, focus their attention on meaning, and perform the task under time constraints. Thus, it was hoped learners would remain oblivious to the targeted features as well as to the fact that they were tested on grammar knowledge. Learner performances were rated using obligatory occasion analysis (R. Ellis, 2005a). Other rather uncontrolled ONTs were accompanied by visuals. For example, in Bowles (2011), participants were instructed to read a story in Spanish and to look at a wordless series of pictures twice. In turn, they were asked to retell the story aloud. In Akakura (2012), after completing an elicited imitation task containing visuals (see 2.2.2.2), the story narrated in the task had to be retold in the participants' own words. This format also falls into the category of an uncontrolled ONT.

In the afore-mentioned studies (Akakura, 2012; Bowles, 2011; R. Ellis, 2005a), the ONT loaded on the factor labelled implicit knowledge, along with elicited imitation (see for instance Table 2.2). However, the ONT is unlikely to present a distinct measure of implicit knowledge in that it cannot preclude access to (automatized) explicit knowledge (see R. Ellis & Roever, 2018; Pawlak, 2019), as for instance found in Mostafa and Kim (2020). Yet, in Godfroid and Kim (2021), the ONT loaded on a factor together with real-time comprehension measures (i.e., tests of implicit knowledge, see 2.2.2.5). Many other follow-up studies based on Ellis (2005a) rejected the use of the oral narrative test (R. Ellis & Roever, 2018) and implemented the timed grammaticality judgment test (see 2.2.2.3) and/or elicited imitation test (see 2.2.2.2) instead (e.g. Erlam, 2006; Gutiérrez, 2012; Loewen, 2009; Philp, 2009; Rogers et al., 2016; Suzuki & DeKeyser, 2015; Zhang, 2015). This can be due to a number of reasons, the most obvious ones being that eliciting target structures can be challenging and test administration and data preparation lengthy.

Contrarily, in more controlled production tests, learners are directed to attend to grammatical forms to a greater extent (R. Ellis & Roever, 2018). For example, in the picture-cued story used in Spada et al. (2015), learners had to tell a story based on a series of 9 visuals eliciting passive constructions and three visuals cueing active constructions. Likewise, in an attempt to create naturalistic testing situations adapted to learner groups, Pawlak (2019) constructed focused communication tasks to elicit (A) passive voice from university students and (B) past continuous vs. progressive from secondary school students. This was based on (A) a written prompt to describe a location, and (B) a series of six pictures and vocabulary items to tell a story. In these two studies, time constraint supposedly was at the discretion of the test administrator, and, unfortunately, factor analyses were not computed and/or reported on.

### 2.2.2.2 *The Elicited Imitation Test (EIT)*

The elicited imitation test (henceforth EIT) has been subject of a large body of research, part of which implemented it as a measure of general language proficiency (e.g. Bowden, 2016; Ortega et al., 1999). However, the EIT designed by Ellis (2005a), named oral imitation, was used as a measure of implicit knowledge (see Table 2.2). For each target structure, participants were aurally provided with an equal number of grammatical and ungrammatical sentences. For each target structure, two items were used in Ellis (2005a), whereas subsequent studies typically integrated more items, such as 16-20 (e.g. Pawlak, 2019; Sarandi, 2015; Suzuki & DeKeyser, 2015). Ideally, items are controlled for parameters such as length, complexity, and lexical difficulty (e.g. Spada et al., 2015). The general procedure in the EIT then is that after listening to a sentence, participants are asked to respond to a meaning-based question (see next paragraph). In turn, the stimulus has to be orally reproduced in correct language and in real time. The resulting time pressure is intended to stop participants from drawing on unautomatized explicit knowledge. In Ellis (2005), productions were rated in a binary fashion, with correct supplies of the target structure allocated a score of 1 and incorrect and avoided supplies a score of 0. While this basic structure of the EIT is commonly respected, its design details vary widely and have been improved in SLA research of the last decade (e.g. Akakura, 2012; J. Kim & Nam, 2017; Suzuki & DeKeyser, 2015; Suzuki & Sunada, 2018).

Similar to the ONT, the concern has been raised that the EIT tests short-term memory instead of implicit or automatized knowledge. This issue can be counteracted by initial focus on meaning, adapting stimulus length, and a time lag between reception and reproduction (see, for instance, Erlam, 2006; Sarandi, 2015; Spada et al., 2015). As to the initial focus on meaning, the bulk of studies integrated subjective belief questions on the stimulus content (e.g. Bowles, 2011; R. Ellis, 2005a; Erlam, 2006; Pawlak, 2019; Sarandi, 2015; Spada et al., 2015; Suzuki & DeKeyser, 2015). Less common are truth-value questions about factual statements, realized as true/false (Akakura, 2012) or yes/no questions (e.g. J. Kim & Nam, 2017), or a picture-selection task (Baten & Cornillie, 2019). Such a comprehension check—especially if objectively answerable as based on the item—can provide important information as to whether the test taker understood sentence meaning. Moreover, random answering, which would minimize attention directed to meaning, is less likely to occur (J. Kim & Nam, 2017). To further promote focus on meaning and reduce cognitive load, Akakura (2012) deployed a novel approach by basing the EIT on a picture story. Each sentence was presented together with a picture, followed by (1) a true/false question to be answered by means of the picture and (2) the task to reconstruct the sentence orally using the provided key words.

To safeguard responses from memory effects, two additional precautions are usually taken. Stimuli have often been designed to be at least 6–8 syllables long (Erlam, 2006; Sarandi, 2015; Spada et al., 2015; Vinther, 2002), followed by a pre-repetition time span of, for instance, two (Y. Kim et al., 2016; Solon et al., 2019), three (Mehrani, 2018; Suzuki & DeKeyser, 2015; Suzuki & Sunada, 2018), four to five (Sarandi, 2015), or six (Spada et al., 2015) seconds. In some studies, students were asked to read out the numbers of the countdown aloud, lest participants quietly prepare the sentence for reproduction (Suzuki & DeKeyser, 2015; Suzuki & Sunada, 2018). Clearly, we still remain agnostic as to the “magical numbers” (G. A. Miller, 1956) of such parameters—numbers that are just high enough to outwit working memory capacity. However, the fear that scores obtained by the elicited imitation task could be a reflection of working memory might be unfounded, as shown in studies addressing this issue (see, for instance, Y. Kim et al., 2016; Okura & Lonsdale, 2012).

When it comes to the oral repetition of the stimuli, both the instructions given to participants and the time pressure imposed on them while reproducing a statement have also been implemented in different ways across studies. In much of previous research, participants apparently were merely instructed to repeat the sentences in *correct* English (e.g. R. Ellis, 2005a; Erlam, 2006; J. Kim & Nam, 2017) or Spanish (e.g. Bowles, 2011). Other studies (e.g. Spada et al., 2015; Suzuki & DeKeyser, 2015) opted to explicitly inform students that some stimuli were ungrammatical and required correction, in order to ensure that all participants understood the instructions in the same way. Although the time available for repetition was sometimes at the discretion of the test administrator and thus partly self-paced (Erlam, 2006; Mehrani, 2018), it has more frequently been more strictly controlled for. If a given time limit is chosen arbitrarily—e.g., eight seconds for all items (Spada et al., 2015; Suzuki & DeKeyser, 2015)—control for time pressure is rather unsystematic (J. Kim & Nam, 2017). Syllable-dependent (Graham et al., 2010; J. Kim & Nam, 2017) or recording-length dependent (e.g. Suzuki & Sunada, 2018) timers possibly are infelicitous, too, since sentences are rarely repeated in identical fashion to the stimulus. Furthermore, although an item-specific time constraint appears to be a more fine-grained option than setting the same time limit for all items, this is likely to hamper the participants’ familiarization with the task.

Therefore, whereas elicited imitation has long been used confidently as a measure of implicit knowledge (e.g. R. Ellis, 2005a; Erlam, 2006), SLA research of the past five years alerts to the fact that it might not be able to tease apart implicit and automatized explicit knowledge (e.g. Spada et al., 2015; Suzuki & DeKeyser, 2015). Nevertheless, Kim and Nam (2017) assured that sufficient time constraints during repetition prohibit access to explicit knowledge, which they claim was not the case in Suzuki and DeKeyser (2015), where the EIT correlated significantly

with the MKT. Indeed, the approach taken by Kim and Nam (2017) of basing the computed time constraint for each item on production times of native speakers with no time pressure appears to be well-founded (see 7.3.1.2 for the EIT design used here). Supporting Kim and Nam's claim that the EIT taps into implicit knowledge, Godfroid and Kim (2021) also found this test to load on a factor together with real-time comprehension measures (of implicit knowledge) (see 2.2.2.5).

### 2.2.2.3 *Grammaticality Judgment Tests (GJTs)*

Grammaticality judgment tests (henceforth GJT) have also long been implemented in studies of applied linguistics and SLA. They have often been used to measure grammar knowledge without distinguishing between different types of such knowledge (R. Ellis & Roever, 2018). However, Ellis (2005a) fashioned the test in two forms, timed and untimed, to measure implicit and explicit knowledge respectively (see Table 2.2). Irrespective of whether the test is speeded, the focus clearly lies on form. This was adopted in numerous follow-up studies (e.g. Bowles, 2011; Gutiérrez, 2013; Loewen, 2009; Zhang, 2015) and has been advanced by recent SLA research (e.g. J. Kim & Nam, 2017; Suzuki, 2017; Vafaee et al., 2019).

In the default design of the GJT, participants are presented with an equal number of grammatical and ungrammatical items for each structure. This is usually done in randomized order (e.g. Bowles, 2011; Loewen, 2009; Suzuki & DeKeyser, 2017). Depending on how many features are integrated, the number of items per structure varies, ranging from two to four (R. Ellis, 2005a; J. Kim & Nam, 2017) to 17–36 items (Spada et al., 2015; Suzuki, 2017; Vafaee et al., 2019). Ideally, items are controlled for parameters such as length, complexity, and lexical difficulty (e.g. Vafaee et al., 2019). After presenting an item, participants are asked to classify it as grammatical or ungrammatical by pressing a response button or writing down the answer (R. Ellis, 2005a). Quite innovatively, participants in Akakura (2012) could choose between the answer options correct, probably correct, probably incorrect and incorrect. Ellis (2005a) also included source attribution questions and confidence ratings, which, however, is not common practice in recent research (e.g., Vafaee et al., 2019; J. Kim & Nam, 2017; Suzuki, 2017). In contrast to Ellis (2005a) and most follow-up studies, the GJT can require the correction of erroneous stimuli (e.g. Åberg, 2020; cf. *error correction tests* in R. Ellis & Roever, 2018). While this certainly adds to test validity, it is true that it is more easily administered for written and untimed forms of the GJT (R. Ellis & Roever, 2018).

A number of factors are reported to influence what type of knowledge is being tested, including response time, the grammaticality of items, and the modality of item delivery. In the

untimed GJT (henceforth UGJT), participants are predicted to use explicit knowledge because they have sufficient time to do so (R. Ellis, 2005a). The UGJT has most frequently been reported to load on the factor labelled explicit knowledge together with the Metalinguistic Knowledge Test (see 2.2.2.4) (e.g. Akakura, 2012; Bowles, 2011; R. Ellis, 2005a; Vafaee et al., 2019). In the timed GJT (henceforth TGJT), the task is performed under time pressure, which is hypothesized to elicit implicit or automatized knowledge. The time constraint imposed on participants while responding to the items is intended to minimize chances of them reflecting on the grammaticality of sentence (Loewen, 2009).

Following Ellis (2005a), in much of previous research, the time constraint for each item was computed based on the average response time of native speakers, to which 20% was added to account for the slower sentence processing of nonnatives. For the written TGJT (henceforth WTGJT), this yielded time limits ranging from 1.55 to 2 seconds (s) for items requiring shorter reaction times and 5.47 to 6.43 s for items allowing longer reaction times (e.g. Bowles, 2011; R. Ellis, 2005a; J. Kim & Nam, 2017; Loewen, 2009; Pawlak, 2019; Vafaee et al., 2019); for the aural TGJT (henceforth ATGJT) in J. Kim and Nam (2017), the timer was set for 0.37 to 2.99 s. Spada et al. (2015) applied a 3.1–6.1 s time constraint depending on sentence length for the WTGJT (including one second to write down the answer), and a consistent but somewhat arbitrary three-second time constraint for the ATGJT. In other studies (e.g. Suzuki, 2017; Suzuki & DeKeyser, 2017), the timer was set for 10 s for all items, and if the response time exceeded a certain time limit for a given item, this was rated as incorrect. In these studies, the time limit applied after testing was based on 50% for the ATGJT and 120% for the WTGJT added to the mean reaction time by native speakers. This more lenient approach than the 20% suggested by afore-mentioned research was adopted so that not less than 90% of the native speaker responses could be rated as correct (Suzuki & DeKeyser, 2017). With a generous time limit of 10 s, participant anxiety—typically exacerbated by time pressure (see Purpura, 2005) and possibly also by variation in time limits across items—can be mitigated. Despite extensive research, it remains unclear what time limit is most fitting to minimize access to (unautomatized) explicit knowledge and, at the same time, curb participant frustration.

Another factor that perhaps hinges on what type of knowledge is being tested is the grammaticality of items. Previous research reported that ungrammatical sentences more strongly serve as a predictor of explicit knowledge (Ebadi et al., 2015; Elder, 2009; R. Ellis, 2005a; Gutiérrez, 2013; Loewen, 2009; Vafaee et al., 2019). In some studies, ungrammatical sentences appeared more apt to elicit explicit knowledge, and grammatical sentences seemed to more successfully tap into what was called implicit knowledge (e.g. R. Ellis, 2005a; Gutiérrez, 2013). Yet, such

findings are inconsistent (e.g. J. Kim & Nam, 2017). Test modality, too, may affect the kind of knowledge being elicited, with the aural GJT requiring real-time processing of language, especially if timed (J. Kim & Nam, 2017; Spada et al., 2015).

Despite extensive research, we remain agnostic to the exact ways in which the afore-mentioned design features interact and affect what construct is targeted most strongly. Moreover, it must be noted that either version of the GJT is form-focused and one can expect the TGJT to invoke the use of (automatized) explicit knowledge if accessible to the learner (R. Ellis & Roever, 2018; J. Kim & Nam, 2017; Suzuki, 2017; Suzuki & DeKeyser, 2017). In Vafaee et al. (2019), for instance, a WTGJT loaded on one factor with an UGJT, while the other factor was constituted of real-time comprehension tasks. Contrarily, though, recent findings by Godfroid and Kim (2021) lend support for TGJTs (also) measuring implicit knowledge, since they loaded on the same factor as real-time comprehension tasks (see 2.2.2.5). At the same time, learners with little explicit knowledge will necessarily attempt to recourse to implicit knowledge even when performing the *untimed* written GJT (Suzuki, 2017; see also Williams, 2009).

#### 2.2.2.4 Metalinguistic Knowledge Tests (MKT)

The Metalinguistic Knowledge Test (henceforth MKT) can be described as the measure most unequivocally tapping into explicit knowledge. The MKT designed by Alderson et al. (1997) has served as a basis for much of research implementing such a measure. It consisted of part 1 requiring participants to actively indicate grammar rules, and part 2 asking them to match grammatical terms with exemplars from English sentences. Its adaptation by Elder (2009) and Bowles (2011) differed in part 1, a single choice task requiring passive rather than active metalinguistic knowledge. There, 17 ungrammatical sentences were declared as such with the error being underlined and participants instructed to select the rule that best accounted for the error (see, also, R. Ellis, 2005a; J. Kim & Nam, 2017; Zhang, 2015). In part 2 of the MKT used in the latter studies, participants were presented with a list of grammatical features and had to find an example of each of them in individual sentences or a text. However, the MKT by Kim and Nam (2017) only consisted of part 1. In all these studies, part 1 integrated each target structure only once, and part 2 encompassed 21 grammatical features related to the 17 target structures (Elder, 2009; R. Ellis, 2005a; J. Kim & Nam, 2017).

The advantage of including open-ended questions, as in Alderson et al. (1997) and more recent studies is that it adjusts to the participants' learning experiences such as the grammar rules and type of metalanguage being discussed in their classes. However, this can also be accounted for in MKTs testing only receptive metalinguistic knowledge. For instance, in Elder (2009), distractors were based on incorrect explanations given by students from the same population in

an open-ended pilot task, and correct answers were designed to match the way that grammar rules are given in textbooks and by teachers. Adapting the MKT to participants is especially important given diverse learner groups with different instructional experiences (for test design features used here, see 7.3.1.5). Besides these two common test formats discussed here, the MKT can be designed even more flexibly (see, for instance, Kasprowicz et al., 2019).

Evidently, another crucial aspect is that the MKT is geared towards teasing apart explicit and implicit knowledge. In this vein, it should be ruled out that items are answerable based on the latter type of knowledge. Therefore, it is sometimes unadvisable that a single choice answer option provides a grammatical and/or ungrammatical form of the target feature (in combination with metalanguage or not). For instance, the item *If Jane had asked me, I would give her some money* was delivered with the answer option *We must use 'would have given' to indicate that the event has already happened* in Elder (2009). This is infelicitous if there is no distractor stating the same correct instance but with different, inaccurate rule-based information (cf. Elder, 2009; R. Ellis et al., 2009).

The MKT generally has been used as a non-speeded test, which, together with its clear focus on form, is intended to prompt the use of rule-based, metalinguistic knowledge. This has been confirmed by factor-analytic studies, in which the MKT loaded on the factor labelled explicit knowledge, showing a strong relationship with the UGJT (Elder, 2009; R. Ellis, 2005a) and loading on a factor other than the one subsuming the ONT, EIT and/or the TGJTs (Elder, 2009; R. Ellis, 2005a; J. Kim & Nam, 2017) (e.g., see Table 2.2).

### 2.2.2.5 Real-Time Comprehension Tests

Clearly, the measures of implicit and explicit knowledge originally proposed by Ellis (2005a) have so far been the ones most widely deployed and built upon in the field of SLA. Yet, as previously mentioned, their implementation to measure implicit vs. explicit knowledge has been heavily criticized in particular in recent research. It is proposed that the EIT, ONT, and TGJT, alleged measures of implicit knowledge, cannot shut off automatized explicit knowledge (e.g. Suzuki, 2017; Suzuki & DeKeyser, 2015; Vafaee et al., 2019). This claim is primarily rooted in findings of the EIT and TGJT adopted from Ellis (2005a) producing a factor separate from so-called real-time comprehension tests. Real-time comprehension tests are measures originating in psycholinguistic literature and are explained further down. For instance, in Suzuki and DeKeyser (2015), participant scores on an EIT performed by 100 Chinese learners of Japanese correlated with the MKT; word monitoring, in contrast, did not correlate with the

latter, but with a serial reaction time task intended to gauge aptitude for implicit learning<sup>6</sup>. In Suzuki (2017), a battery of six speeded tests loaded on two factors, labelled implicit knowledge for real-time comprehension tasks, and automatized knowledge for time-preserved form-focused tasks such as TGJTs. Against the background of such research findings, learners are suggested to veritably draw on implicit knowledge only in indirect and meaning-based tasks, as in the case of real-time comprehension.

In real-time comprehension tests, participants are not asked to make grammaticality judgments. Instead, the tests capture real-time grammar processing to examine if knowledge is drawn upon almost simultaneously with the occurrence of target features in the input. This, it is argued, cannot happen consciously but only through implicit knowledge (Paradis, 2009; Suzuki, 2017; Suzuki & DeKeyser, 2015; Vafaee et al., 2019). Self-paced reading, word-monitoring, and visual-world tasks are among the most common measures of implicit knowledge applied (R. Ellis & Roever, 2018). These tests are briefly clarified in what follows.

Real-time grammatical processing has often been assessed through reaction time tasks, such as self-paced reading and word-monitoring. In *self-paced reading* (e.g. Jiang, 2007; Roberts & Liszka, 2019; Suzuki, 2017; Vafaee et al., 2019), participants are asked to read grammatical and ungrammatical sentences containing the target structure(s). To do so, they have to press a button for each word to appear on the screen. The reaction time for each word of the region of interest is recorded. This region of interest is constituted of the target feature occurrence and the (two) subsequent word(s) (Jiang, 2007; Suzuki, 2017; Vafaee et al., 2019). The underlying assumption is that ungrammatical sentences cause participants to slow down in responding if they perceive them as incorrect. In *word-monitoring* (e.g. Granena, 2013; Maie & DeKeyser, 2020; Suzuki, 2017; Suzuki & DeKeyser, 2015; Vafaee et al., 2019), participants are presented with a word on a screen and have to press a key on the computer as soon as they hear it in the auditory input sentence. This so-called monitor word occurs directly after the target structure. In both tests, the comparison of reaction times for ungrammatical and grammatical items hence provides information on the degree to which errors are detected unconsciously.

Finally, the so-called *visual-world task* (e.g. Andringa, 2020; Huettig et al., 2011; Suzuki, 2017) involves eye-tracking while listening. In Suzuki (2017), for example, participants were exposed to a set of four pictures and a pair of grammatical stimulus sentences (one transitive, one intransitive) for each trial. The sentences *It is the mother that is breaking the dish* and *The dish is broken because it fell off the table* (translation from Japanese) pertained to a scene including a

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<sup>6</sup> Implicit aptitude denotes the degree to which one is able to pick up regularities from the input and hence to learn unconsciously, as defined in Li and Zhao (2021).

mother, a table, a broken dish and a cake. It is hypothesized that depending on the verbal input and its processing by the participants, their attention on the visuals is allocated accordingly (Huettig et al., 2011). For the first sentence in Suzuki (2017), the above-listed images functioned as a target, a competitor, a theme, and a distractor respectively. Eye-movement was recorded and analyzed as to the extent to which the observer's gaze was directed towards the relevant target picture, e.g., the agent of the sentence, in a given moment. In the case of all tests, self-paced reading, word-monitoring, and visual-word tasks, items are followed by comprehension questions to focus attention more on meaning (Jiang, 2007; Suzuki, 2017; Vafaee et al., 2019).

Despite recent research suggesting that the measures indexed above load on a type of knowledge separate from automatized explicit knowledge, there is also conflicting evidence for this claim. First, real-time comprehension tests seemed to be only partly—and if so, weakly—interrelated in Suzuki (2017). Second, as Ellis and Roever (2018) further observed, participants scored much weaker on these measures than on tests of explicit knowledge, which might explain the production of two different factors. Third, as repeatedly touched upon in previous sections of 2.2.2, the very recent findings of Godfroid and Kim (2021) lend support for speeded accuracy-based tests (ONT, EIT, TGJTs) actually (also) measuring implicit knowledge, since they loaded on the same factor as real-time comprehension tasks. In contrast, the UGJT and MKT loaded on the other factor, called explicit knowledge. This two-factor model proved to be the better factor solution than a tripartite model with the real-time comprehension tests loading on a separate factor than the ONT, EIT, and TGJTs. Finally, of utmost importance in concluding this chapter is the question of adjusting the test battery to the research setting, its participants, and purpose. The more fine-grained procedures afforded by real-time comprehension tasks are certainly important for an exploration of theoretical and/or cognitive considerations in SLA and appear to be a good fit for experimental research (R. Ellis & Roever, 2018; Pawlak, 2019). Contrarily, classroom-oriented research optimally is based on tasks resembling in- or out-of-class settings and providing some levels of ecological validity. This is important to ensure participant compliance and mitigate bias created through unfamiliar test formats and situations. Moreover, real time comprehension tasks involve no productive language use. Ultimately, if highly automatized knowledge is functionally similar to implicit knowledge (DeKeyser, 2017; Godfroid & Kim, 2021; Suzuki, 2017), and if the research agenda lies in exploring fluent, accurate real-time language comprehension *and* production, measures initially presented by Ellis (2005a) appear to be a felicitous choice. These measures—the ONT, EIT, and TGJTs—are highly likely to tap into implicit and/or automatized knowledge, depending on what type(s) of knowledge the learner has access to.

## 2.3 Summary

To define implicit, explicit, and automatized knowledge, this chapter has served the purpose of delimitating those knowledge types from the related concepts of implicit vs. explicit learning, incidental vs. intentional learning, and implicit vs. explicit instruction. Whilst the terms implicit and explicit learning refer to the underlying processes of acquisition, taking place without and with awareness respectively (Richard Schmidt, 1994), incidental and intentional learning most often describe the learning condition manipulated in a way to promote implicit and explicit learning respectively (e.g. Loewen et al., 2009). The terms implicit and explicit instruction, then, clearly point to the learning condition, excluding vs. including explicit references to grammatical rules, and is frequently used in pedagogic contexts (e.g. R. Ellis, 2009a). Implicit and explicit knowledge relate to the nature of stored memory learners have of a given grammatical feature. Although the type of knowledge is frequently the result of implicit vs. explicit learning (conditions) (e.g. R. Ellis, 2006a; Paradis, 1994), the different concepts should be regarded as distinct (Richard Schmidt, 1994).

A third type of knowledge, of an automatized explicit nature, also deserves attention. The key point that has been made is that although automatized and implicit knowledge are not distinguishable behaviorally (e.g. Suzuki, 2017), the latter might more clearly preclude awareness (e.g. Maie & DeKeyser, 2020; Suzuki, 2017; Suzuki & DeKeyser, 2017). Implicit, explicit, and automatized knowledge can be characterized not only considering the learner's level of awareness of how the structure works. Rather, they potentially also hinge on the factors of systematicity and certainty, accessibility, the nature of language use at hand, verbalization, learnability, and proceduralization (R. Ellis, 2005a). While the precise interplay of implicit and explicit knowledge still remains under-researched, what is important in view of the empirical investigation of this study is its predication on the claim that highly automatized knowledge appears as functionally equivalent to implicit knowledge. Therefore, the combination of automatized and/or implicit knowledge is here referred to as automatized-implicit knowledge.

The different types of knowledge can be measured based on learner self-report, including (retrospective) verbal reports and subjective measures, and/or based on so-called factor-analytic testing, which relies on multiple measures of each type of knowledge (R. Ellis & Roever, 2018; Rebuschat, 2013). The most common instruments used to tap into explicit knowledge are Untimed Grammaticality Judgment Tests and Metalinguistic Knowledge Tests (e.g. R. Ellis, 2005a). Implicit knowledge has long been tested by means of Oral Narrative, Elicited Imitation, and Timed Grammaticality Judgment Tests (e.g. R. Ellis, 2005a). Since the latter might tap into an amalgam of automatized-implicit knowledge, research with a psycholinguistic agenda

sometimes favors real-time comprehension tests as instruments more exclusively tapping into implicit knowledge (e.g. Suzuki, 2017; Suzuki & DeKeyser, 2015). The question of the construct validity of the different test instruments—i.e., whether they actually measure what the researcher intends to measure—is the subject of ongoing heated debates in current research.



### 3 INSTRUCTED LANGUAGE LEARNING

Communicative competence integrates both accuracy and fluency (see 3.2.1) and underlies Austrian and Swedish ELT curricula (Austrian Federal Ministry of Education [AME], 2012b, 2018; Swedish National Agency for Education [SNAE], 2017, 2021b) (see 6.1.2). Implicit knowledge has been repeatedly described as a predictor of communicative competence; this is also why the development of implicit knowledge has been reported as the primary goal to be pursued in language teaching and learning (e.g. Doughty, 2001; R. Ellis, 2005a; Gotseva, 2015; Krashen, 1982). For example, according to Ellis (2005b), “instruction needs to be predominantly directed at developing implicit knowledge while not neglecting explicit knowledge” (2005b, p. 214). When explicit knowledge remains unautomatized, one’s ability to use grammatical features accurately and meaningfully in spontaneous communication is limited (see *inert knowledge problem* in Larsen-Freeman, 2003). In contrast, (highly) automatized knowledge is functionally equivalent to implicit knowledge (DeKeyser, 2017; Pawlak, 2021b; Suzuki, 2017) (see 2.1.4), which is why automatized and implicit knowledge appear to be equally desirable in foreign language learning. As rightly observed by Pawlak (2021b, p. 883), when learning a language in a foreign language context after the critical period, it is unrealistic learners can develop purely implicit knowledge. In such contexts, he argued, it may be more suitable to envisage the development of highly automatized explicit knowledge as a primary goal in learning the langauge.

The question of how to attain such automatized-implicit knowledge is still widely discussed in the field of *Instructed Second Language Acquisition* (henceforth ISLA) (Loewen & Sato, 2017). Put simply, ISLA endeavors to investigate what methods represent more or less ideal ways to teach a target language and/or to allow for learning to take place. In view of today’s vast technological opportunities that can be exploited in teaching, its object of study is not inherently linked to the classroom in its physical form (Leow & Cerezo, 2016; Loewen, 2015). Teaching practices can take on miscellaneous forms as contingent on national curricula, school culture, course books, as well as individual teacher preferences. In order to explore what effect various manipulations have on different types of knowledge, teaching practices must be calibrated against clearly definable concepts. This has often been done in terms of *meaning-focused* vs. *form-focused instruction* (Loewen & Sato, 2017) to be clarified in the following section, 3.1. In order to properly understand the currently most common approaches in (European) language classrooms as stipulated by national curricula (see 6.1.2), *Communicative Language Teaching* and the *action-based approach* will be outlined in section 3.2.

### 3.1 Meaning-Focused v. Form-Focused Instruction

The terms *meaning-focused* vs. *form-focused instruction* were introduced by Long (1988, 1997). Although they are sometimes presented as dichotomous, distinct categories, I conceive them as constituting two poles on a continuum with varying degrees of attention being paid to the meaning of language as opposed to its form. In teaching practices they certainly co-exist and overlap (see Loewen & Sato, 2017). Yet, the categorization is necessary to, for instance, make a comparison of the Austrian and Swedish contexts more viable. While meaning-focused instruction precludes focus on form and centers almost exclusively on meaning, form-focused instruction integrates grammar teaching that can appear as *focus-on-formS* or *focus-on-form* (R. Ellis, 2001b). The concepts that are subject of this section are visualized in hierarchical manner in Figure 3.1, with the most prototypical expressions of a given category given in bold.

The continuum those categories describe are denoted by an arrow in the model's background.

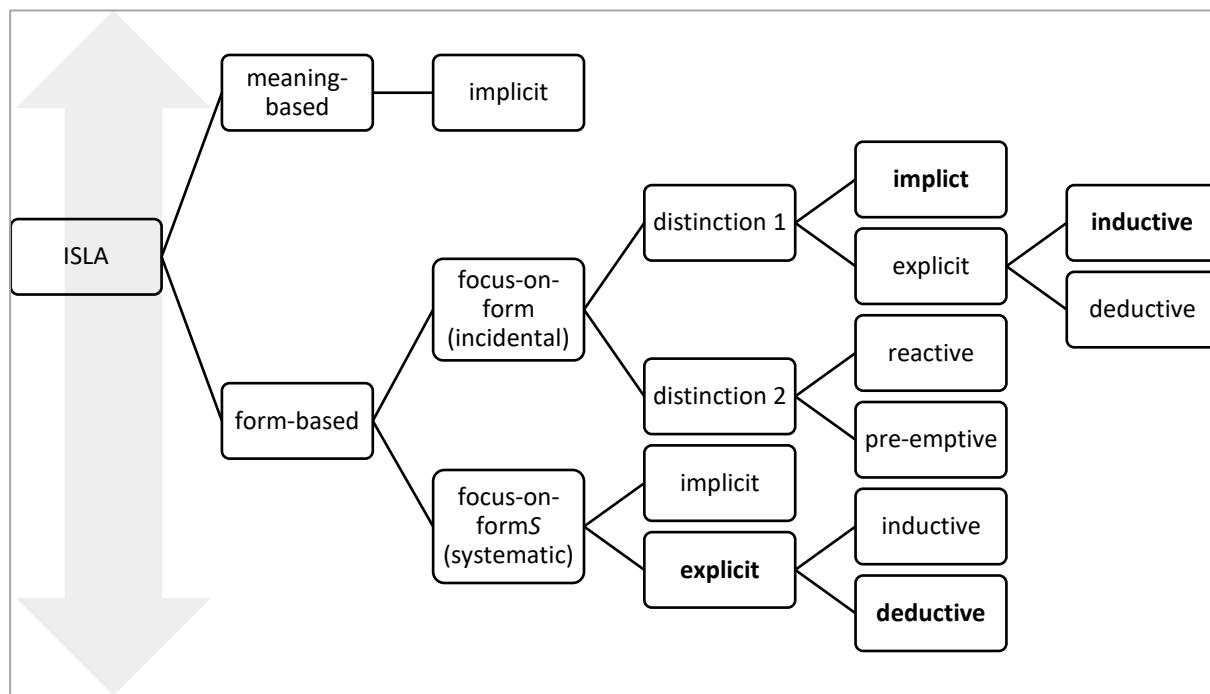


Figure 3.1 A typology of the type of instruction in ISLA

#### 3.1.1 Focus-on-Meaning

The meaning-focused, noninterventionist position grew out of a dissatisfaction with focus-on-formS (discussed in 3.1.2) and is rooted in the early stages of the communicative language teaching movement, with Krashen as one of its most prominent advocates (e.g. Burt et al., 1982; Dulay & Burt, 1975; Krashen, 1982, 1983, 1985). It accounts for the learners' *built-in-syllabus* (see Corder, 1981; see also *natural order hypothesis* in Krashen, 1982), i.e., the fact that a second/foreign language is acquired in the form of certain developmental sequences,

rather than being based on “sudden categorical acquisition of new forms or rules” (Long & Robinson, 1998, p. 16). Further, focus-on-meaning relies on the non-interface hypothesis (see 2.1.4.2), claiming that implicit knowledge cannot result out of explicit knowledge and thus has to be acquired naturally, by means of a “zero grammar’ approach” (R. Ellis, 2005b, p. 215). Against this backdrop, proponents assert that across age groups, language learning works best incidentally through communication, rather than by studying language on a meta-level. Based on this assumption, meaning-focused instruction precludes any attention to linguistic forms (Long & Robinson, 1998). Whereas explicit instruction is deliberately excluded from the concept, implicit instruction as in the form of indirect interventions (see 2.1.3), inevitably takes place in focus-on-meaning (see Figure 3.1). The meaning-based approach will be briefly explored in terms of its theoretical underpinnings and implications.

In accordance with Krashen’s *Natural Approach* (1982) (see also 2), conceived in an English as a second language (henceforth ESL) context, language classes should not provide error correction—argued to direct focus on form and create anxiety—or artificially simplified texts. Nor should they involve sequenced, grammar-based content, which is claimed not to cater to varying levels of proficiency and developmental stages within a class. Instead, naturalistic but comprehensible input and the negotiation of meaning should lie at the heart of instruction. It was claimed that especially beginners and students who are not exposed to the target language outside the classroom benefit from such instruction. Nevertheless, Krashen (1982) emphasized that instruction can never live up to the rich input provided out-of-class. Although the present study does not investigate immersion education, nor a prototypical ESL setting, Krashen’s Natural Approach can be interpreted in terms of the benefits of spare time English (see 4). Given the extensive use of spare time English in Sweden, it approximates an ESL setting (see 6.2.2).

Owing to its noninterventionist position, focus-on-meaning reflects a so-called *analytic approach* to teaching (vs. *synthetic approach*, see 3.1.2) (see Long & Robinson, 1998), which is “organized in terms of the purposes for which people are learning language and the kinds of language performance that are necessary to meet those purposes” (Wilkins, 1976, p. 13). This approach is predicated on the assumption that the learner is capable of analyzing and deconstructing the input they are exposed to. Even though this implies that the noninterventionist perspective accounts for the unmodifiable developmental sequences of the internal syllabus, it also comes with a number of shortcomings (R. Ellis, 2016; Long & Robinson, 1998). Therefore, ISLA researchers commonly argue against this approach (e.g. Suzuki & DeKeyser, 2017). It is claimed that while a meaning-focused classroom can foster fluency and confidence in L2

use, accuracy remains limited especially for non-salient features. Moreover, meaningful input contains only positive evidence of linguistic features, which might not allow for learning to take place. Thirdly, due to maturational constraints on language acquisition, adult learners do not seem to successfully learn an L2 exclusively through natural input. However, participants targeted in the present study are young (adolescent) learners, and in the Swedish context, many of them presumably show extensive recreational language use that started in early childhood (see 6.2.2).

### **3.1.2 Focus-on-FormS**

According to Graus and Coppen (2016), most instructed language teaching settings include at least some form-based instruction, which seems desirable (e.g. Long, 2020; Nation, 2007). As stated in the introduction to section 3.1, form-focused instruction can be described in terms of *focus-on-formS* (henceforth FonFs) and *focus-on-form* (henceforth FonF), two poles on a continuum. FonFs is sometimes conceptualized in terms of individual activities directing attention to form. However, in the present study, FonFs is conceptualized more broadly, as an approach that “involves traditional language teaching consisting of the presentation and practice of items drawn from a structural syllabus” (R. Ellis, 2016, p. 406). According to this definition, FonFs typically implies the explicit teaching of grammatical structures, which are in turn practiced and produced (PPP method, see 2.1.3; Dalili, 2011; R. Ellis, 2005b). The definition also conveys that FonFs follows a synthetic approach to teaching, based on the sequenced introduction and gradual accumulation of form features (Long & Robinson, 1998; Wilkins, 1976).

The synthetic approach in language teaching can take on different forms. In its original, more traditional form, FonFs mirrors a *structural syllabus* (Long & Robinson, 1998), in which linguistic features are introduced in a linear and additive nature and have to be synthesized by the learner in order to be used in communication. Inevitably, the synthetic approach entails a major problem in terms of learnability (see built-in-syllabus, Corder, 1981). It has been argued that the individual presentation of discrete grammatical features does not correspond to the non-linear order or nature of naturalistic second language acquisition (see language development theories: Dulay & Burt, 1975; Long, 1988; Pienemann, 2011; Selinker, 1975). In an alternative and more recent interpretation of FonFs, it can reflect a *notional-functional syllabus*. This syllabus takes into account the situational embedding of language, requiring learners to understand and produce notional categories (e.g., time, sequence, frequency, location) and categories of communicative function (e.g., requests, denials, offers, complaints) (Richards & Rodgers, 2014). The Common European Framework of Reference (Council of Europe,

2009), for instance, draws on a notional-functional syllabus and feeds into most European foreign language teaching curricula (see 3.2.2). However, it has been denounced that the notional-functional syllabus is similar to a structural syllabus in that it is based on a sequenced introduction of grammatical forms that have merely been restated in terms of notions or concepts (Richards, 2009, pp. 37–38). On the other hand, according to R. Ellis (2005b), such a syllabus works well to teach language in chunks and according to specific routines, constituting a foundational language focus on beginner levels. In elaborating, he stated that classes also need to ensure a rule-based understanding of language (R. Ellis, 2005b, p. 211).

In accordance with a synthetic approach, FonFs as originally conceptualized entails that grammar is taught *systematically*. Systematic grammar teaching implies that a given set of grammatical features to be taught in a given course, semester, or school year is largely predetermined by the teacher, rather than being based on more immediate learner needs that for instance arise out of a task. This is also how FonFs is defined in the present study, even though in some research, systematic form-focus has been categorized as a version of FonF (e.g. R. Ellis et al., 2001).

Today, FonFs is still commonly practiced (Borg, 2006; Graus & Coppen, 2016). Graus and Coppen (2016), for instance, pointed out that recent studies show that many student and practicing teachers “seem reluctant to deviate from the traditional model of presenting rules and practicing these in a limited context” (2016, p. 572). This is certainly not only linked to teacher beliefs, which are influenced by their own learning experiences (Borg, 2006), but also to the fact that formal teaching facilitates classroom management and “feels like ‘true instruction’ is taking place” (Borg, 1998, 2003; cited in Graus & Coppen, 2016, p. 572).

### **3.1.3 Focus-on-Form**

The other pole of the continuum describing form-focused instruction is referred to as focus-on-form. Even though instruction in this approach is generally meaning-focused, attention shifts to a linguistic feature when comprehension or production problems occur (Long & Robinson, 1998). The term was coined by Long (1988), who emphasized the strength of this approach as opposed to FonFs and focus-on-meaning. FonF more closely complies with developmental sequences in learning than does FonFs (Long & Robinson, 1998; Pienemann, 1989), while still increasing the salience and learners' awareness of target features. Prototypical FonF appears in the form of content-based or task-based learning, with the first being directed at teaching content whilst using a second or foreign language as a medium of instruction (see Brinton et al., 2008; Snow & Brinton, 2017), and the latter encouraging learning

through ‘real-life’ tasks (R. Ellis, 2017; Long, 1997; Prabhu, 1987; Skehan, 1993). Prototypical FonF has also been described in terms of implicit grammar teaching (e.g. R. Ellis, 2001b; Long & Robinson, 1998), although explicit instruction is not excluded from the concept.

In its original definition (Long & Robinson, 1998), FonF is thus defined as an approach where attention to form occurs spontaneously and incidentally. This is opposed to FonFs, according to which form-focus is pre-defined by the syllabus (see 3.1.2), even though some researchers categorized both incidental *and* systematic form-focused instruction as part of FonF (R. Ellis, 2001b; R. Ellis et al., 2001). In the original conceptualization of FonF, an important distinction can be made: *pre-emptive* and *reactive focus-on-form*. In *pre-emptive focus-on-form*, attention is directed towards form if it is “perceived to be problematic even though no production error [...] has arisen” (2001b, p. 22). For instance, prior to conducting a communicative task on a given topic for which knowledge of a specific feature, morphological, syntactic or lexical, is needed, the teacher briefly supplies learners with an explanation (R. Ellis, 2001b, p. 23). *Re-active focus-on-form*, such as implicit and explicit negative feedback provided by teachers, occurs in response to learner errors. Implicit negative feedback can occur in the form of recasts, i.e., reformulations, confirmation checks to clarify understanding, and repetition (Lyster & Ranta, 1997). Explicit negative feedback can appear in the form of explicit correction, the use of metalanguage, or elicitation of the correct form. Although such reactive focus-on-form can also emerge as the formal, explicit introduction of a grammatical feature and/or its practice and production, the PPP-sequence is not compatible with the most common definition of focus-on-form. Rather, FonF can be envisaged as activity sequences starting off with a meaning-based communicative task that may—if deemed necessary—lead to an inductive exploration of form.

As mentioned earlier, a narrow definition of focus-on-form for instance is reflected in a syllabus of *task-based* teaching and learning, constituted of real-life tasks that focus on using language to perform activities in an outcome-oriented manner (Long, 1997; Long & Robinson, 1998). These tasks or activities increase in complexity and can range from grocery shopping to participating in a job interviews. A series of such pedagogical tasks or curricular topics, all reflecting the learners’ current and future needs, represent a prototypical version of FonF and Communicative Language Teaching (see 3.2 for further discussion). Moving away from such a ‘pure’ form of FonF, in *task-supported* teaching, so-called *focused communicative tasks* orient the learner towards using a certain linguistic feature (R. Ellis, 2002b, 2018). The difficulty in implementing such focused tasks lies in making the use of a specific feature on the part of the learners essential (Schachter, 1974). Even though in such an approach, target features are

communicatively embedded, it more closely reflects FonFs and a structural syllabus if structures are taught systematically.

Since many everyday tasks take place in interaction, FonF is a manifestation of the *Interaction Hypothesis* (see Long, 1996; Long & Robinson, 1998). This hypothesis proposes that the negotiation of meaning in interaction helps learners establish form-function relationships and provides opportunities to encounter unknown forms. While the interaction hypothesis incorporates the nativeness primacy, today we know that the interlocutor does not need to be a native speaker in order for the learner to benefit from conversation (for an overview, see Loewen & Sato, 2018).

To conclude, the concepts outlined above represent a model tentatively allowing for a categorization of teaching practices. It goes without saying that this comes at the price of over-simplifying interwoven categories that are usually conflated in the classroom. Ultimately, teachers adopting a pure form of focus-on-meaning, focus-on-formS, or focus-on-form remain fictitious. Yet, focus-on-form, with its meaningful embedding of form in learner-relevant tasks, is what seems to most prototypically represent Communicative Language Teaching, the subject of section 3.2.

## 3.2 Communicative, Action-based Language Teaching

*Communicative Language Teaching* (henceforth CLT) started to develop in the 1960s and 70s. This was due to researchers' discontentment with former approaches such as the structural syllabus (see 3.1.2). Additionally, British applied linguists (e.g., Henry Widdowson, by drawing on Dell Hymes, John Searle, William Labov, M. A. K. Halliday) advocated the exploitation of the functional and communicative aspects of language (Richards & Rodgers, 2014). Besides, the need and wish to facilitate communication across increasingly interconnected (European) countries was growing. Today, CLT is the most widely advocated paradigm in language teaching across the globe (Richards & Rodgers, 2014), and its adoption gave birth to the *Common European Framework of Reference* (henceforth CEFR) (Council of Europe, 2009). The CEFR, with the teaching and learning principles it conveys, has influenced foreign language curricula of national and private education institutions throughout Europe and beyond (see Piccardo, 2010). This chapter discusses the principles of the CLT and action-based teaching as defined in the CEFR.

### 3.2.1 Communicative Language Teaching

In CLT, the goal is to allow learners to successfully communicate. Language thereby serves as a tool to be learned rather than studied on a meta-level (Piccardo, 2014). It is widely acknowledged within CLT theory that communicative production (and not just comprehension) ought to take place immediately rather than only once the structures are 'mastered'. Communicative and contextual factors are relevant in that they determine aspects such as register. In addition, the traditional teacher-centeredness is replaced by student-centered learning (Richards & Rodgers, 2014).

CLT is commonly defined as relying on four dimensions of communicative competence (e.g. Hedge, 2008; Richards & Rodgers, 2014) as previously set out for example by Canale and Swain (1980). *Grammatical* (or *linguistic*) *competence* encompasses grammatical, lexical and phonetic knowledge (see 'formally possible' in Hymes, 1972). *Sociolinguistic* (or *pragmatic*) *competence* is the speaker's ability to take into account the social context in which the conversation takes place. *Discourse competence* describes the ability of understanding and producing language as consisting of interconnected elements, which, as a whole, convey the intended meaning. Finally, *strategic competence* includes the entirety of strategies to be used in interaction, such as initiating, terminating, maintaining and repairing communication (Hedge, 2008; Richards & Rodgers, 2014). To these four factors underlying communicative competence, Hedge (2008) added *fluency*, i.e., the ability to produce language easily and quickly in

real time. Importantly, in CLT, both fluency and accuracy are aimed to be developed in a balanced manner, with the grammatical component ideally being embedded in communicative tasks, rather than juxtaposing form-focus and meaning-focus (Canale & Swain, 1980). This is a straightforward expression of focus-on-form (see 3.1.3), and also chimes in with Scrivener's (2011) proposal for a balance of system-based (e.g., vocabulary, grammar) and skills-based (reading, listening, speaking, writing) language work.

While prototypical CLT has sometimes been illustrated as content-based and task-based language teaching, in a weaker form it has been conceptualized as revolving around communicative, learner-centered tasks (Richards & Rodgers, 2014; see 3.1.3 for the same distinction within focus-on-form). According to Ellis' (2017) definition of a task, the focus lies on meaning, learners perform it based on their own competences, and is teleological, i.e., it ends with a pre-defined outcome. Classroom material may well but does not have to be authentic, and it can include games, cue cards or interaction booklets, realia, as well as technology-based materials, which are becoming increasingly important and can involve chat rooms, blogs, videos, etc. (Richards & Rodgers, 2014). For examples of CLT activities, see Table 3.1 (Hedge 2011; Larsen-Freeman & Anderson 2011, Richards & Rodgers 2014).

*Table 3.1 CLT activities (adapted from Hedge 2011; Larsen-Freeman & Anderson 2011, Richards & Rodgers 2014)*

<b>Jig-saw activities</b>	Each student is assigned to a group and given a piece of information. In order to complete the task, each group has to exchange information with the other groups.
<b>Opinion-sharing activities</b>	Comparing values and opinions, e.g., by ranking items.
<b>Information-transfer activities</b>	Transforming information that students have into a different form, e.g., from text to drawing, from text type A to text type B, from picture to role play, etc.
<b>Reasoning gap activities</b>	Deriving new information by means of information that is already provided, e.g., working out a crime story

### **3.2.2 The CEFR and its Action-Oriented Approach**

The learning goals pursued in CLT are endorsed in the CEFR (Council of Europe, 2009), which, more specifically, illustrates the so-called *action-based approach*. Even though this approach is sometimes referred to as *post-communicative* language teaching (e.g. Piccardo, 2010), its theoretical underpinnings coincide with how CLT is conceptualized today (see 4). Yet, it is emphasized in the CEFR that this framework does not aim to stipulate how a foreign language ought to be taught but merely illustrate some options. In light of the substantial role the CEFR

has in ELT in European language classrooms (e.g., in Austria and Sweden, see 6.1.2), it is worthwhile briefly outlining its particulars.

The CEFR was originally created based on characteristics of a notional-functional syllabus (see 3.1.2) (Council of Europe, 2009). The notions, functions, topics, skills, and declarative knowledge (e.g., of grammar, vocabulary) to be developed find concrete expression in so-called *can-do* statements, helping learners and teachers reflect on and react upon progress in learning. These statements are ordered according to the four language skills (reading, listening, writing, speaking) and six reference levels (A1, A2, B1, B2, C1, C2), a classification that should facilitate comparing learners' proficiency levels across institutions and countries. Besides the development of communicative competence (as defined in 3.2.1), teaching according to the action-based approach ideally also targets other competences, such as intercultural understanding, schematic background knowledge, and autonomous learning and self-development (Council of Europe, 2009, p. 11). To develop these areas, language learners and users—viewed as social agents—should engage in tasks strategically, teleologically, under specific (social) circumstances, and by making use of their own competences (Council of Europe, 2009). The action-based approach thus attributes a central role to the learners' activity while using the language—an activity in which the context is well-defined and the outcome is the creation of a (physical) product, such as a fashion show, a podcast, or a craft. The CEFR is reflected in the Austrian and Swedish ELT curricula, which will be looked at in section 6.1.2.

### 3.3 Summary

Against the background of the myriad teaching approaches that exist in theory and their intertwined nature in actual language classroom, it has been paramount to provide a model of classification. While focus-on-meaning describes a genuinely meaning-based classroom with no focus directed at grammar, focus-on-formS is very much different in that it directs attention to isolated forms in an additive and systematic manner (R. Ellis, 2001a)—an approach that has been reported to still be widely employed (Borg, 2006; Graus & Coppen, 2016). At the same time, European national foreign language curricula endorse the adoption of focus-on-form, i.e., a meaningful, contextualized embedding of grammar instruction as advocated by Communicative Language Teaching and the action-oriented approach—both entrenched in the CEFR (Goullier, 2007; Piccardo, 2010).

Yet, even within Europe it is difficult to pinpoint what teaching practices generally look like, since this is likely to vary across educational systems and individual teachers (e.g. Schurz & Coumel, 2020). Clearly, different learning environments—as shaped by cultural aspects and national regulation—are not equally suitable for the implementation of a given approach to teaching and learning (Pawlak, 2021b; Richards & Rodgers, 2014). A major factor at play in this respect is the extent of out-of-class English use in a given society or age group, which is subject of the following section, 4. Although the concepts of meaning-focused vs. form-focused instruction and CLT are intertwined in pedagogical practice, they allow me to compare secondary level ELT in Austria and in Sweden by means of a curriculum analysis (see 6.1.2) and the design of a teacher (see 7.3.3) and student questionnaire (see 7.3.4.2).



## 4 UNINSTRUCTED LANGUAGE ACQUISITION

Instructed second language acquisition is often perceived as the prototypical way of how a foreign language is learned. However, although language learning has often been researched in terms of the outcome of instruction (Benson & Reinders, 2011, p. 1; see also Nunan & Richards, 2015), natural acquisition contexts are by no means secondary in their potential for aiding the learning process:

Well-rounded communicative proficiency, it seems, depends to a large extent on the learner's efforts to use and learn the language beyond the walls of the classroom (Benson & Reinders, 2011, p. 2).

Likewise, Ellis (2008b) proposed a combination of form-focused instruction with target language exposure as perhaps the most effective learning environment. It therefore goes without saying that SLA research on uninstructed learning should long since have received more focused attention.

Recently, though, the area of research targeting naturalistic learning has gained momentum in view of the increasing mediatization of young people's lifeworlds. This entails that a new definition of the field's object of study is in order. About 30 years ago, Lightbown and Spada (1993) defined natural learning environments as ones

in which the learner is exposed to the language at work or in social interaction or, if the learner is a child, in a school situation where most of the other children are native speakers of the target language. (1993, p. 128)

The same definition is provided in the latest edition of *How Languages are Learned* (Lightbown & Spada, 2021). Lightbown and Spada (1993, 2021) further explained that such naturalistic learning provides unmodified, linguistically rich and varied input "for many hours each day" (1993, p. 128, 2021, p. 124), and involves different types of language use and usually also encounters with proficient speakers, but no corrective feedback. Along similar lines, Loewen and Sato (2017) proposed that uninstructed or naturalistic L2 learning can be observed in immigrants or expatriates who pick up a language incidentally to various degrees. However, such narrow definitions no longer hold in today's realities characterized by the effects of globalization and ever-evolving technological advances. With increased access to the internet and the inundation of online services such as streaming platforms and social media sites, naturalistic learning is no longer characterized by "learning 'on the street'" (Lightbown & Spada, 1993, p. 69). In this sense, the distinction of EFL and ESL contexts becomes increasingly blurry. In

EFL contexts, too, learning is not tethered to the classroom anymore and the specific times and locations it demands (Benson, 2001) but frequently happens through recreational activities. Natural, incidental foreign language learning is also no longer withheld from children or teenagers raised monolingually. In addition, the amount and starting age of such recreational language use cannot easily be pinpointed, and neither can the types of activities one engages in. This hints at the need for a more inclusive perspective on uninstructed language learning.

Against this background, the definition of uninstructed, naturalistic learning I propose is the acquisition of language that happens primarily incidentally by means of performing any type of naturally occurring (i.e., undesigned, unmanipulated) activity that involves the use of the target language outside its instructed context, receptively or productively, including or excluding other target language speakers or learners, online or offline and irrespective of regularity and intensity of use. While this definition is inclusive of age and setting and thus for instance encompasses learning as an expatriate or at work, it also encompasses recreational target language use among teenagers, which constitutes the focus of this study. The field of research investigating such learning is currently experiencing a proliferation of studies offering different definitions of the underlying concept and providing interesting findings on learning outcomes. This points to the need to first define and delimit the concept on which this study is based—extramural English (Sundqvist, 2009a)—to in turn map out its observed impact on learning. Even though some of the characteristics and theoretical underpinnings of meaning-based instruction (see 3.1.1) overlap with the one of out-of-class English, its effect on learning is likely to differ, especially when considering the factor of learner motivation. In this chapter, the definition of extramural English will be provided in section 4.1, and previous research on the effect of extramural English on learning will be outlined in section 4.2.

## 4.1 Extramural English: Definition and Delimitation

Although recreational language use is not a new phenomenon, the scope of opportunities for such naturalistic learning has drastically expanded in recent years (Nunan & Richards, 2015). The resulting burgeoning research interest in it also seems to reflect a shift in SLA from a mere focus on cognitive aspects of learning to the social aspects it entails (Benson & Reinders, 2011; see also Block, 2003). The research field at hand provides a range of terms used to describe the underlying concept, of which Schwarz (2020) provided an overview. A handful of terms target specific contexts of target language encounters, such as the internet—*online informal learning of English* (e.g. Sockett, 2014) and *informal digital learning of English* (e.g. J. S. Lee & Dressman, 2018)—and experiential, usage-based language learning experienced by expatriates—*learning in the wild* (Eskildsen & Cadierno, 2015). More broadly defined terms are *spare time English* (Swe. *fritidsengelska*) (Lundahl, 2012), *out-of-class learning* (e.g. Benson, 2001), *incidental language learning* (e.g. Kuppens, 2010), *language learning beyond the classroom* (e.g. Benson & Reinders, 2011), and *extramural English* (e.g. Olsson & Sylvén, 2015; Sundqvist, 2009a).

Benson (2011) put an interesting perspective on the fuzzy boundaries of language learning beyond the classroom by proposing four dimensions according to which it can vary: The *location*, ranging from the learner's home or other setting of recreational activities to a school-related context, including extracurricular activities; the level of *formality*, i.e., the extent to which such language use is linked to a formal study program, ranging from formal to non-formal and informal learning; the underlying *pedagogy*, determining if learning is naturalistic, self-instructed, or instructed; and the *locus of control*, dependent on whether the learner, a teacher, or somebody/something else controls learning. Although Benson's inclusive definition of language learning beyond the classroom can help better understand the given object of study from a theoretical viewpoint, Sundqvist's (2009a) concept of extramural English—albeit still inclusive—has more distinct boundaries, which better serves the practical purpose of this study.

The term extramural English, i.e., English outside the walls of educational institutions, is defined as “the English that learners come in contact with or are involved in outside the walls of the classroom” (Sundqvist, 2009a, p. 24). Although recently, this concept has been extended to languages other than English (*extramural Ln*, or *ELn*, see Sundqvist, 2019a), the original term of EE fits the research context of the present study. EE is delimited in particular from two more restrictive concepts: Benson's (2001) *self-directed naturalistic learning*, which entails the learner's intention to learn and focusses especially on technology-based learning, and

Forsman's (2004) *unintentional learning*, which excludes learners who perform activities with an intention to learn the language. Rather, Sundqvist (2009a) conceived EE as encompassing different types of out-of-class activities. The primary goal of EE can thus be entertainment *or* learning, media being used may be analogue *or* involve technology, and social interaction can happen virtually *or* in person.

Although the deliberate intention to acquire the target language is not excluded from the concept of EE, Sundqvist and Olin-Scheller (2013) maintained that most typically, youths engage in a particular EE activity given some specific interest other than language learning. Along these lines, EE in its prototypical form implies learners' voluntary and self-initiated language use, rather than them being coaxed into EE use by teachers (Sundqvist & Sylvén, 2016b). Schwarz (2020) illustrated the factor of learner initiative by saying that in her conceptualization of EE it

does not include any homework or other assignments set by teachers, exam preparation, extensive reading programs, school theatre trips, tutoring sessions or private language courses (2020, p. 15)

—a view that is also taken here (see 7.3.4.3 for the design of the Learning Experiences Questionnaire). Teachers aside, Sundqvist and Sylvén (2016b) conceded that EE may as well occur following friends' or parents' push to use it. Yet, even if the initiative to engage in EE is voluntary and learning happens unintentionally, learners may become increasingly interested in using EE to learn (Sundqvist, 2009a).

The learner's driving force for engaging in EE (see *locus of control* in Benson, 2001) and the physical location of the activity constitute a somewhat complex relationship. Sundqvist and Sylvén (2016b) visualized this interplay by situating EE amidst other activities related to English learning and teaching in a coordinate system (see Figure 4.1). This model proves useful in light of the diverse nature of learners' EE habits. While the x-axis denotes the types of activities based on who initiated them, the y-axis shows a range of activities in terms of where they take place, i.e., from a desk in the classroom in the learner's home country to a more remote setting. The intersection can be conceived as an imaginary activity taking place in the doorway to/from the classroom and being initiated partly by the learner, partly by an external person. Taking a closer look at the graphic, the letters A-H in Figure 4.1 refer to the exemplary activities defined in Table 4.1, as put forward by Sundqvist and Sylvén (2016b). Activities A-D are prototypical types of EE engagement, demonstrating that albeit typically performed in a home context and for the sake of entertainment, EE is not banned from school-contexts—

such as the schoolyard or hallway during recess (A)—and can be engaged in with the purpose of learning (C).

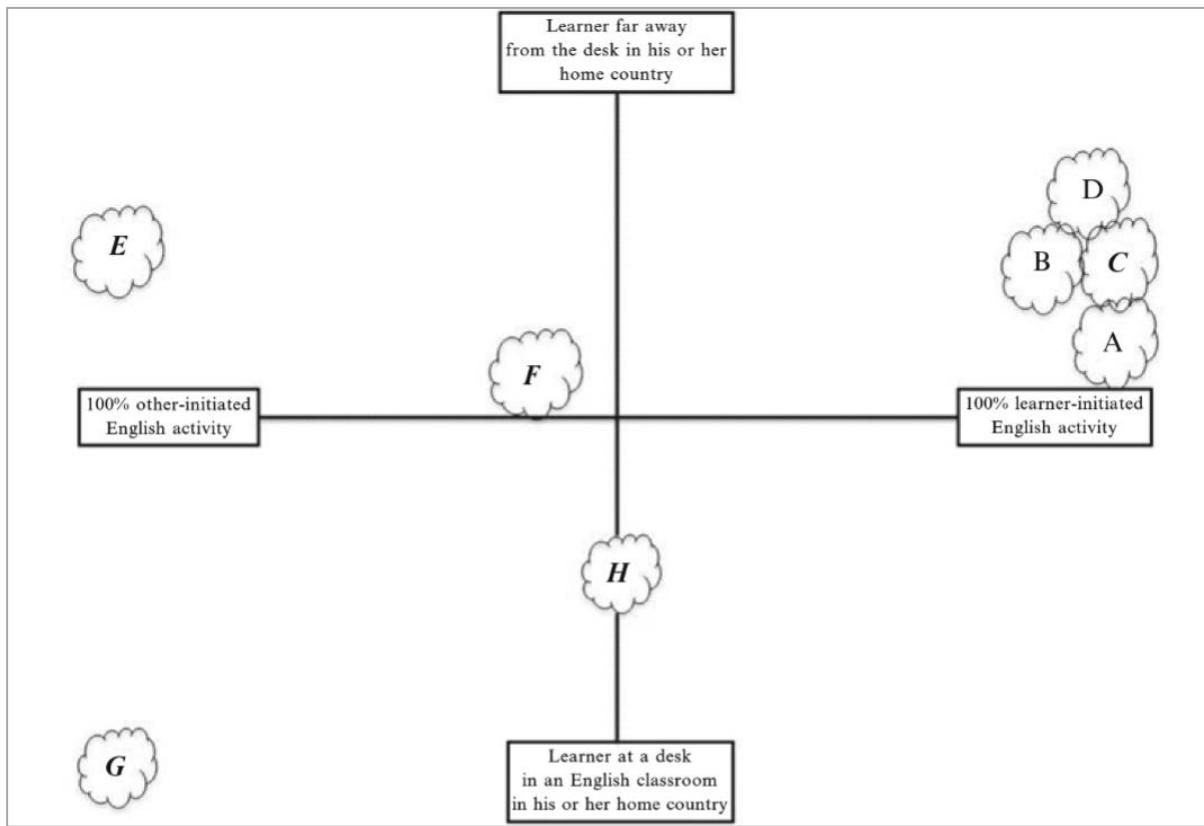


Figure 4.1 A model of EE and non-EE activities taken from Sundqvist and Sylvén (2016b, p. 10)

Table 4.1 EE activities (A-D) and delimitation from other English activities (E-H) based on Sundqvist and Sylvén (2016b)

	<b>Initiative</b>	<b>Location</b>	<b>Social form</b>	<b>Purpose</b>
A	Learner	Directly outside the classroom	Alone	Entertainment
B	Learner	At home	Alone	Entertainment
C	Learner	At home	Alone	Learning
D	Learner	At home	Learner and others online	Entertainment
E	Teacher	At home	Alone	Learning
F	Teacher but strong learner input	At school but outside the classroom	Learner and three peers	Learning
G	Teacher	In the classroom at the desk	Learner alone	Learning
H	Teacher and learner	In the classroom but not at the desk	Learner and one peer	Learning

Other English activities that do not form part of EE are exemplified as *E-H*; these are initiated by the teacher, entail the purpose of learning the language, and hence imply a more formal setting of learning. Learning taking place neither at school nor at home, and thus perhaps involving other learners and/or evolving abroad, would be situated farther up the y-axis. However, as pointed out by Sundqvist and Sylvén (2016b), study-abroad trips cannot clearly be categorized as a single type of activity given its usual conflation of teacher- and student-initiated engagement in English. In sum, extramural English represents a rather broad, integrative concept, which can be employed as an umbrella term for other, related concepts addressed at the beginning of this chapter. Its theoretical and practical underpinnings served the operationalization of recreational use of English in the present study (see 7.3.4.3 for the Learning Experiences Questionnaire).

## 4.2 The Effect of Extramural English

In a recent review of previous literature on extramural English and its related concepts, Schwarz (2020) observed that the field had been growing steadily for the past 20 years, as perhaps a consequence of Benson's (2001) call for research on the given object of study in his book *Teaching and researching autonomy in language learning*. This trend still seems to continuously be picking up pace in the early 2020s. Such research was first carried out primarily in Asia and reached Europe a little later. In Europe, especially subtitling regions such as the Netherlands and Scandinavia have been investigated, with a large number of studies on the topic being conducted in Sweden (e.g. Bengtsson, 2014; Olsson, 2012, 2016; Olsson & Sylvén, 2015; Sundqvist, 2009a; Sundqvist & Sylvén, 2012, 2016a; Sylvén & Sundqvist, 2012a, 2012b). However, in the past few years, research on informal learning has also been burgeoning in dubbing countries, such as Austria (e.g. Hahn, 2018; Schwarz, 2020), France (e.g. Kusyk, 2017; Toffoli & Sockett, 2015), and Spain (e.g. Muñoz, 2020; Pattemore et al., 2020) (see 6.2 for a description of EE practices in Austria and Sweden). By now, the area of inquiry has conquered a great variety of geographical contexts, as explored by researchers from different backgrounds, including early language learning, learner autonomy and digital learning. Yet, the body of research is primarily based on English as a target language and EFL rather than ESL contexts, and many studies have aimed to connect recreational language use to learning outcomes (Schwarz, 2020). Such impact on learning and the related factor of learner motivation, with a focus on English as a target language, are worth briefly delving into.

A wealth of research has demonstrated the overall positive impact of recreational language use—constituted by individual or an amalgam of activities—on general language proficiency and/or one or multiple skills, such as listening, reading, writing, and speaking (e.g. De Wilde et al., 2019; De Wilde & Eyckmans, 2017; Kuppens, 2010; Lefever, 2010; Lyrigkou, 2019; Olsson, 2012, 2016; Sundqvist, 2009a, 2009b; Sylvén & Sundqvist, 2012a, 2012b; Verspoor et al., 2011; Yi, 2005). Moreover, especially the area of vocabulary learning through extramural activities has received much attention (e.g. Hahn, 2018; Hannibal Jensen, 2017; Kusyk & Sockett, 2012; Olsson, 2016; Peters & Webb, 2018; Schwarz, 2020; Sundqvist, 2019a; Sundqvist & Sylvén, 2012; Sylvén & Sundqvist, 2012b).

EE involvement generally also seems to have a very salutary effect on learner motivation (e.g. Hannibal Jensen, 2019; Rankin et al., 2006; Reinders & Wattana, 2014; Sundqvist, 2009a; Sundqvist & Sylvén, 2014; Sylvén & Sundqvist, 2012a; Tervonen, 2017). Nevertheless, according to some reports, extensive use of EE can have a detrimental effect on learner motivation inside the classroom. As a result of a so-called 'authenticity-gap' between activities

in- and outside the classroom, learners in Sweden were reported to sometimes perceive English instruction as comparably inauthentic, boring, and/or unchallenging (Henry, 2013; Sundqvist & Olin-Scheller, 2013). In response to this issue, Henry et al. (2018) showed that motivational teaching can be achieved through the in-class embedding of content that students use out-of-class, implying the use of authentic material, the incorporation of digital technologies, and the encouragement of student creativity.

In contrast to EE research discussed above, fewer studies targeted the acquisition of advanced vocabulary (e.g. Sundqvist, 2019a; Sundqvist & Wikström, 2015), writing (e.g. Olsson, 2016; Sundqvist & Wikström, 2015; Verspoor et al., 2011; Yi, 2005), and, lastly, grammar knowledge (e.g. Hedlund, 2020; J. F. Lee, 2002; Muñoz et al., 2021; Pattemore & Muñoz, 2020; Persson & Prins, 2012). These language areas also seem to be the ones that teachers perceive as less strongly developed by EE. According to a study on upper secondary teacher reports from Austria, France, Finland and Sweden ( $N = 534$ ) (Schurz & Sundqvist, 2022), learners' EE use was on average perceived as most beneficial for informal language use, listening skills, and vocabulary knowledge in all four country groups; speaking, learner confidence and motivation, and reading skills were also viewed as being positively influenced overall. However, teachers from each of the four countries on average found formal language use, grammar, and writing to be the least positively (or even negatively) influenced by EE. It may well be that the development of these language aspects is typically less affected by EE than other areas of language learning. Potentially, success in extramural grammar acquisition hinges on factors such as the age of onset, intensity, and type of language use of the learners' EE engagement. The topic of grammar acquisition through EE warrants special attention and will be discussed in 5.2.2.

### 4.3 Summary

Owing to ever-evolving opportunities through the web, a new definition of uninstructed, naturalistic language acquisition, as presented in this section, was needed. The given area of inquiry has long been neglected in the field of applied linguistics, which is now changing. Amidst the miscellaneous concepts available to characterize such recreational learning, extramural English (Sundqvist, 2009a)—defined as happening primarily based on the learner's own initiative and with learning happening incidentally—best serves this study's objectives. Extramural English has been shown to positively influence various areas of language learning, such as general proficiency, (receptive) vocabulary knowledge, and reading, listening, and speaking skills (e.g. De Wilde et al., 2019; Kuppens, 2010; Lefever, 2010; Peters & Webb, 2018). When it comes to the effect of EE on learner motivation, this seems to be a double-edged sword: EE can increase students' motivation to learn and use English, but high EE users have also been reported to experience instruction as comparatively boring and inauthentic (e.g. Henry, 2013). More formal and/or accuracy-based aspects of language learning, such as writing, academic vocabulary, and grammar might not be as imminently affected by EE (Schurz & Sundqvist, 2022). However, especially in terms of grammar acquisition, this might be a premature conclusion and urgently requires more attention in research (see 5.2.2 for a research review). It is this research gap that is targeted in the present thesis.



## 5 PREVIOUS RESEARCH ON THE EFFECT OF (UN)INSTRUCTED LEARNING CONDITIONS

Grammar is essential to language, and yet, its specific role in instruction remains a topic that is hotly debated in ISLA and SLA research (see Nassaji, 2017, p. 205). Even though theoretical stances on how to approach foreign language teaching have evolved drastically in the past century, they have always oscillated between a grammar-driven form-focus vs. a more meaning-based, non-interventionist approach. This debate is linked to the question of what role unconscious processes play in L2 learning, which is also still under investigation (Rogers et al., 2016). Essentially, we remain agnostic to the question of “how much [of such] implicit learning is possible and how much explicit learning is necessary” (DeKeyser, 2017, p. 18). As concluded in chapter 3, the language teaching approach currently reflected in European foreign language curricula is focus-on-form (FonF), and yet, the more traditional focus-on-formS (FonFs) might still dominate in actual classrooms. At the same time, as emphasized in chapter 4, learning is not tethered to the classroom, and the potential of uninstructed grammar acquisition through extramural English deserves special attention. This chapter serves to flesh out the effectiveness of grammar instruction in different learning conditions in section 5.1 and the impact of naturalistic conditions on grammar learning<sup>7</sup> in section 5.2. Since it is beyond the scope to provide an exhaustive outline of research on these topics, the aim is to map out principal findings of the given areas of inquiry. This should allow to draw preliminary conclusions on issues closely related to the current study.

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<sup>7</sup> To remind the reader, the following previously-defined acronyms will occur in this chapter to refer to learning outcome measures: ONT for the Oral Narrative Test, EIT for the Elicited Imitation Test, TGJT for the Timed Grammaticality Judgment Test, UGJT for the Untimed Grammaticality Judgment Test, and MKT for the Metalinguistic Judgment Test.

## 5.1 The Effectiveness of Different Types of Instruction

The overall effectiveness of grammar instruction has been demonstrated in early meta-analyses (e.g. R. Ellis, 1990; Long, 1983) and a myriad of more recent research reviews (Doughty, 2001; Doughty & Williams, 1998a; R. Ellis, 2001a, 2001b; Goo et al., 2015; Kang et al., 2019; Loewen, 2015; Norris & Ortega, 2000; Spada, 1997; Spada & Tomita, 2010). Such studies have commonly compared instructional treatments focused on specific grammatical features with baseline or comparison conditions providing non-focused or minimally focused exposure (see Norris & Ortega, 2000). However, in view of the host of categories determining the type of instruction (see 3.1), it remains opaque what instructed learning condition most effectively boosts learning, specifically in terms of implicit (Nassaji, 2017) and certainly also automatized grammar knowledge. A vast body of research has investigated the relative effectiveness of implicit vs. explicit instruction and of meaning-focused vs. form-focused instruction on the development of grammar knowledge. Results yielded by such studies can be most succinctly outlined by means of meta-analyses, of which four were selected (Goo et al., 2015; Kang et al., 2019; Norris & Ortega, 2000; Spada & Tomita, 2010).

### 5.1.1 *Implicit vs. Explicit Instruction*

Beginning with Norris and Ortega (2000), 77 (quasi-)experimental studies published from 1980-1998 were analyzed as to the relative impact of explicit vs. implicit instruction (and FonF vs. FonFs, see 5.1.2). Explicit instruction encompassed deductive rule explanations and inductive rule discovery; implicit instruction precluded rule presentation and did not direct attention to form (but built on input enhancement, input flood, or recasts). Overall, it was found that explicit instruction—especially if embedded in FonF—was more effective than implicit instruction (see Norris & Ortega, 2000). For example, Alanen (1995), who investigated the effectiveness of learning environments with varying degrees of explicitness, found that enhancing target structures in the input material by means of a different formatting is not a sufficient remedy in order for learning to take place. Learning conditions in which the passages to be read were supplemented by explicit instruction on the target structure were claimed to be more conducive to acquisition. Nevertheless, think-aloud protocols suggest that the enhanced text results in higher levels of noticing as compared to the unmodified passage. Another study that featured in Norris and Ortega's review is Robinson (1996b), who compared the impact of implicit, incidental, rule-search, and instructed learning conditions on pseudoclefts (complex rule) and subject-verb inversion (simple rule), as tested by means of accuracy and speed scores on a UGJT. Instructed learning (providing explicit instruction)

proved more beneficial than the other conditions in the case of simple rules. As for complex rules, implicit learning conditions (requiring the memorization of sentences) proved equally beneficial than other conditions. Interestingly, though, the implicit group was the only one not differing according to rule complexity. Findings could however not confirm the primacy of an implicit and/or non-interventionist approach, which was for instance proposed by Krashen (e.g. 1982, 1985) and Reber (e.g. 1989) especially in terms of teaching complex structures. Albeit much quoted, the overall findings of Norris and Ortega (2000) have to be taken with a grain of salt for multiple reasons (Doughty, 2008). The over-representation of studies based on (1) explicit instruction treatments, (2) a rather short duration of treatment (typically 1–4 hours), and (3) outcome measures of explicit knowledge (constituting 90% of studies<sup>8</sup>) are likely to have made the impact of explicit instruction seem greater. Especially this last shortcoming of the review is deplorable but certainly due to the (then) limited availability of research more validly and differentially depicting L2 ability.

Following Norris and Ortega (2000), Spada and Tomita (2010) reviewed 30 studies covering the more recent time span of 1990–2006 and including 11 studies focusing on implicit instruction. Similar to Norris and Ortega (2000), explicit instruction turned out to show a more substantial effect on learning than did implicit instruction. As an additional moderator variable, simple and complex features were compared but showed no significant difference as to the advantage of explicit treatment. Moreover, a separate analysis of controlled vs. free production tasks—arguably tapping into explicit vs. automatized-implicit knowledge—did not yield any differences: The impact of explicit instruction showed large effect sizes even on free response measures. This was contrary to the expectation of the authors, who propose that these results may be attributable to the limited duration of implicit instruction in the studies, with a maximum of 10 hours. As will be addressed in 5.2, it seems likely that implicit learning conditions require more time to be effective. Spada and Tomita (2010) further called for research relying more strongly on implicit treatments and their effect on both types of knowledge.

Spada and Tomita's call was followed by Goo, Granena, Yilmaz, and Novella (2015), who reviewed 11 studies forming part of Norris and Ortega (2000) and 23 more recent studies, which all compare implicit and explicit treatments. Although this review better represents implicit learning conditions, only 17% of the studies include free production measures. Again the superiority of explicit treatments was reported, and a larger mean effect size for selected

<sup>8</sup> The preponderance of studies reviewed in Norris and Ortega (2000) was based on constrained constructed response (i.e., requiring the production of the target features in a highly controlled context), metalinguistic judgments (e.g., GJTs), or selected response (e.g., MC items). Only the remaining 10% were based on free response tasks.

or controlled response measures than for free production. Nevertheless, a higher overall mean effect size was revealed for the effect of implicit instruction as compared to Norris and Ortega (2000) and Spada and Tomita (2010). This arguably demonstrates the peril of (meta-)studies disregarding (more effective) implicit treatments and measures of implicit and/or automatized knowledge.

Kang, Sok, and Han (2019) endorsed this idea of also reviewing the effect of implicit learning conditions, capturing 54 publications between 1980 and 2015. Both types of instruction, implicit and explicit, showed a large impact on learning in immediate testing. Interestingly, however, implicit instruction led to a significantly longer lasting effect as determined by delayed posttests. This is likely to be rooted in the integration of more studies that showed interest in implicit instruction (with 12 and 18 studies targeting explicit and implicit instruction respectively), as well as in the 22 studies incorporating outcome measures targeting automatized-implicit knowledge. A comparison of implicit and explicit instruction was for instance made possible in Goo (2012) and Andringa et al. (2011). In Goo (2012), two learner groups of EFL were trained on the English *that*-trace filter (e.g., *Who do you think likes school?* instead of *Who do you think that likes school?*) by means of an information-gap task and subsequent recasts or metalinguistic feedback respectively. As tested by immediate posttests, a UGJT and a written production test, both conditions proved to be equally effective. While the metalinguistic feedback group outperformed the implicit group in previous research, the opposite finding in this study might be different because modified output was not allowed for (Goo, 2012). The speculative similar status of the two types of instruction also became apparent in Andringa et al. (2011). Participants assigned to two groups were presented with the target structures (degrees of comparison and verb-final in subordinate clauses in Dutch) in a more and less explicit fashion. Although the explicit condition proved more beneficial as tested by the UGJT, the two types of training proved equally effective in terms of the free written response task. This is consistent with research showing that explicit instruction, too, promotes correct free productive language use (e.g. R. Ellis, 2002a; R. Ellis et al., 2006; Goo et al., 2015; Spada & Tomita, 2010). However, in the case of participants with an L1 allowing for a similar construction of degrees of comparison as in Dutch, explicit instruction was more effective (Andringa et al., 2011). Thus, the learners' L1 perhaps can function as a mediator especially through explicit instruction, which can help notice cross-linguistic similarities.

The vast majority of studies investigating the differential impact of implicit vs. explicit learning conditions was laboratory-based. However, one recent large scale and longitudinal study carried out in a classroom-based context is worth mentioning here. Leslie Piggott (2019), in

her PhD, followed two cohorts of secondary school children learning English in the Netherlands ( $N = 393$ ) during two years. One group received the default type of instruction that included explicit teaching, and the other was taught grammar implicitly only. In a traditional gap-fill grammar test, both groups scored equally well on both the immediate and delayed tests. The explicit group fared better only in terms of some accuracy measures in language production, mostly concerning verb formation, but at the expense of fluency and willingness to communicate. The implicit group achieved higher outcomes in terms of speed fluency in speaking and fluency in writing, willingness to write and speak, reading comprehension, and, in the immediate test, in terms of lexical diversity. Interestingly, a number of factors including analytical ability, learner anxiety, learner attitudes, and motivation further impacted outcomes in the two conditions (see Piggott, 2019, p. 121). This points to the fact that ideally, comparative research also takes into account individual differences.

Overall, the relative effectiveness of implicit vs. explicit instruction on implicit and/or automatized knowledge, and, as of particular relevance to this study, the potential of implicit learning conditions as an add-on to explicit instruction deserve further investigation. The high potential of explicit instruction certainly cannot be disregarded; and yet, as becomes apparent from the brief research review, several factors in addition to the type of outcome measures are likely to influence which type of instruction proves more effective. As in terms of explicit instruction, of which the inductive approach has been reported as more effective than the deductive approach (e.g. Leow & Cerezo, 2016; Smart, 2014; Tammenga-Helmantel et al., 2016), implicit instruction can be operationalized in various ways rather than narrowly as a single type, which has frequently been neglected in previous research (Nassaji, 2017). To begin with, the length of exposure in implicit learning conditions likely is a crucial factor determining learning effects (Doughty, 2008; Spada & Tomita, 2010). Other contributing factors are type and token frequency in the input (e.g. Denhovska et al., 2016) and the timing at which post-testing takes place (e.g. Ishikawa, 2019). As to the complexity of target structures, some studies have reported that explicit instruction is especially beneficial for learning simple features (e.g. DeKeyser, 1995; R. Ellis, 2002a; Ferman et al., 2009) and, vice versa, that implicit instruction better promotes learning of complex rules (Ferman et al., 2009; e.g. Krashen, 1982, 1985; A. S. Reber, 1989). This, however, has been contested elsewhere (e.g. Karimi & Abdollahi, 2020; Robinson, 1996b). A target structure's salience (e.g. R. Ellis, 2005a) and crosslinguistic influences (e.g. Andringa et al., 2011) also seem to impact learning outcomes. This could potentially make explicit instruction of syntactical features more effective than of morphological features, as pointed out by Kang et al. (2019). Furthermore, grammar learning after a certain age, perhaps puberty, might be more successful if it happens explicitly

(DeKeyser, 2000; Pawlak, 2021b; see *Fundamental Difference Hypothesis*, Bley-Vroman, 2009 and *Critical Period Hypothesis*, Singleton, 2005), pointing to the potential of incidental learning through EE specifically for young, ideally pre-adolescent, learners.

Lastly, as hinted at in the previous paragraph, individual differences, such as cognitive factors, can be described as important predictors of the effectiveness of implicit and explicit learning conditions. Examples of such cognitive factors are working memory (see Hummel & French, 2010; Kormos & Safar, 2008) and analytical abilities, and implicit and explicit learning aptitude<sup>9</sup> (e.g. Godfroid & Kim, 2019). Working memory appears to be an important moderator in grammar learning processes. High-capacity phonological short term memory, a sub-component of working memory, seems to aid incidental learning and be advantageous especially in an implicit, communicative learning environment given its focus on oral input (Hummel & French, 2010; Kormos & Safar, 2008). Thus, learners with high phonological short-term memory likely can profit more from aural extramural English and a more implicit type of instruction, and score higher on aural tests. On the other hand, students with lower phonological short-term memory would benefit from additional written or other visual support. Moreover, learners' analytic abilities can impact the extent they benefit from explicit instruction and their readiness to analytically deconstruct meaning-based input (Kasprowicz et al., 2019). Additionally, it could be that learners used to a more formal and explicit EFL setting, in this case Austria, show a greater tendency to structurally analyze language encountered in extramural English contexts and to learn explicitly rather than implicitly. However, the impact of such cognitive factors warrants more attention in research, as many uncertainties remain. In order to account for this great number of impacting variables reviewed in this section, a combination of implicit and explicit instruction is what has been recommended most frequently (e.g., Banegas et al., 2017; R. Ellis, 2008b; see grammar as usage vs. grammar as concept in Achard, 2018).

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<sup>9</sup> Li and Zhao (2021) provided a useful overview of the constructs of explicit and implicit aptitude. Explicit aptitude is what was traditionally referred to as language aptitude, and it includes phonetic coding, analytical ability, and rote memory. Phonetic coding ability implies recognizing sounds in the input and making sound-meaning connections; analytical ability is the ability to recognize the function of grammatical forms and to learn rules through examples; rote memory is the ability to remember word-meaning associations. Since explicit aptitude was found to be more strongly correlated with explicit than implicit instruction, research recently began looking into implicit aptitude. The latter refers to the learners' ability to pick up regularities in language through input and thus to unconsciously learn pronunciation, grammar, and lexis. The Modern Language Aptitude Test, originally designed by Carroll and Sapon (1959), is an example of a measure of explicit aptitude; The Tower of London, as for instance outlined in Godfroid and Kim (2021), is an example of a measure of implicit aptitude.

### 5.1.2 Meaning-Focused vs. Form-Focused Instruction

As mentioned at the outset of this chapter, explicit instruction of some kind has proven effective in much of (I)SLA research. This can be translated into the superiority of form-focused instruction as compared to a purely meaning-based learning environment and becomes apparent in early research on French immersion classes in Canada. For example, immersion students have been reported not to reach native-like proficiency in written and spoken production despite 12 years of exposure (Swain & Lapkin, 1982), with errors, such as in the use of French articles, gender agreement and verbs, potentially being sustained due to a lack of systematic form-focused instruction (Allen, P., Swain, M., Harley, B., and Cummins, J, 1990; Swain & Lapkin, 1982). This is in accord with the Noticing Hypothesis (see 2.1.4.2) and seems to be consistent with research that is not based on immersion contexts (e.g. Hulstijn, 1989; J. Kim, 2012; La Fuente, 2006). Hulstijn (1989) compared three different treatments on Dutch word order with varying degrees of attention being directed to form: a form-focused, meaning-focused, and mixed form-meaning-focused group. The mixed group outperformed the other groups, and the meaning-focused group scored weakest, as gauged by a cued recall test. This made Hulstijn conclude that attention being directed to form during input encoding is sufficient to allow for implicit, incidental learning of grammatical features to take place (1989, p. 72). By the same token, as a result of a large-scale study, J. Kim (2012) advocates a meaning-based classroom integrating form-based instruction, which proved beneficial as measured by a GJT, MKT, and EIT. Similarly, in La Fuente (2006) the benefits of task-based teaching *including* (rather than and excluding) form-focused instruction of vocabulary and gender/number aspects was visible in oral production skills. In contrast, findings by Valeo (2013) suggest that content-based teaching with and without a form-focus provides equal gains in terms of grammar knowledge, as gauged by an oral production task, a cloze, and an error comprehension task. Yet, interestingly, the researcher could detect advantages of a form-focus for content knowledge gains. Upon accepting that the integration of form in the classroom is beneficial overall, the question remains as to the relative effectiveness of FonF and FonFs.

Comparative research on FonF vs. FonFs could not always detect substantial differences. For instance, Norris and Ortega (2000) carried out a meta-analysis on this issue (see also 5.1.1). Based on Doughty and Williams (1998b), FonF was defined as the meaning-based embedding of form, and FonFs as drills (mechanical or more communicative) and the absence of a meaning-based embedding of form. Overall, both types resulted in large gains of knowledge in terms of a large effect size, and they seemed equally effective, showing only a slight preference for the former approach ( $d = 1.92$ , compared to  $d = 1.47$ ). More specifically, explicit FonF was

found to be most effective, followed by explicit FonFs. Their respective implicit counterparts demonstrated a medium and small effect size respectively. What must not go unnoticed is the fact that most studies included in the review operationalized FonF by means of explicit instruction and gauged effects by measures of explicit knowledge. However, somewhat similar results were found in Spada et al. (2014), who tested the effect of 12 hours of isolated vs. communicatively embedded form-based teaching by means of a written grammar test *and* an oral communication task. The two conditions were also not found to yield significantly different results, but the former condition seemed more conducive to knowledge tapped into by the written grammar test and the latter condition proved more beneficial in performing the oral communication task. The authors concluded by advocating a combination of both approaches in teaching, which potentially helps construct explicit *and* implicit (or automatized) knowledge.

Indeed, there seem to be some indications of stronger benefits of FonF over FonFs for performance in free oral production—a gratifying trend considering that FonF is what is endorsed in CLT (see 3.2) and, as a consequence, in many ELT curricula (see 6.1.2 for the Austrian and Swedish curricula). In an attempt to investigate the impact of form-focused instruction on implicit or automatized knowledge, Ellis (2002a) reviewed studies measuring implicit learning outcomes by means of free production tasks. Eight studies featured in Norris and Ortega (2000) and five more recent studies were included. Five out of nine studies employing FonF proved fully effective, but instruction in these studies was rather extensive (Doughty & Varela, 1998; Harley, 1989; Lyster, 1994; Mackey, 1999; Mackey & Philp, 1998). In contrast, the only two studies implementing FonFs did not seem to be conducive to free oral language production, but treatment in these studies also happened to be limited (1.5h to two days) and structures rather complex (word order and preverbal object pronouns) (Salaberry, 1997; VanPatten & Sanz, 1995). The findings reported in this review thus must be treated with caution. Nonetheless, de la Fuente (2006) also found that a group of Spanish learners having received task-based FonF instruction (including communicative tasks followed by intentional grammar practice) outscored the FonFs group (operationalized as presentation, practice, production) on correct use of gender/number in an oral production test. Even though this was attributed to the placement of grammar teaching in FonF at the end rather than the beginning of the lesson, it seems likely that FonF is indeed more beneficial to (oral) free production tasks.

Yet, the latter hypothesis might depend on the nature of tasks during training. Shintani (2015) compared the outcome of 4,5 hours of training over five weeks of 30 young beginner learners of Japanese divided into two groups. The two types of instruction were operationalized by

means of intentional learning of the features through a series of tasks (involving repeating words after the teacher and saying words shown on cue cards) and incidental learning through listen-and-do tasks (involving choosing picture cards that correspond to the teacher's command), respectively. Shintani found that grammar acquisition of plural -s and copula *be* did not take place through FonFs, but FonF helped acquisition of the first structure. The finding was attributed to the fact that noticing plural -s was functionally relevant in performing the listen-and-do tasks, which was not the case for copula *be*. However, acquisition could be demonstrated for the bulk of learners only in terms of receptive but not productive knowledge. This could be due to a lack of (free) production during training: According to Ellis, "there is consensus that learners need the opportunity to participate in communicative activity to develop implicit knowledge" (R. Ellis, 2005b, p. 214). Given the applied pedagogic perspective adopted in Ellis' research, implicit knowledge may well be replaced by automatized-implicit knowledge in this statement, considering the terminology proposed in the present thesis.

As becomes apparent in section 3.1 on the definition of form-focused vs. meaning-focused instruction, the operationalization of FonF and FonFs can vary widely. In order to be able to report consistent findings, more research is needed that isolates specific sub-types of FonF and FonFs, as for instance varying in the level of explicitness and communicative embedding (R. Ellis, 2001b; Nassaji, 2017). For example, Shabani and Hosseinzadeh (2019) compared pre-emptive (i.e., planned intentional grammar instruction preceding oral production) vs. reactive FonF (corrective feedback provided during oral production) and found a similar effect on accuracy in narrative writing. However, such research remains limited, and likewise, little is known about the effect of the timing at which focus is directed to form, e.g., before or after a communicative task (see R. Ellis, 2016). Another moderating variable is input- and output-based grammar instruction, which, according to a meta-analysis (Shintani et al., 2013) might be equally effective in gaining receptive and productive knowledge. The nature of the target features might also impact learning outcomes, with form-focused instruction perhaps being more conducive to automatized-implicit knowledge of simple morphological features (e.g., verb forms, articles) rather than syntactic structures (e.g., passives, word order), as found in the review by Ellis (2002a). Additionally, in the same vein as for implicit vs. explicit instruction, learning outcomes need to be looked at more specifically in terms of the construct being tested, such as explicit vs. automatized-implicit knowledge (e.g. R. Ellis, 2002a; Spada et al., 2014), receptive vs. productive language use (e.g. Shintani, 2013), written vs. oral language production, and immediate vs. delayed performance (e.g. R. Ellis, 2002a), as well as individual learner differences (e.g., phonological memory, see Hummel & French, 2010). Lastly, the suitability of a given instructional approach is certainly linked to the specificities of a given local

context (Pawlak, 2021b; Richards & Rodgers, 2014; also see principles of *particularity*, *practicality*, and *possibility* in Kumaravadivelu, 2006).

Given the high number of moderating variables to be considered, it is not easy to generalize what type of instruction tends to be most beneficial. Yet, a combination of explicit grammar teaching with an overall communicative approach in ELT certainly has merit and potentially is most amenable to automatized-implicit knowledge (see DeKeyser, 2017; R. Ellis, 2005b; see also *grammar as usage* vs. *grammar as concept* in Achard, 2018). This has been indicated by previous findings (e.g. R. Ellis, 2002a; Goo et al., 2015; La Fuente, 2006; Spada et al., 2014; Spada & Tomita, 2010). The right balance between the two components of implicit and explicit instruction likely depends on the particulars of the context.

## 5.2 The Effect of Naturalistic Learning on Grammar Knowledge

Typical classroom-based learning, “situated importantly within a language curriculum with its outcome goals, textbook, syllabi, limited exposure, tests, and so forth” (Leow & Zamora, 2017, p. 43), seems to be conducive first and foremost to explicit and intentional learning (Leow & Cerezo, 2016; Leow & Zamora, 2017). For implicit learning conditions to be comparatively effective, they need to provide exposure that starts early and is meaningful, structurally and lexically rich, and extensive—preconditions not given in the classroom (e.g. DeKeyser, 2000; Leow, 2015; Long, 2020; see Fundamental Difference Hypothesis, Bley-Vroman, 2009). Such a naturalistic learning environment does not qualify as an object of study in ISLA, because it lacks opportunities for empirical manipulation that allow for an analysis of the impact that interventions have on learning (Leow & Cerezo, 2016). Even though this is certainly true, the fields of (I)SLA would be remiss not to delve into the potential of incidental learning contexts—such as extramural English—for grammar learning, and its implications for the classroom.

### 5.2.1 Implicit Learning Conditions

In SLA, interest in incidental learning of grammatical features emerged in the late 1990s (Leow & Zamora, 2017), with studies very similar to the ones used in psychology (A. S. Reber, 1967, 1976, 1989, 1996) and typically involving exposure to multiple exemplars of the target feature(s) in a training phase, followed by testing (e.g. Robinson, 1996b, 1997). To date, incidental learning has been investigated for word order (e.g. Cleary & Langley, 2007; Z. F. Miller & Godfroid, 2020; Rebuschat & Williams, 2012), form-meaning mappings (e.g. Hama & Leow, 2010; Rebuschat, Hamrick, et al., 2015; Williams, 2005), case marking (e.g. Brooks & Kempe, 2013; Denhovska et al., 2016; Rebuschat, Révész, & Rogers, 2015; Robinson, 2005; Rogers et al., 2016), gender agreement (e.g. Brooks & Kempe, 2013; Denhovska et al., 2016; Denhovska & Serratrice, 2017; Presson et al., 2014), and more recently also inflectional morphology (Ishikawa, 2019)<sup>10</sup>.

For instance, in Robinson (2005), adults of L1 Japanese were asked to memorize Samoan words and try to comprehend stimulus sentences including case marking. Participants then

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<sup>10</sup> Many of the afore-mentioned studies suffer from two shortcomings. Their frequent reliance on *non-concurrent* measures of awareness (e.g., GJTs, offline verbal reports, subjective measures) cannot safely indicate if implicit or explicit learning took place *during* exposure (Leow and Zamora, 2017), as demonstrated for instance in Hama and Leow (2010). As an alternative to testing awareness, the presence of automatic processing can be gauged, for instance through time-pressured tests (see 2.2.2), or, most promisingly, neurological measures (Williams, 2009). The second shortcoming of many of those studies is the lack of measures of automatized-implicit knowledge, briefly addressed in this section.

performed a GJT and a guided sentence production task on this feature. A clear learning effect could be demonstrated. However, findings on incidental grammar learning are not always clear-cut. For example, in two studies on artificial case markings, acquisition took place only partly (Rogers et al., 2016) or only once the complexity of the stimulus had been reduced and an additional step integrated in the training phase (repeating the input after listening) (Rebuschat, Révész, & Rogers, 2015). In contrast, in Grey, Rebuschat and Williams (2014), learning effects of auditory exposure to semiartificial case marking and word order, followed by plausibility judgments, became apparent both directly after training as well as two weeks later. Incidental learning not only seemed durable but in some cases even showed improvement. Yet, evidence for successful delayed learning does not seem to be robust (Leow & Zamora, 2017). For instance, in a study by Ishikawa (2019), initial effects of incidental learning of English noun, verb, and adjective suffixes could not be maintained a week later.

Although the body of research seems to demonstrate that incidental learning of grammatical features is possible, its occurrence hinges on a number of factors, including the structure at hand, type and token frequency, L1 background, and individual differences (Leow & Zamora, 2017; Rogers et al., 2016). For instance, in Denhovska et al. (2016), incidental learning of Russian noun-adjective agreement proved more effective in the case of exposure to *fewer* examples of the target structure repeated *less* frequently, as well as for participants with better working memory capacity. In Miller and Godfroid (2020), stress management and premeditation—the latter encompassing for instance cautiousness and purposeful thinking—appeared to be beneficial for incidental learning in the case of participants in a negative mood state, and, overall, self-reported intellect proved most helpful. Factors like these, previously discussed in 5.1.1 and 5.1.2, still require substantial research. Importantly, whether findings from laboratory-based studies can be extrapolated to naturalistic learning is questionable mainly due to the limited exposure provided in experiments, and their frequent reliance on artificial languages and nonsensical stimuli (Williams, 2020). Moreover, research has only recently become more aware of the importance of including measures of implicit knowledge, which has so far shown that incidental learning can lead to both types of knowledge (Rebuschat, Hamrick, et al., 2015; Rebuschat & Williams, 2012; Rogers et al., 2016).

Adopting a different perspective, the growing attention devoted to implicit and explicit *knowledge* in lieu of *learning* (Leow & Zamora, 2017) yielded some interesting results on the potential impact of natural exposure. This has been investigated in terms of the independent variables of length of residence (henceforth LOR), described as “a proxy for the amount of naturalistic L2 exposure” (Suzuki, 2017, p. 1234), and heritage language learning (e.g. Bowles,

2011). In Suzuki and DeKeyser (2015), L2 adult speakers of Japanese with longer LOR in Japan ( $\geq 2.5$  years) appeared more adept at making use of metalinguistic knowledge in the EIT. In a follow-up study (Suzuki, 2017), longer LOR ( $\geq 3.25$  years) in Japan apparently helped participants draw on implicit knowledge (as tested by real-time comprehension) with more stability than was possible for learners with shorter (2-3 years) residence. The latter learner group relied primarily on what was labelled automatized knowledge, as tested by TGJTs and timed fill in the blank. Such automatized knowledge was, however, also available to the former group. This may be because, as I argued in 2.2.2, the given measures likely can also be performed using implicit knowledge. According to the authors, the findings potentially demonstrate how formal instruction implies reliance on (automatized) explicit knowledge, and how implicit knowledge seems to be fostered through language use and experience. Likewise, in Bowles (2011), native speakers and heritage learners scored highest on the ONT, EIT and TGJT, whereas L2 learners scored highest on the UGJT and the MKT. However, automatized-implicit knowledge might only be significantly impacted if exposure is long enough. In Philp (2009), no straightforward relationship between LOR and the amount of L2 use and what was labelled implicit knowledge of L2 English appeared. This, she argued, might be due to most participants having lived in the country of the target language (New Zealand) for less than three years. However, in her study, the cluster containing students scoring high on the TGJT and partly the EIT had received English instruction since the mean age of 8.33 years and had regularly used English (apparently extramurally).

### **5.2.2 *Extramural Grammar Acquisition***

To date, there appears to be just one study that has delved into the speculative relationship of EE and automatized-implicit and explicit knowledge (Schurz, 2018), and the burgeoning field of EE has otherwise only yielded a small selection of studies on grammar learning. In part, these studies were more naturalistic (Hedlund, 2020; Kusyk, 2017; Muñoz & Cadierno, 2021; Persson & Prins, 2012; Schurz, 2018), while other studies operationalized EE in an experimental, laboratory-based setting (J. F. Lee, 2002; M. Lee & Révész, 2018, 2020; Muñoz et al., 2021; Pattemore & Muñoz, 2020; Van Lommel et al., 2006). In both types of studies, participants were either school-age learners or university students.

#### **5.2.2.1 *Classroom-based research***

To my knowledge, the only study investigating the impact of EE on grammar learning that targeted very young learners is Persson and Prins (2012), who compared two groups of 4- to

5-year-old EFL learners in the Netherlands. While one group did not receive early English instruction ( $n = 33$ ), the other was taught English on average for little over an hour a week ( $n = 178$ ). Participants were tested on standardized tests of receptive vocabulary and (assumably explicit) grammar knowledge at the beginning and end of year one of primary school. Additional data were collected on the quantity and quality of input in school and the quantity and type of input at home. Participants not attending early English instruction did not improve significantly on the language tests, and the slight improvement could be due to input at home. In the other group, receptive grammar knowledge appeared to be significantly influenced by the quality of input in school (operationalized as the teachers' English communication proficiency), and, in terms of input at home, most consistently through watching TV programs designed for children with English as an L1.

In the Swedish context, two student theses explored teenage learners' EE engagement and its impact on grammar acquisition. In her BA thesis, Hedlund (2020) sought to explore the relationship between correct use of subject-verb agreement in a cloze test and engagement in EE among 16-year-old high school students ( $N = 62$ ). However, the correlation was weak, and other influencing factors might have been at play, such as the school program and gender. In my earlier case study (Schurz, 2018), I tentatively investigated to what extent automatized-implicit and explicit knowledge among 17- to 18-year-old high school students ( $N = 39$ ) seemed to be impacted by their EE practices. They performed an ONT, an UGJT, and an MKT including unreal conditional sentences, irregular verbs, and *for/since*, and further filled out a questionnaire targeting the amount, starting age and type of EE usage as well as a question on the type of instruction they were receiving. Performance was highest on the ONT, and those scores showed a significant correlation with the overall current amount of EE. Instruction was assumed to be widely fluency-based, which is likely to also have affected implicit knowledge.

In pursuing a very similar research agenda as done in the present study, Muñoz and Cadierno (2021) compared more implicit vs. explicit learning environments as provided in Spain ( $n = 80$ ) and Denmark ( $n = 56$ ) to tentatively assess the impact of EE on grammar learning among 14- to 15-year-olds. While the Spanish group significantly outperformed the Danish group only in the MKT, the opposite was true for a listening comprehension test and an UGJT, assessed through *t*-tests. Interestingly, the two groups differed quite considerably in the strength and direction of correlations between EE types and outcome measures. For example, in the Danish sample, the only significant correlation between viewing (with L2 subtitles) and performance was seen in the UGJT, surprisingly showing a negative direction. This was attributed to the idea that only weaker learners might watch audio-visuals with subtitles, while

more proficient students possibly opt to watch them without subtitles—an input type that indeed showed a positive correlation with the UGJT and the listening test in Denmark and with all three tests in Spain. Furthermore, reading showed positive correlations only in the Spanish sample, and the same was true for speaking among Danish students. Importantly, given the strength of correlations was always small or medium, findings should be taken with a grain of salt. Nevertheless, it is interesting to see several differences between the two contexts in the direction and strength of correlations between EE and test scores. These will be revisited in the discussion (see 9.4.1).

When it comes to classroom-based research targeting higher education, a small case study (Kusyk, 2017) of three French university students with English as an L2 was conducted to study the impact informal learning on grammatical accuracy and complexity in writing. Interviews on EE activities and subsequent writing tests took place every six weeks throughout five months. While each learning path was found to be unique, the general picture emerged that grammatical complexity (measured as clauses per T-unit) first shortly declined and in turn gradually increased or formed a plateau; accuracy (measured as errors per T-unit) improved during the first three months or formed a plateau, and subsequently varied across students.

### 5.2.2.2 *Experimental Research*

Other studies, attempting to more clearly isolate learning effects of recreational activities, focused on reading and audio-visual input. A study on university students in the US enrolled in first year Spanish ( $N = 181$ ) (J. F. Lee, 2002) explored incidental learning of a feature novel to participants, Spanish future tense morphology, through reading. The reading task was manipulated in terms of its orientation towards form or meaning and the frequency of occurrence of the feature (6, 10, 16 occurrences). The different versions were assigned to different learner groups. Acquisition was tested immediately after reading and two weeks and one month later through comprehension tests (free written recall, MC questions) and input processing tests (form recognition and production tests). While even six occurrences were sufficient for some learning to take place, higher frequency of occurrence of the feature increased learning as tested by all measures. Furthermore, the meaning-based reading<sup>11</sup> seemed to be more beneficial for free written recall, but only at the first instance of testing.

<sup>11</sup> The meaning-based reading task was preceded by a multiple-choice activity. Participants were told that these pre-reading items would reappear after the reading, which should help them provide the right answers. In contrast, the form-based reading task included instructions directing focus to form, and the neutral reading task simply consisted of the text and subsequent comprehension questions (Lee, 2002).

More recently, Muñoz and colleagues fleshed out the potential of extensive audio-visual media in grammar learning (Muñoz et al., 2021; Pattemore & Muñoz, 2020). Spanish-Catalan bilingual university students were exposed to ten episodes of a TV series (227 min.) over five weeks, one group viewing the content with captions and another group without. In Pattemore and Muñoz (2020), 16 English abstract constructions (e.g., passive, emphatic *do*, will-future continuous), were targeted and tested by productive grammar tasks (e.g., sentence transformation, fill-the-gap). Both groups ( $N = 90$  in total) showed significant grammar learning gains, which was not the case in a previous study providing exposure under 30 minutes to foreign language movies with subtitles in the learners' L1 (d'Ydewalle & van de Poel, 1999; Van Lommel et al., 2006). However, the learning effect was greatest among intermediate learners, who thus seemed most receptive to such implicit learning conditions. In addition, the captions group achieved higher scores, with the non-caption group apparently relying more strongly on working memory. These results corroborate findings reported in Lee and Révész (2020), where video input including captions was more beneficial for the participants' productive oral and written grammar knowledge ( $N = 72$ ) than no-caption exposure. However, textually enhanced captions proved even more beneficial, and this condition also more strongly directed learners' attention to the target features (present perfect tense vs. simple past), as eye-tracking data shows. The benefits of textual enhancement had previously been demonstrated in Lee and Révész (2018).

In Pattemore et al. (2020), participants from the same population ( $N = 136$ ) as in Pattemore and Muñoz (2020) were divided into three groups: with captions, without captions, and captions including textually enhanced target features (e.g., through bolding). Despite the overall positive findings of the potential of EE activities for grammar learning, all three groups reported to have learned primarily vocabulary and expressions, rather than grammar. This did not differ across learning conditions, and 19% of students were uncertain whether they had learned anything through audio-visual input at all.

The input conditions and test instruments used in Pattemore and Muñoz (2020) were re-analyzed in a study by Muñoz et al. (2021), it appears. However, in the later study, the aim was to explore the effect of the frequency of occurrence of target features on the participants' ( $N = 69$ ) grammar knowledge. Frequency showed a significant correlation with test scores in both conditions, but correlations were slightly stronger if captions were not given. No captions hence proved to be the more challenging learning condition. Proficiency played a significant role, too, in that intermediate learners outscored elementary learners, but no significant difference was found between advanced learners and the other groups.

Overall, it thus emerges that learning grammar through extramural language use is clearly possible. However, learning outcomes appear to be contingent on the frequency of occurrence of grammatical features (J. F. Lee, 2002; Muñoz et al., 2021), the type of activity engaged in (Muñoz & Cadierno, 2021), and how the input is delivered (e.g., the presence of (textually enhanced) captions) (M. Lee & Révész, 2018, 2020; Muñoz et al., 2021; Pattemore & Muñoz, 2020; Persson & Prins, 2012). Additionally, naturalistic, classroom-based studies seem to suggest that the acquisitional benefits depend on the specific learning context and the opportunities they provide for implicit and explicit learning (Muñoz & Cadierno, 2021). Especially the differential impact of various types of activities and learning environments warrants more attention in future research—ideally while also disentangling learning effects on automated-implicit vs. explicit grammar knowledge.

### 5.3 Summary

While there is no doubt that grammar instruction is effective, this overly generalizing statement does not prove much helpful in light of the myriad of approaches available. Upon accepting the binary distinctions of implicit vs. explicit instruction and FonF vs. FonFs, more fine-grained—but not the less tentative—conclusions can be drawn. Explicit instruction, perhaps notably inductive teaching (e.g. Leow & Cerezo, 2016; Smart, 2014; Tammenga-Helman-tel et al., 2016), has been reported to be more beneficial to learning than implicit instruction (e.g. Norris & Ortega, 2000; Spada & Tomita, 2010). However, this finding probably should not be accepted at face value. As emanating from more recent studies and meta-analyses (e.g. Goo et al., 2015; Kang et al., 2019), research findings are biased if treatments are advantageous to explicit learning and/or if outcome measures obscure learning effects on automatized or implicit knowledge. Other moderating variables of learning outcomes of the two types of instruction are, for instance, target structure complexity and salience, cross-linguistic influences, and learner age (Kang et al., 2019). Given the contingency of the effectiveness of implicit vs. explicit instruction on a multiplicity of factors, a combination of both approaches might be most promising (e.g. R. Ellis, 2002a; Goo et al., 2015; La Fuente, 2006; Spada et al., 2014; Spada & Tomita, 2010).

While form-focused instruction seems to be more amenable to learning than purely meaning-based language teaching (e.g. Hulstijn, 1989; J. Kim, 2012; La Fuente, 2006), no such clear-cut answer can be provided as to FonF vs. FonFs (Nassaji, 2017). This is due to limited research on this area of inquiry in the last few years as well as varying operationalizations of the concepts, for instance in terms of the degree of explicitness, pre-emptive vs. reactive form-focused instruction, the timing of form-focus, and the type of target structures and outcome measures used. However, there may be indications of FonF being somewhat more beneficial to automatized knowledge (R. Ellis, 2002a; La Fuente, 2006; Spada et al., 2014), which would be felicitous given the endorsement of this approach in many foreign language curricula throughout Europe (see 6.1.2 for a description of the Austrian and Swedish ELT curricula).

Irrespective of the relative effectiveness of implicit vs. explicit and meaning-focused vs. form-focused instruction, implicit learning conditions are certainly helpful in and of themselves, especially if used as an add-on to formal language learning. The immediate (or sometimes delayed) effect of implicit learning (conditions) on grammar knowledge has been investigated mostly in terms of (semi-)artificial, but sometimes also naturally occurring, grammar patterns (Rogers, 2017). Although learning under implicit conditions is certainly possible, outcomes are contingent on multiple factors, such as the structure at hand and individual learner

differences (Leow & Zamora, 2017). A caveat of such studies certainly is their artificial nature. Contrarily, studies having investigated the effect of length of residence and heritage language learning on implicit vs. explicit knowledge seem to provide insights more candidly depicting naturalistic learning (e.g. Bowles, 2011; Philp, 2009; Suzuki, 2017). However, such research urgently needs to be complemented by a focus on naturalistic learning through EE. As argued by Ellis (2008b, p. 855), form-focused instruction combined with exposure to the target language is likely to be most beneficial for learning.

In previous research operationalizing extramural English as an incidental learning conditions, to my knowledge only Schurz (2018) took into account the implicit-explicit knowledge dichotomy. Even if her study provided merely preliminary results, it was the first to suggest that the level of automatized-implicit knowledge of a group of learners might be linked to a specific geographical context and the opportunities it affords for extramural acquisition. Other studies did not employ separate measures of implicit vs. explicit knowledge, but nevertheless provided evidence that grammar acquisition can take place through EE, especially (1) if accompanied by instruction and if language use involves watching TV (Persson & Prins, 2012) (or perhaps more generally, audio-visuals); (2) in the case of reading, if exposure is repeated (J. F. Lee, 2002); (3) in the case of audio-visuals, if captions are provided (Muñoz et al., 2021; Pattemore & Muñoz, 2020) and textually enhanced (M. Lee & Révész, 2018, 2020); and (4) if target features occur more frequently in the audio-visual input, in particular when captions are not provided (Muñoz et al., 2021). Moreover, learners might not be aware of the fact that they are learning grammar through audio-visual exposure (Pattemore et al., 2020), and, interestingly, EE and the various activities involved may have a different impact on grammar learning depending on the given learning context (Muñoz & Cadierno, 2021). Assuming the impact of EE and ELT on learning hinges on the setting, providing more or less implicit vs. explicit learning conditions, research disentangling learning effects on automatized-implicit vs. explicit knowledge is sorely needed.



## 6 ENGLISH LANGUAGE TEACHING AND LEARNING IN AUSTRIA AND SWEDEN

In Austria and in Sweden, English is by far the most commonly learned first foreign language. The countries' majority languages, German in Austria and Swedish in Sweden, are Germanic languages, like English. German, just as English, is a West Germanic and Swedish a North Germanic language. Considering morphology, German and Swedish both have three genders, a Subject-Verb-Object word order, and weak and strong verbs, but German has a more complex inflection system such as seen in verb conjugation and in the number of cases. The countries' majority languages being related to the target language English certainly aids learning the latter. Yet, in terms of the difficulty L1 American speakers seem to have learning the two languages (Chiswick & Miller, 2005), English has been described as linguistically closer to Swedish than German. Still, on a global scale, both populations show very high levels of English proficiency. In the EF Proficiency index (Education First [EF], 2021) comparing 100 countries worldwide, Austria recently ranked second and Sweden sixth.

Regarding learners' English proficiency according to the different skills, in an Austrian nationwide evaluation (Federal Institute for Education Research, Innovation and Development [FIERID], 2020), 8<sup>th</sup> graders (age 13–14 years) scored highest on listening, with 66% of students reaching the B1 level or above in this skill, and with 32% of students demonstrating A2-level proficiency. This was followed by reading (54% A2, 42% B1), and writing (33% A2, 44% B1). In each skill, the remainder of students was on the level A1 or below. The same sequence was reported for girls and boys, with girls, however, in each case on average scoring higher than boys. Similarly, in the Swedish national exam of 2019 (SNAE, 2019a), 6<sup>th</sup> graders (aged 12–13 years) on average scored highest on listening and reading—followed by both speaking and writing. Girls scored highest on writing, followed by listening and reading, and speaking. Boys on average achieved highest results in the speaking, listening and reading sections, followed by writing. Girls scored higher than boys in writing, and the opposite was true for the other skills. Boys' high achievement in speaking and listening might be related to their greater gaming practices and the interaction with co-players this often involves (see 6.2).

By the end of the 6<sup>th</sup> grade, Swedish students should have reached the CEFR level of A2.1, and B1.1 by the end of 9<sup>th</sup> grade (SNAE, 2017). The CEFR proficiency level to be reached upon finishing upper secondary school is B2 in Austria (AME, 2014, 2018) and B1.2 in Sweden (SNAE, 2017, 2021a). The development of learners' proficiency is not only influenced by the linguistic distance effects mentioned above. The nature of English instruction students

receive and their extramural English practices undoubtedly also have a large bearing on language learning outcomes. These two aspects will be elucidated in sections 6.1 and 6.2.

## 6.1 English Language Teaching

### 6.1.1 *Preliminaries: The School System*

Before delving into the specificities of English language teaching in Austria and Sweden, some preliminaries in each country's school system need to be shed light on first. Similarities between the Austrian and Swedish school systems were found in required teacher qualifications and class size. Teachers in the two countries must initially complete at least a Bachelor's degree for grades 1–6 (in Sweden) and grades 1–8 (in Austria). To teach in higher grades, and to get a fixed contract as a lower secondary school teacher in Austria, a Master's degree is required. To teach in grades 1–4 in Austria and 1–6 in Sweden, multiple subjects must be studied, while for higher grades, at least two subjects are studied (AME, n.d.–e; Swedish Teacher's Union [STU], 2016). Class size, too, is somewhat comparable, averaging 21.1 and 21.8 students in Austrian and Swedish lower secondary schools respectively, according to data from 2017 (Organisation for Economic Co-Operation and Development [OECD], n.d.–b).

However, there is a minor difference in the starting age of compulsory education in the two countries. In Austria, Primary School (*Ger.: Volksschule*) obligatorily starts in September following a child's sixth birthday. In Sweden, children begin compulsory education when attending a year of pre-school (*Swe.: Förskoleklass*) in the calendar year they turn six, which is followed by nine years of Comprehensive School (*Swe.: Grundskolan*). Thus, children born in September to December start school a year later in Austria than in Sweden. For example, Marie, turning six in December 2022, would start with grade 1 of Swedish Comprehensive School in fall 2022 at the age of six, while in Austria she would start with grade 1 of Austrian Primary School a year later, at the age of seven (AME, n.d.–b; SNAE).

Moreover, the school system is more selective in Austria than in Sweden. In Austria, after year 4 of primary school, at age 10–11, lower secondary education is pursued in either Middle School (*Ger.: Mittelschule*) or Academic High School (*Ger.: Allgemeinbildende Höhere Schule*). The latter school type is selective in that grades obtained in primary school determine admission (AME, n.d.–c). Middle School students on average achieve consistently lower results in English than Academic High School students. For instance, in 2019, 33% of students in Middle School did not meet the learning aims for written production as defined in the curriculum,

compared to 4% of students in Academic High School (FIERID, 2020). A comparative study of ELT in Middle School and Academic High School (Erling et al., 2021) further revealed significant differences in teacher beliefs in their students' learning achievements, learner motivation in the subject English, and EE use—always in favor of Academic High School teachers. Upper secondary school can be attended in Academic High School, Higher or Intermediate Vocational School (*Ger.*: *Berufsbildende Höhere Schule* or *Fachschule*), or Pre-Vocational School (*Ger.*: *Berufsschule*). In contrast, Sweden has a comprehensive school system up until year 9 (*Swe.*: *Grundskola*). Only then, the students aged 15–16 years apply to different branches of upper secondary school (*Swe.*: *Gymnasium*) (SNAE, 2020b, 2020c). In addition, having to repeat a school year due to failing in subjects seems to be more common in Austria. In the 2009 Programme for International Student Assessment (henceforth PISA) study, 9.3% of 15-year-old participants in Austria indicated having repeated a school year at least once in primary and/or lower secondary education, compared to only 4.5% in Sweden (Education, Audiovisual and Culture Executive Agency [Eurydice], 2012). Recent numbers, however, show that nearly 15% of Swedish 9<sup>th</sup> graders failed to be admitted to secondary school in 2020 (SNAE, 2020a). Even though the PISA data can be considered dated, it is likely that the Austrian context is more selective at least up to lower secondary education, i.e., including Swedish comprehensive school and Austrian lower secondary school. Ultimately, the level of selectiveness of a given school system perhaps impacts teaching practices, such as the level of systematicity of grammar instruction (e.g. Schurz & Coumel, 2021) (see 3.1.2 and 3.1.3).

### **6.1.2 The ELT Curricula**

English instruction typically starts in grade 1 at age 6–7 in Austria, and at the latest in grade 3 at age 9 in Sweden (Austrian Center for Language Competence [ALC], 2014; SNAE, 2017). In Austria, in a school year of 39 weeks, students receive about 187 hours of English in primary school (AME, 2012a) and, in the four years of lower secondary education, at least 468 hours in Middle School (AME, 2012b) and 562 hours in Academic High School (AME, 2018). Swedish students experience a minimum of 480 hours of English across the nine years in comprehensive school (SNAE, 2019c). Potentially, though, these official guidelines are misleading. In Coumel and Schurz (2022), primary school teachers in Austria (grades 1–4;  $n = 120$ ) on average reported a weekly amount of 56 minutes of English instruction, compared to a weekly average of 1 hour and 45 minutes reported by grade 1–6 teachers in Sweden ( $n = 65$ ). In terms of secondary school, ELT is obligatory in Sweden, but its extent varies across programs. In the four to five years of Austrian upper secondary school and the three years of Swedish upper

secondary school, teaching hours can also differ quite widely according to the program chosen (AME, n.d.-a).

Based on national guidelines, ELT in both countries should be based on the CEFR (Council of Europe, 2009) and the communicative and action-oriented approach. The need for tasks to establish a familiar, realistic context and a clear purpose as defined in the CEFR (Council of Europe, 2009) is reflected in the written standardized school-leaving examination in Austria at the end of grade 12 or 13 (Ger.: *Matura*) (AME, n.d.-d) and in Sweden at the end of grade 9 (Swe.: *Nationella Prov*) (University of Gothenburg, 2020). Both countries' ELT curricula also evoke ideas of Communicative Language Teaching (AME, 2012b, 2014, 2018; SNAE, 2017, 2021b, 2021c). Upon closer inspection, however, cross-country differences emerged in references to grammar and out-of-class English. The Austrian Middle School (AME, 2012b) and Academic High School curricula (AME, 2018) state that the goal of instruction is the learners' development of communicative competence as based on the four skills. In terms of grammar, features ought to be taught and tested in context rather than in isolation, and while foregrounding their functional aspects. These curricula advocate the use of implicit and inductive methods, as well as the introduction of chunks rather than rules. Importantly, though, the Middle School curriculum additionally explicitly lists specific grammatical features to be introduced.

According to the Swedish curriculum for ELT in comprehensive and secondary school (SNAE, 2017, 2021b)<sup>12</sup>, mastery of linguistic form, including grammar, is said to form part of communicative competence and should further allow students to achieve a greater degree of complexity and precision in language use. In contrast to the Austrian Middle School curriculum, the Swedish curriculum more vaguely exemplifies that spelling and pronunciation can be subject in grades 4–6 and grammar and syntax in grades 7–9. Rather than stipulating how grammar should be taught and when, it is emphasized that teaching content should be adapted to student experiences, interests, and needs. This idea of adapting instruction to student needs evidently involves their extramural English practices. More explicitly so, the commentary material to the Swedish comprehensive school curriculum refers to extramural English in stating that

the subject of English provides both a background to and a wider perspective on the cultural and social expressions surrounding pupils in today's international society (translated from par. "Syftet" [Aim] in SNAE, 2017, 2021b).

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<sup>12</sup> I here refer to the curriculum that was in force during data collection as well as to its latest updated version.

No such implicit or explicit references to EE can be found in the Austrian curricula. In sum, this comparison of English curricula disclosed first indications of differences in the type of instruction applied in ELT in the two countries.

### **6.1.3 *The Type of Instruction in ELT***

Naturally, didactic recommendations provided in national curricula can be expected to only marginally translate into actual teaching practices (Breen et al., 2001; Nishimuro & Borg, 2013). In an attempt to gain further insights into the type of instruction across countries, Schurz and Coumel (2020) compared self-reported teacher practices in Austria, France, and Sweden. This was based on an online survey filled in by lower and upper secondary ELT teachers ( $N = 205$  in Austria,  $N = 180$  in Sweden).

To begin with, Schurz and Coumel (2020) found lower secondary teachers in Austria to provide significantly more explicit instruction than respective teachers in Sweden. Vice versa, across levels of secondary school, teachers in Sweden appeared to teach significantly more implicit fluency-based than teachers in Austria. However, it is noteworthy that teachers from both countries overall agreed with statements suggesting they apply explicit instruction *and* with statements pointing to implicit fluency-based instruction. Yet, the finding of a more explicit type of instruction in Austria can be compared to a study on the beliefs of Austrian lower and upper secondary English teachers ( $N = 112$ ) by Wegscheider (2019). The latter participants showed higher agreement with form-focused than meaning-focused instruction, and to some degree they seemed to prefer FonFs over FonF. In the Swedish context, to my knowledge no other recent research explored teachers' views on grammar instruction. However, in Bunting et al. (2021), semi-structured interviews with primary school teachers (grades 4–6;  $N = 11$ ) also revealed communication, typically practiced through collaborative activities, to be a dominant focus in their respective classes. Somewhat similarly, another interview-based study on vocabulary teaching (Bergström et al., 2021) disclosed the secondary school teachers' (grades 7–9;  $N = 14$ ) strong preference for communicatively embedded vocabulary teaching in both receptive and productive skills-practice activities—rather than a focus on intentional and more decontextualized vocabulary teaching.

Secondly, Schurz and Coumel (2020) reported that teachers from the two countries showed a similar degree of preference for inductive over deductive instruction. In the Austrian context, Wegscheider (2019) also unveiled a slight preference for inductive rather than deductive grammar teaching. This attitude somewhat chimes in with findings reported in the previously mentioned national survey of lower secondary school (FIERID, 2020), where the vast majority

of Austrian teachers, 93%, rather or fully agreed with a constructivist, learner-centered approach towards teaching. In the survey, such a stance suggested learners learn best through autonomous work and problem-solving. At the same time, however, 78% of teachers rather or fully agreed with a traditional, teacher-centered approach. Desirability bias certainly is a major issue in studies relying merely on teacher self-reports (Dörnyei, 2007).

The level of learner- vs. teacher-centredness of the classroom can be further explored based on the extent to which teachers in Schurz and Coumel (2020) agreed to provide incidental vs. systematic grammar teaching (see 3.1.2 and 3.1.3). According to the results, teachers in Sweden are significantly more incidental (as opposed to systematic) in their grammar instruction approach than Austrian teachers. In addition, upper secondary teachers from both countries showed a significantly higher agreement with teaching grammar incidentally than lower secondary teachers. The finding of particularly incidental instruction in Sweden implied that grammar teaching would happen on a more individual, needs-oriented basis than in the case of Austria, as emanated also from the Swedish national curriculum (SNAE, 2017, 2021b; see 6.1.2).

While these findings taken together hint at differences in Austrian as compared to Swedish ELT classrooms, they nevertheless need to be taken with a grain of salt, given that teacher-reported beliefs and practices surely do not fully depict actual practices. Moreover, to explore the learning environment(s) provided in a given country, the predominant type of instruction has to be considered in conjunction with opportunities for informal learning.

## 6.2 Extramural English

This section will outline the amount and preferred types of EE use among young learners in the low-EE country of Austria and the high-EE country of Sweden. A learning environment can be described as high-EE if foreign-language media is supplemented by subtitles in the country's majority language (e.g., the 'subtitling countries' Sweden, the Netherlands, and Finland); and as low-EE if such content is dubbed (e.g., the 'dubbing countries' Austria, France, and Spain). Certainly, with the popularity of YouTube and other social media platforms, users in dubbing countries cannot always fall back on dubbed foreign-language media. Yet, categorizing a country as high-EE or low-EE based on its dubbing or subtitling practices seems valid also in the era of Netflix and other streaming platforms. Today, speakers of more widely spoken languages (e.g., German, French, Spanish) are still provided with mostly dubbed foreign-language content, whereas speakers of languages counting fewer speakers (e.g., in Scandinavia) generally are not. Additionally, the use of German in online contexts, such as in YouTube videos and multi-player games, is clearly more widespread than the use of Swedish, because a wider audience can be reached. As outlined in what follows, these trends can be observed in research carried out in the Austrian and Swedish contexts. In Austria, the amount and preferred types of EE use among young learners have been studied in primary education (Wieland, 2016), lower secondary schools (FIERID, 2020), and upper secondary education (Hahn, 2018; Schurz & Sundqvist, 2022; Schwarz, 2020) (see 6.2.1). In Sweden, previous publications have targeted pre-teenage (Sundqvist & Sylvén, 2014; Sylvén & Sundqvist, 2012a) and teenage learners (Olsson, 2012; Olsson & Sylvén, 2015; Schurz & Sundqvist, 2022; Sundqvist, 2009a) (see 6.2.2).

### 6.2.1 Austria

Austria is a media dubbing country, implying that in foreign language movies and TV series, original soundtracks are usually replaced by ones in German language and thus widely available in dubbed versions (Media Consulting Group, 2011). This entails that generally, the population has wide access to media in the country's majority language. However, the internet, with its abundance of streaming services, social media platforms, and online games, allows for broad access to media in English language. Such services are especially popular among adolescents, who increasingly grow up using English in their spare time.

The only study focusing on extramural English in the primary school context in Austria seems to be a BA thesis by Wieland (2016). Based on a structured language diary filled in by 23 9- to 11-year-old pupils, she calculated a mean time of 21 minutes of EE engagement a day,

including the activities of reading or being read to from books, newspapers, and magazines, listening to music, singing, watching films, series and videos, playing games, surfing on the internet, and speaking English with others. However, the total EE use varied widely across participants, with some children reporting no or very little use of English in their spare time across the data collection period of 13 school days. Pupils self-reported their preference of EE activities. Listening to music ranked first, on which children spent 55.7% of the total EE time, followed by gaming (21.6%), watching audio-visual content (12.7%), and speaking (8.6%). Even though speaking ranked last, it still amounted to a total of 8 hours in the entire sample.

In a national large-scale survey conducted in Austrian lower secondary schools in 2019 (FIERID, 2020), about 70% of participating students indicated using English in their spare time *multiple times a month* or more often. Among the different activities listed, all of a receptive nature, watching series ranked first, followed by movies, with nearly 45% and 40% of the participants respectively watching them at least *multiple times a month*. More formal audio-visual content, namely documentaries and news shows, received less attention, with only about 21% and 15% of students engaging in them at least *multiple times a month*. Among the eight reading activities presented to students, too, major differences in terms of popularity occurred. About 28% of participants engaged in English books at least *multiple times a month*, followed by manuals (about 23%), factual texts, fiction (about 21% each), comics (about 14%), magazines (about 11%), e-books (10%), and newspapers (about 5%). Students attending Academic High School on average were found to engage more in EE than Middle School students. This was confirmed by a study carried out by Erling et al. (2021), where Academic High School teacher reports suggested significantly higher EE use among their students than was the case among Middle School teachers.

As to upper secondary education, a large-scale study by Schwarz (2020) inspected EE use among Academic High School students aged 15–16 years in the capital city of Vienna. The most popular activities were listening to music, which about 96% of students reported engaging in at least *a few times a week* and 85% (*almost*) *daily*, followed by watching video clips (85.2% at least *a few times a week*, 50% (*almost*) *daily*), and reading on social media (81.5% at least *a few times a week*, 60.3% (*almost*) *daily*). In terms of the time spent on EE, a total of about 4 hours a day on average could be calculated. Listening and audio-visual activities ranked first, in total amounting to about 2 hours a day, which constituted about 50 minutes spent on music, 24 minutes on videos, and 22 minutes on series. Reading activities ranked second, amounting to about an hour a day. Ranking third, the category of speaking yielded a mean of 30 minutes a day, albeit mostly explained by singing, which constituted about 20

minutes a day. In contrast, gaming and writing emerged among the least time-consuming activities on average. Considering differences based on gender, gaming, speaking on Skype, reading comics, and watching video clips and films without subtitles on the internet were more common among boys, whereas girls showed more interest in engaging in music and reading books. Additionally, boys on average dedicated more time to EE than girls—but without reaching statistical significance.

A partial replication of Schwarz (2020) by Hahn (2018) found very similar—yet slightly lower—frequency scores of the top EE activities among 10<sup>th</sup> graders aged 15–18 years ( $N = 83$ ) attending Vocational Business Middle Schools. Almost 70% of the participants listen to music at least *several times a week*, with about 50% doing so (*almost*) *daily*. The other most common activity was watching video clips, films, and series, done by about 70%, 62%, and 53% of the participants at least *several times a week*, with about 50% watching video clips (*almost*) *daily*. The third most popular type of EE use took place on social media, with more than 50% of students reading English texts on social media *several times a week*. This ranking quite neatly reflected findings reported in Schwarz (2020). In addition, boys were again found to spend more time on EE than girls, and here, the difference was shown to be significant.

Finally, in line with previous research, according to upper secondary teacher reports ( $n = 63$  from Academic High School,  $n = 112$  from Vocational College) in Schurz and Sundqvist (2022), listening to music and watching audio-visuals surfaced as the activities that are the most *common*, followed by gaming and reading, both still rather *common*, and speaking, listening, and writing, activities that on average were rated as rather *uncommon*.

### **6.2.2 Sweden**

In contrast to Austria, Sweden is a media subtitling country, where original soundtracks in foreign language movies and TV series typically are retained and complemented by Swedish subtitles. Even if content created specifically for children is usually available dubbed in Swedish, exposure to the English language can be expected to start earlier and be more extensive in Sweden as compared to Austria. Through today's ubiquity of English media in online contexts, the population seems to encounter unprecedented levels of English. This perhaps makes Sweden more comparable to an ESL rather than a traditional EFL context (Sundqvist, 2019b; Viberg, 2000).

In studies from Sweden among learners in lower secondary school, Sundqvist and Sylvén (2014) zoomed in on EE habits of 10- to 11-year-olds ( $N = 76$ ) and measured a weekly average

of 7.2 hours. In terms of activity popularity, TV ranked first (2.3 weekly hours on average), followed by digital games and listening to music (1 weekly hour each), and films and the internet (1 weekly hour each). Reading books and magazines or newspapers ranked last, with an average of only 0.1 hour a week being spent on each type of reading. In an earlier study (Sylvén & Sundqvist, 2012a), the same authors targeted 11- to 12-year-olds ( $N = 86$ ), who appeared to spend 9.4 hours per week on average on the same types of activities, and found a very similar pattern of popularity. Playing digital games was the most popular activity (2.6 hours a week), followed by TV (2.1 hours), listening to music (1.8 hours), watching films (1.3 hours), using the internet (1.2 hours), reading books (0.1 hours), and reading newspapers and magazines (0.0 hours). Finally, data in both studies showed that male students spent more time on EE than girls, with the difference being statistically significant in the study of 2014.

Among teenagers, Sundqvist (2009a) found 15- and 16-year-olds ( $N = 80$ ) to dedicate 18.4 hours per week to EE. The order of preference of the different EE activities reported in both studies was the following: Listening to music was in first position (6.58 hours a week), followed by video games (3.95 hours), watching TV (3.71 hours) and films (2.85 hours), surfing on the internet (0.70 hours), and reading books (0.33 hours) and newspapers and magazines (0.20 hours). This sequence overlaps with the findings of Sundqvist and Sylvén (2014) and Sylvén and Sundqvist (2012a). Similar to Sundqvist (2009a), three years later Olsson (2012) reported a weekly average of 20.3 hours for 16-year-old students ( $N = 37$ ), with listening to music being the most popular activity (86% *every day*), followed by watching TV shows and films with subtitles (50% *every day*). Reading books surfaced as rather common among girls (about 50% *weekly or monthly*) but as very uncommon among boys (72% *never*) respectively, and the opposite was true for gaming, with 73% of girls and 18% of boys responding they *never* did it. On average, boys appeared to spend more time on EE than girls.

With respect to Swedish upper secondary school, Olsson and Sylvén (2015) compared EE habits and academic vocabulary of 16- to 19-year-old students attending a CLIL<sup>13</sup> vs. a regular school program ( $N = 230$ ). CLIL students used EE for about 54 hours a week, with the order of preference being reading (23.4 hours), listening (20.8 hours), writing (3.9 hours), speaking (3.6 hours), and gaming (1.9 hours). Non-CLIL students used EE less, for about 30 hours a week, encompassing reading (18.2 hours), listening (16.6 hours), gaming (2.1 hours), writing

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<sup>13</sup> CLIL stands for Content and Language Integrated Learning and refers to a school program where (some) school subjects other than languages are taught in a foreign language, in this case in English. In the classes reported on by Olsson and Sylvén (2015), only some subjects were taught in English.

(1.4 hours), and speaking (0.8 hours), in order of decreasing popularity. Again, boys appeared to spend more time on EE than girls, in this case showing a statistical significance.

Finally, most recent numbers can be found in the study by Schurz and Sundqvist (2022), previously referred to in 6.2.1. According to these findings, Swedish secondary teachers ( $n = 60$  from years 7–9,  $n = 48$  from years 10–12) on average reported listening to music and watching audio-visuals to be *very common* among students, followed by gaming, reading, speaking, and writing, all still rather *common*. Only listening was rated as rather *uncommon* on average. This study further allows for a direct cross-country comparison of EE practices and showed that EE seems to be significantly more common among teenage learners in Sweden rather than Austria.

In light of the apparent extensive EE use in Sweden, it is worth briefly addressing potential implications on teaching. Swedish students have been previously found to sometimes experience demotivation in class, since instruction can feel less authentic and ‘real’ than EE (Henry, 2013; Sundqvist & Olin-Scheller, 2013). A remedy to this can be the integration of authentic and technology-based material in class, as has been observed in Swedish classrooms (Henry et al., 2018). In comparing Austria and Sweden, Schurz and Sundqvist (2022) found no significant difference in teachers’ self-reports on incorporating EE activities in class. However, Swedish teachers showed significantly higher approval with statements suggesting that their instruction compensates for EE language use than Austrian teachers. According to those items and teacher reports, instruction in Sweden appears to be geared somewhat towards what is not (easily) picked up outside the classroom, e.g., formal language use (see 4.2).

### 6.3 Summary

To conclude, major differences arose in comparing the learning environments of Austria and Sweden. In spite of some similarities in the respective school system, the reported type of instruction in ELT and the learners' extramural English preferences differ. The assumption of EE being more common among teenagers in Sweden than in Austria not only evades from individual studies focusing on one country; it was further corroborated by a direct comparison of teacher reports in Schurz and Sundqvist (2022).

To begin with, when it comes to formal education, similarities between the Austrian and Swedish school systems were found in required teacher qualifications (AME, n.d.-e; STU, 2016), class size (OECD, n.d.-b), in CLT being the underlying approach of ELT curricula (AME, 2012b, 2018; SNAE, 2017), and even in secondary ELT teachers' ostensible preference of an inductive rather than deductive grammar instruction approach (Schurz & Coumel, 2020). However, the school system appears more selective in Austria than in Sweden (Eurydice, 2012), and according to the national curricula, English instruction can start a little later and comprise fewer hours in Sweden (a minimum of 480 hours in years 1–9) than in Austria (at least 655 in years 1–8) (AME, 2012a, 2012b; SNAE, 2019c). When it comes to the type of instruction in ELT, the Austrian curricula of lower secondary school (AME, 2012b, 2018) provide more specific recommendations for grammar teaching methods than the Swedish curriculum and its commentary material (SNAE, 2017, 2021b). In a study based on teacher reports (Schurz & Coumel, 2020), lower and upper secondary teachers in Sweden appeared to teach significantly more implicit fluency-based, and, vice versa, lower secondary teachers in Austria apparently provide significantly more explicit instruction than respective teachers in Sweden. Furthermore, in Austria, teacher-reported grammar instruction showed significantly higher levels of systematicity than was the case in Sweden. This finding for Austria chimes in with the Middle School curriculum (AME, 2012b) listing specific grammatical features to be taught in each grade. In contrast, the Swedish curriculum (SNAE, 2017) provides teachers greater leeway in the content and methods of grammar teaching. It is emphasized that classes should be geared towards student experiences, interests, and needs, and take into account the learners being surrounded by English in everyday life—references to extramural English that could not be detected in the Austrian curricula.

These subtle differences in the countries' respective ELT curricula and type of instruction might reflect the respective students' levels of extramural English use. A comparison of the weekly hours spent on EE showed that EE apparently continues to prevail in Sweden. This is certainly in part due to the respective dubbing vs. subtitling practices in Austria and Sweden.

In a small-scale Austrian study, 9- to 11-year-old primary school children used EE for 2.45 hours a week (Wieland, 2016), compared to a weekly average of 7.2 hours for 10- to 11-year-olds (Sundqvist & Sylvén, 2014) and 9.4 hours for 11- to 12-year-olds (Sylvén & Sundqvist, 2012a) in Swedish studies carried out earlier. For 15- to 16-year-old students in Austria, 28 hours a week on average was computed (Schwarz, 2020). This finding can be compared to studies carried out with similar age groups in Sweden, but years earlier: 18.4 hours for the same age group (Sundqvist, 2009a), 20.3 hours for 16 year-olds (Olsson, 2012), and 30 hours for non-CLIL and 54 hours for CLIL students aged 16- to 19-years (Olsson & Sylvén, 2015) in Sweden. Evidently, due to technological advances, one may also assume weekly hours to have increased in the Swedish context in the five to eleven years after publication of those three studies.

Nevertheless, striking similarities in students' apparent preferred EE engagement emerged. Among the studies considering a similar set of EE activities, in both countries listening to music, watching audio-visuals (including one or all of the EE types of watching TV, videos, films, and series), and gaming occurred among the top three. In two Austrian studies, reading on social media ranked third instead of gaming (Hahn, 2018; Schwarz, 2020); in the other studies in Austria and Sweden, reading on social media did not occur as an option among the EE activities listed. In contrast, reading more formal and/or factual texts, listening, and writing were found to be less common activities in both Austria and Sweden, and a similar tendency seems to be true for speaking. Even though gaming often entails interacting with co-players, making it a multi-skill activity, receptive activities in general appear to be more common than productive activities. Finally, cross-national similarities became apparent also in gender differences, with EE overall and gaming in particular having been reported as more dominant among boys, and reading books as preferred by girls (e.g. Hahn, 2018; Olsson, 2012; Schwarz, 2020; Sundqvist & Sylvén, 2014).



## 7 MATERIAL AND METHODS

The present study is classroom-oriented in that it concentrates on the teacher- and student-reported nature of instruction, its interplay with extramural English, and the speculative link of these factors to student performances. To further explicate the study's methodological foundations, this chapter encompasses outlines of the research questions and hypotheses (7.1), the grammatical target structures (7.2), test design (7.3), data collection and participants (7.4), and data evaluation (7.5 and 7.6).

### 7.1 Research Questions and Hypotheses

The aims of the current study are tripartite. First, it endeavors to explore learning environments in Austria and Sweden in respect to the type of instruction and extramural English. Second, the construct validity of measures of the implicit vs. explicit knowledge spectrum are sought to be evaluated with samples of young learners. Third, the potential impact of instruction and EE on the learners' development of automatized-implicit vs. explicit knowledge is aimed to be investigated. The following research questions are thus addressed in this thesis:

- RQ1** What is the type of instruction in lower secondary ELT classes in Austria and Sweden, as gauged by a Learning Experiences Questionnaire and a teacher survey?
- RQ2** What is the nature of learners' EE use—i.e., the starting age, frequency, and the weekly time spent on EE per activity—among the Austrian and Swedish learners, as reported in the Learning Experiences Questionnaire and teacher interviews?
- RQ3** What is the perceived impact of extramural English and instruction on the construction of grammatical knowledge, as reported in the Learning Experiences Questionnaire and teacher interviews?
- RQ4** How do the six measures of grammatical knowledge—the ONT, EIT, ATGJT, WTGJT, UGJT, and MKT—load in a factor analysis performed on the Austrian and Swedish sample?
- RQ5** What is the relative role of instruction, extramural English, and the country in predicting automatized-implicit knowledge as measured by the ONT, EIT, ATGJT, and WTGJT?
- RQ6** What is the relative role of instruction, extramural English, and the country in predicting explicit knowledge as measured by the UGJT and the MKT?
- RQ7** What is the relative impact of the different extramural English activities—READING, WRITING, LISTENING, SPEAKING, SINGING, WATCHING, GAMING, and LISTENING TO MUSIC—on automatized-implicit knowledge?

In the following sections 7.1.1 to 7.1.7, the hypotheses formulated in response to each research question will be laid out. Terms provided in SMALL CAPS directly translate into variables used in the statistical analyses. This font style will be consistently used in the remainder of the thesis to refer to the given variables and the constructs they convey.

### **7.1.1 RQ1: The Type of Instruction**

Instruction is expected to be more IMPLICIT FLUENCY-BASED (**H<sub>1.1</sub>**), less EXPLICIT (**H<sub>1.2</sub>**), and more INCIDENTAL (**H<sub>1.3</sub>**) in Sweden than in Austria, but equally INDUCTIVE or DEDUCTIVE in the two countries (**H<sub>1.4</sub>**). This assumption is based on a recent study that adopted the same teacher questionnaire as done here (Schurz & Coumel, 2020) (see 7.3.3.1), a study that was conducted in parallel to this dissertation. As already laid out in 6.1.3, Schurz and Coumel (2020) found lower secondary EFL teachers in Austria to provide significantly more explicit instruction than respective teachers in Sweden. Vice versa, across levels of secondary school, teachers in Sweden appeared to teach significantly more implicit fluency-based than teachers in Austria. Additionally, Swedish secondary school teachers were found to teach significantly more incidentally than Austrian teachers. In this thesis, the previous research findings should be corroborated and further illustrated by quantitative data gathered through the Learning Experiences Questionnaire and the teacher questionnaire, as well as by qualitative data obtained through teacher interviews.

### **7.1.2 RQ2: Extramural English**

As outlined in 6.2, extramural English engagement seems greater among young learners in Sweden as compared to Austria. Despite the non-representativeness of the country samples in this study, I expect to find cross-national differences in the students' EE habits. EE among 15- to 16-year-old students in Austria amounted to a mean of 3 hours and 57 minutes a day in Schwarz (2020), compared to 5 hours and 36 minutes a day for 16- to 19-year-old teenagers in Sweden (Olsson & Sylvén, 2015). Especially at age 13–14, where the majority of Austrian learners master the CEFR level A2 (FIERID, 2020), it is likely that they opt out of EE when the activity can be done in German due to habituation effects (e.g. see Sofía Sánchez-Mompeán, 2021). Thus, EE engagement at age 13–14 is assumed to be higher in the Swedish as compared to the Austrian sample (**H<sub>2.1</sub>**). A visible difference is also expected to lie in the ONSET OF EE, which in Sweden typically occurs in pre-teenage years (see Sundin, 2000) and thus presumably earlier than in Austria (**H<sub>2.2</sub>**). The preferred types of EE are assumed to transcend national borders and be similar in both contexts, with media exposure in both

countries being affected by globalization. Based on previous research in the two countries (see 6.2), I expect activities to revolve around MUSIC and WATCHING audio-visuals, such as videos, films, and series, and with receptive language use thus exceeding productive EE activities (**H<sub>2.3</sub>**). Finally, also as previously reported (e.g. Olsson, 2012; Schwarz, 2020), I hypothesize that in both countries, EE overall and gaming in particular are more dominant among boys (**H<sub>2.4</sub>**).

### **7.1.3 RQ3: The Reported Effect of EE and Instruction on Learning**

It is hypothesized that the higher EE in a context of learning, the stronger learners and teachers notice and believe in its benefits for learning. This assumption is based on Schurz and Sundqvist (2022), who found that in Austria, responses of upper secondary EFL teachers conveyed a slightly less positive view of the impact of EE on different aspects of learning than Swedish and Finnish teachers. This cross-country difference may even be greater among lower secondary teachers, where EE use is likely to be lower. I therefore expect students in Sweden to think more positively of the effect of EE on their intuitive (EFFECT OF EE ON FEEL) and rule-based understanding of grammar (EFFECT OF EE ON RULES) than students in Austria (**H<sub>3.1</sub>**). I assume data from teacher interviews to show a similar trend. More precisely, I expect the teachers' belief in their students learning different language aspects through EE to be greater in the Swedish than in the Austrian sample (**H<sub>3.2</sub>**). In contrast, in a context of low-EE, English is learned primarily in the classroom. Therefore, students and teachers possibly attribute a greater role to the effect of instruction on grammar acquisition than participants from a high-EE context, where both instruction and EE are likely to share this responsibility. Given the lack of previous research supporting this, I only tentatively hypothesize the EFFECT OF INSTRUCTION ON FEEL and RULES to be greater in the eyes of Austrian than Swedish students (**H<sub>3.3</sub>**).

### **7.1.4 RQ4: Tapping into Automatized-Implicit and Explicit Knowledge**

As shown in extensive research, the UGJT—in particular ungrammatical sentences—and the MKT seem to be valid measures of explicit knowledge (e.g. Akakura, 2012; Bowles, 2011; R. Ellis, 2005a; Vafaee et al., 2019) (see 2.2.2). Although the ONT, EIT and TGJTs have been recently reported as measures of automatized knowledge (Mostafa & Kim, 2020; Suzuki, 2017; Suzuki & DeKeyser, 2015), implicit knowledge, too, can be expected to allow for the successful completion of these tests (e.g. Godfroid & Kim, 2021) (see 2.2.2). The alteration of Ellis' ONT (2005a) from written to audio-visual is thought to add to its validity as a measure of

automatized-implicit knowledge: The aural input modality requires online processing, and, by means of the videos, target structures are expected to be more successfully elicited, a time constraint is imposed on participants, and attention is directed more strongly to meaning (see 7.5.1). In sum, factor analyses for the two countries are expected to yield that the ONT, EIT, and TGJTs load more heavily on one factor (**H<sub>4.1</sub>**), to be labeled automatized-implicit knowledge, and that the UGJT and the MKT load more strongly on another factor (**H<sub>4.2</sub>**), to be named explicit knowledge.

### **7.1.5 RQ5: Automatized-Implicit Knowledge and Influencing Factors**

Ideal conditions for the development of automatized-implicit knowledge have been described as a combination of explicit and implicit learning conditions (e.g. Achard, 2018; Banegas et al., 2017; R. Ellis, 2008b). Such an environment can be pictured as a synthesis of explicit instruction and classroom-based or extramural meaning-focused, communicative language use. Instruction integrating explicit grammar teaching has been reported to be conducive to spontaneous language production (e.g. R. Ellis, 2002a; Goo et al., 2015; La Fuente, 2006; Piggott, 2019; Spada & Tomita, 2010), with automatization likely being fostered particularly if opportunities for communicative grammar practice are provided (see DeKeyser, 2017; R. Ellis, 2005b; e.g. Spada et al., 2014). EE use may further promote the automatization of explicit knowledge and/or the development of implicit knowledge. However, in Austria, EE seems to be less common (see 6.2) and hence constitute a less influential predictor of test performance than instruction. Thus, an instructional setting integrating explicit teaching and communicative practice is assumed to be conducive to automatized-implicit knowledge (**H<sub>5.1</sub>**). The type of instruction is assumed to play a greater role in building automatized-implicit knowledge in the low-EE context of Austria than in Sweden (**H<sub>5.2</sub>**), where EE typically starts even prior to instruction.

Alternatively, suitable conditions for the development of automatized-implicit knowledge are envisioned as a setting with massive English input that begins early (**H<sub>5.3</sub>**). This is supported by (1) experimental research establishing a relationship between implicit learning conditions and the construction of implicit knowledge (e.g. Godfroid, 2016; Suzuki, 2017); (2) studies on the impact of the length of residence on implicit/automatized knowledge (e.g. Bowles, 2011; Philp, 2009; Suzuki, 2017) (see 5.2.1); and (3) research suggesting that implicit learning conditions are particularly helpful for young learners, whereas adult learners seem to require explicit learning for substantial knowledge gains (DeKeyser, 2000; Pawlak, 2021b; see Fundamental Difference Hypothesis, Bley-Vroman, 2009). Despite the difficulty of predicting the

relative effect of various EE activities (see 7.1.7), I assume LISTENING TO MUSIC to be less effective than other activities (De Wilde et al., 2019; Lindgren & Muñoz, 2013), as it is often engaged in while doing something else at the same time and paying little attention to the lyrics (e.g. Boal-Palheiros & Hargreaves, 2004). Given that in Sweden, EE typically starts earlier and is more extensively engaged in than in Austria (see 7.1.2), it might also be a more important predictor of automatized-implicit knowledge in this context. I hence hypothesize total WEEKLY EE *excluding* LISTENING TO MUSIC to be a stronger predictor of automatized-implicit knowledge among Swedish rather than Austrian learners (**H<sub>5.4</sub>**).

Thus, in the first place, students showing high levels of automatization are hypothesized to group according to the type of instruction and EE, and to originate from both country samples. Yet, a significant difference between the two countries in terms of the percentage of students having high levels of automatized-implicit knowledge—as measured by the ONT, EIT, and TGJTs—might emerge in favor of Sweden (**H<sub>5.5</sub>**). This would be explained by this population being immersed in English more intensively and earlier on, which the primarily instructed learning environment in Austria may not have been able to compensate for at the learners' age of 13–14 years. However, these speculations are rather tentative. In general, any potential findings of cross-country differences need to be treated with caution, since they could be rooted in the non-representativeness of the samples.

### **7.1.6 RQ6: Explicit Knowledge and Influencing Factors**

When it comes to the UGJT and the MKT, both targeting explicit knowledge, EE is not expected to bolster performance to a significant degree (**H<sub>6.1</sub>**). In contrast, I assume explicit grammar teaching to lay the groundwork for the construction of this type of knowledge (e.g. Norris & Ortega, 2000; Piggott, 2019; Spada et al., 2015; Zhang, 2015) (**H<sub>6.2</sub>**). Primarily fluency-based classrooms with very limited explicit grammar teaching are not expected to influence the development of explicit knowledge, in particular of a metalinguistic nature, as consistently as does form-based teaching (e.g. Goo et al., 2015; Kang et al., 2019; Norris & Ortega, 2000). Given the more implicit learning conditions likely provided through instruction and EE in Sweden, as opposed to the more explicit teaching in Austria (Schurz et al., 2022; Schurz & Coumel, 2020, 2021), I expect explicit knowledge as tested by the UGJT and the MKT to be significantly higher in the Austrian sample (**H<sub>6.3</sub>**).

### **7.1.7 RQ7: Automatized-Implicit Knowledge and the Impact of Different EE Activities**

The question of the relative impact of the different extramural English activities—READING, WRITING, LISTENING, SPEAKING, SINGING, WATCHING, GAMING, and LISTENING TO MUSIC—on automatized-implicit knowledge is largely exploratory. Certainly, EE can afford different types of language use, i.e., receptive vs. productive, unimodal vs. multimodal, which may impact the effectiveness of a given activity. Even if grammar learning through audio-visual input (M. Lee & Révész, 2020; Pattemore & Muñoz, 2020) and reading (J. F. Lee, 2002) has been demonstrated in previous research, these studies did not look at automatized-implicit knowledge and did not compare different EE activities as done here. In a study on the effect of EE on vocabulary learning among 15- to 16-year-old learners in Sweden (Sundqvist, 2009a), activities necessitating more reliance on learners' (productive) language skills proved more effective than music and audio-visual input. A more recent study on the effect of EE on vocabulary learning among 10- to 12-year-old learners of English in Flanders (De Wilde et al., 2019), the most effective activities—interacting with English-speaking people, gaming, and using social media (also including YouTube)—were interactive, multimodal, and partly productive. In comparison, watching TV, reading, and listening to music were less conducive to vocabulary learning. Yet, it is unclear to what extent such findings can be mapped on grammar acquisition. According to ISLA research, both comprehension-based and production-based grammar instruction seem similarly effective in developing receptive and productive grammar knowledge, as was shown in a meta-analysis of studies comparing the two conditions (Shintani et al., 2013). However, such learning conditions sometimes involved explicit instruction, which is why the findings cannot be extrapolated to a naturalistic learning setting.

In order not to make pre-mature claims, RQ7 remains exploratory, with the exception of LISTENING TO MUSIC, which is not expected to have a significant impact on acquisition (see De Wilde et al., 2019; Sundqvist, 2009a). This hypothesis, **H<sub>7</sub>**, is based on the idea that listening to music in a recreational context, if it is not accompanied by singing, typically entails passive language use that occurs while doing other things alongside, with focused attention likely being limited (Boal-Palheiros & Hargreaves, 2004). Sundqvist (2009a) found a list of activities that she categorized as requiring active language use (playing video games, surfing the Internet, reading) to have a greater impact on oral proficiency and vocabulary learning among Swedish teenagers than passive language use (audio-visuals, music). Although both listening to music and watching audio-visuals were categorized as passive language use, watching audio-visuals arguably implies language use that is more active than listening to music and not much less active than reading.

## 7.2 The Grammatical Target Structures

Six grammatical structures, of morphological and syntactic nature, form the basis of this investigation of learners' automatized-implicit vs. explicit grammar knowledge (see Table 7.1). Since item-based learning of features such as verb complements and irregular past is different from rule-based (i.e., system-based) learning (DeKeyser, 1995; Hulstijn, J. H., & de Graaff, R., 1994), only rule-based structures were considered. This section includes a brief introduction to the target features, followed by an outline of their selection criteria.

*Table 7.1 The study's morphological and syntactic target structures*

Target structure (pairs)		Code	Example
Morphological	1. Third person -s	TS	Mia stops working at midnight.
	2. Regular past tense	RP	Mia walked by the shop.
	3. Adjectives vs. adverbs	ADJ, AV	Mia feels <i>slow</i> . She <i>slowly</i> walked by the shop.
Syntactic	4. Present simple vs. continuous	PS, PC	While Mia <i>is walking</i> [cont.], she suddenly <i>hears</i> [simple] footsteps.
	5. Negated <i>did</i>	ND	Mia <i>did not know</i> what to do.
	6. Interrogative <i>did</i>	QD	<i>Did</i> Mia <i>start</i> to run?

### 7.2.1 Description of the Target Features

Each of the six features can be elucidated in terms of its formation and context(s) of use. To begin with, third person -s is the form of affirmative simple present tense in third person singular. Simple past tense is used to refer to actions that took place in the past at a specific time, and in regular verbs it is constructed by means of adding the suffix -ed to the infinitive. Adjectives describe properties or states attributed to a pronoun or noun and their two main syntactic functions are attributive (e.g., *the tall teacher*) and predicative (e.g., *the teacher is tall*) (Carter & McCarthy, 2007). This study only looked at predicative adjectives following verbs of perception and sense, e.g., to sound *sad*, to feel *bad*, or to look *cute*. Comparative or superlative forms were not considered in the study. Adverbs, on the other hand, can modify verbs, adjectives, or adverbs and for instance express manner, place, time, frequency, or degree (Thomson & Martinet, 1987). This study mainly focused on adverbs formed by adding the -ly ending to the related adjective (e.g., she is *beautiful*; she sings *beautifully*), the most frequent form of adverbs.

The syntactic structures present simple vs. continuous both refer to present time. In affirmatives, present simple is formed using the verb's base form, to which third person -s is added

in the case of third person singular. Present continuous is constructed by a form of *to be* and the suffix *-ing* added to the base form of the main verb. Whereas simple aspect is mainly used to express general, permanent truths and facts and habitual action, continuous aspect is typically employed to refer to events that are in the process of change or ones that happen at the moment of speaking or repeatedly in a temporary context (see Table 7.2; McCarthy, 2007, pp. 598-603). Finally, the auxiliary *did* was looked at in negations and questions. In negative declarative clauses, *did* occurs in the second place of the word order subject – auxiliary/model verb – negative particle – verb – object/complement. Interrogative *did* is used in *wh-* and *yes-no*-questions following the word order (*wh-word*) – *did* – subject – verb – object/complement (Carter & McCarthy, 2007).

*Table 7.2 Contexts of use of simple and continuous aspect (Carter & McCarthy, 2007)*

	Context of use	Examples
Present simple	General, permanent truths and facts	<i>She comes from Sweden.</i>
	Regular or habitual events	<i>We always have breakfast at eight o'clock.</i>
	Immediate reactions	<i>That looks too risky. It tastes very bitter.</i>
	Immediate communication, e.g., in demonstrations and in commentaries on sports events and public ceremonies	<i>You put the washer on first, then the metal ring and then you tighten the screw.</i>
	Mental process verbs, e.g., <i>hear, reckon, see, think</i> , etc.	<i>I hear you went to see the rugby match. I see what you mean.</i>
	Speech act verbs, e.g., <i>promise, swear, agree, name</i>	<i>I won't forget this time, I promise. I swear I saw tears in his eyes.</i>
	Verbs not normally used in continuous aspect, e.g., <i>smell, need, promise, consist</i>	<i>We need rain. The garden is so dry.</i>
	Events in progress at the time of speaking	<i>Why is he smiling like that? It all looks a bit suspicious.</i>
Present Continuous	Repeated events in temporary contexts	<i>She's seeing him quite a bit at the moment.</i>
	Process of change	<i>He's been in hospital for three weeks but is improving steadily.</i>
	Use with adverbs of indefinite frequency	<i>I'm constantly telling the children not to go in there.</i>

### 7.2.2 The Selection Criteria

The criteria accounting for the choice of the target features encompass problematicity, age of acquisition, age of instruction, frequency in informal language, and practicality (R. Ellis, 2009b; Erlam, 2006).

### 7.2.2.1 Problematicity

Problematicity, the first selection criterion, refers to the extent to which a given grammatical structure constitutes a source of difficulty for the L2 learner. As a first step, studies looking at common mistakes made by ESL/EFL learners in general (Bahns, 1991; Burt & Kiparsky, 1975; DeKeyser, 2005; George, 1972) and Austrian and Swedish learners in particular were used for the initial compilation of potential target features. As to problematicity among Austrian and Swedish learners, studies analyzing writing performances of 16-year-old Swedish students (Köhlmyr, 2005) and 17- to 18-year-old Austrian students (Komaier, 2013) and a study exploring writing performances and grammar tasks of 12-year-old Austrian learners (Gattringer, 2008) were considered. In turn, intralingual differences of the given feature in German, Swedish, and English were looked at. In what follows, the seven grammatical features will be discussed in relation to their estimated problematicity.

As a first step of the analysis, a list of features reported as ‘universally’ problematic for EFL learners was compiled. Taking a closer look, it became clear a number of structures seemed to be easier for one of the two learner groups compared to the other. For instance, both the *unreal conditional* and *for/since* were excluded because of parallels between English and Swedish that are not given in German (see Table 7.3). While in English and Swedish the *if*-clause requires past tense and the main clause conditional I, in German both clauses require subjunctive II. In the case of *for/since*, both English and Swedish (*i*, *sedan*) use different forms to refer to the different concepts, which are expressed by a single form in German (*seit*). These structures were therefore not selected for this study.

Table 7.3 The unreal conditional and for/since in German, English and Swedish

<b>Unreal conditional</b>	If I <i>had</i> a dog, <i>I would go out</i> every day.	Wenn ich einen Hund <i>hätte</i> , <i>würde</i> ich jeden Tag hinaus gehen.	Om jag <i>hade</i> en hund, <i>skulle</i> jag <i>gå ut</i> varje dag.
<b>For/since</b>	The company has existed <i>for</i> three years. The company exists <i>since</i> 2014.	Die Firma gibt es <i>seit</i> drei Jahren. Die Firma gibt es <i>seit</i> 2014.	Företaget har funnits <i>i</i> tre år. Företaget har funnits <i>sedan</i> 2014.

This leads me to the features that were selected for this study. Third person -s is perceived as difficult by many EFL learners for miscellaneous reasons. To begin with, third person -s is opaque in that it conflates the meanings of singular, third person, and present tense (DeKeyser, 2005). Although the latter meanings are represented by separate morphemes in certain languages, this does not concern German and Swedish. More relevant to the present target

populations is the low saliency of third person -s given its short and unstressed nature, minimizing its noticeability (Cintrón-Valentín & Ellis, 2016). Further, it is semantically redundant, merely indicating the presence of a third person singular subject (George, 1972). Another issue could be chunking—as of a verb in its base form following interrogative *does/did* and a third person singular subject (e.g., *Did he say that?*)—in that it can lead to the memorization of the chunks *he say*, *she walk*, etc. in isolation (George, 1972). Besides its low saliency, redundancy and the issue of chunking, learners with an L1 that lacks verb inflections in addition have to grapple with the abstractness and novelty of third person -s (DeKeyser, 2005; George, 1972). Verbs are inflective in both German and Swedish, but the system is more complex in German. In Swedish, inflection allows for a distinction of infinitive, present tense, and preterite. In German, affixes for present tense and preterite in addition vary according to person (see Table 7.4). Thus, in comparison to English, verb inflection is more complex in German and less complex in Swedish. However, this must not be regarded as a ground to conclude that third person -s is acquired more easily for either learner group.

*Table 7.4 A comparison of affixes in English, German and Swedish*

	<b>English</b>	<b>German</b>	<b>Swedish</b>
<b>Infinitive</b>	<i>to live</i>	<i>leben</i>	<i>att leva</i>
<b>Present simple</b>	<i>live, lives</i>	<i>lebe, lebst, lebt, leben, etc.</i>	<i>lever</i>
<b>Past tense/preterite</b>	<i>lived</i>	<i>lebte, lebtest, lebte, lebten, etc.</i>	<i>levde</i> (vs. e.g., <i>köpte</i> for <i>att köpa</i> , <i>to buy</i> )

Similar to third person -s, the past tense marker -ed can be perceived as redundant once the temporal setting has been indicated through an adverbial expression or when the first finite verb of a text already carries an -ed ending. However, as soon as an event is narrated out of order and different tenses occur, the -ed ending is a necessity to guide the reader or listener through the sequence of events (George, 1972). This feature seems to cause struggle for Austrian and Swedish learners of English alike. While no research on realization errors is available, category errors are reported to exist in substitutions by other forms, such as simple present, present perfect, or continuous aspect (Köhlmyr, 2005; Komaier, 2013). Such errors can be rooted in the contexts of use of related past tense forms in the learners' L1. An intralingual difference can be spotted when comparing English and Austrian German. In the latter, preterite is used primarily for literary narration, whereas perfect is the default past tense employed in speech and informal writing (Klein, 1994). In contrast, in Swedish, the use of preterite vs. perfect overlaps with past tense vs. present perfect in English (Jaktén & Huth, 1997).

However, as to realization, both German and Swedish preterite appear more complex in their construction than English regular past simple, requiring affixes in accordance with verb class and, in German, also in accordance with person (Der Duden, n.d.; Jaktén & Huth, 1997) (see Table 7.4).

The construction of adverbs ending in *-ly* and their distinction from adjectives also poses problems for Austrian and Swedish students of English (Gattringer, 2008; Köhlmyr, 2005). In German, manner is mostly expressed by the use of adjectives instead of adverbs (see Table 7.5), increasing perceived complexity of English adverbs from the viewpoint of Austrian learners. This elevated level of problematicity is arguably offset by the sometimes opaque distinction of adjectives vs. adverbs in Swedish. In Swedish, many adverbs are formed by adding the suffix *-t* to the adjective, which, however, is also the ending that functions as gender inflection in adjectives (see Table 7.5, line 3). Thus, the distinction between adjectives and certain adverbs is apparently less transparent in Swedish than in English (Köhlmyr, 2005). For both learner groups, predicative adjectives used with verbs of perception and sense (e.g., *She feels sad*) are deemed especially problematic given that they can be misinterpreted as an adverb and are therefore often problematized in coursebooks from both regions (e.g. Coombs et al., 2014; Westfall & Weber, 2005).

*Table 7.5 The expression of manner in English, German and Swedish*

English	German	Swedish
The cake is <i>healthy</i> .	Der Kuchen ist <i>gesund</i> .	Kakan är <i>hälsosam</i> .
She lives <i>healthily</i> .	Sie lebt <i>gesund</i> .	Hon lever <i>hälsosamt</i> .
The package is <i>heavy</i> .	Das Paket ist <i>schwer</i> .	Paketet är <i>tungt</i> .
He breathes <i>heavily</i> .	Er atmet <i>schwer</i> .	Han andas <i>tungt</i> .

When it comes to present simple vs. continuous, Austrian and Swedish learners appear to have difficulties in knowing how and when to employ the forms. Realization errors in both groups are essentially constituted of reduced forms lacking *to be* (e.g., *I singing*) (Köhlmyr, 2005; Komaier, 2013). Category errors can be traced back to the novelty and abstractness of continuous form from the viewpoint of learners, significantly adding to its problematicity (DeKeyser, 2005). Neither German nor Swedish has continuous aspect but expresses the corresponding meaning through lexis instead of grammatical form. Due to the inexistence of continuous aspect in the respective L1, it is often overly practiced in language instruction, sometimes leading to an overuse of this feature perceived as “typically English” (George, 1972;

Köhlmyr, 2005, p. 234). As a result, both learner groups overgeneralize continuous at the expense of simple aspect (Köhlmyr, 2005; Komaier, 2013).

Common mistakes of *do*-constructions among EFL learners seem to be the overuse and underuse of *do* in questions and negations as well as tense misplacement (Burt & Kiparsky, 1975). These “main stumbling blocks” (Bahns, 1991, p. 213) in the acquisition of L2 English are reported to also be an issue for Swedish learners (Köhlmyr, 2005). Although Gattringer (2008) only looked at interrogative *do* in present tense but not at negated *do/did*, problematicity of both features is likely to extend to Austrian learners. In both country groups, substitution of *to do* by *to be* (e.g., \**What languages are you speak?*), omission of *do/did* (e.g., \**Eat you lunch yesterday?*), and double marking for person or tense (e.g., \**Does she likes football?* \**Did you slept well?*) occurred in student performances (Gattringer, 2008; Köhlmyr, 2005).

#### 7.2.2.2 Age of Acquisition

Secondly, in order to represent features that are acquired both early and late, the potential target structures were investigated in relation to their respective developmental stages within L2 acquisition (R. Ellis, 2009b; Erlam, 2006). Since there is no exhaustive study that reviewed English grammar as to the developmental properties of L2 acquisition, a miscellany of research had to be considered. According to Littlewood (1984), who draws on the grouping of structures by developmental stages proposed by Krashen (1982), continuous *-ing*, belonging to group 1, is acquired prior to regular past *-ed* and third person *-s* in group 4 (Littlewood, 1984, p. 39). However, continuous aspect likely refers merely to the realization of its form, rather than to its categorical use as opposed to simple aspect. In the processability hierarchy of EFL put forward by Pienemann (1999, 2005), *yes/no* questions (“*do*-fronting”) and past simple *-ed* precede third person *-s*. Erlam (2006), by referring to Pienemann (1989), provides another piece to the puzzle by indicating that regular past and *yes/no* questions are acquired at an intermediate level, followed by third person *-s*, which is acquired late. Unfortunately, no information on the age of acquisition of adverbs could be gathered. In sum, research reviewed above resulted in the compilation of Table 7.6, presenting the speculative age of acquisition of target structures. This sequence seems to emulate the observation that morphological features are more difficult and acquired later than syntactic features (Sorace, 2008): While present continuous and *yes/no* questions are acquired at an early to intermediate stage, regular past and third person *-s* are acquired at an intermediate to late stage respectively.

*Table 7.6 The assumed age of acquisition of the target features*

<b>Age of acquisition</b>	<b>Grammatical feature</b>
early	present continuous
intermediate	<i>yes/no</i> questions, regular past
late	third person -s

**Note.** The age of acquisition reported for present continuous likely only refers to the realization of its form, rather than to its categorial use as opposed to simple aspect.

### 7.2.2.3 Level of Instruction

Thirdly, the level of instruction at which features are first introduced was another decisive factor in the selection of target structures. Similar to the criterion of age of acquisition, attention was paid to integrating features covering a range of levels of instruction. In addition, each target feature should be introduced to both learner populations at approximately the same stage. As a first step, Table 7.7 was created in an effort to calibrate the school types and grades of each country against one another. Since Austrian pupils on average start school a little later than Swedish pupils (if pre-school is excluded, see 6.1.1), age and the level of instruction do not map one-to-one in a comparison of the two contexts. While level 0 corresponds to primary education in Austria and the lower stage of comprehensive school in Sweden, subsequent levels translate into one grade each. Level 1 thus refers to 5<sup>th</sup> grade for Austrian students, i.e., the first year of lower secondary school, and 4<sup>th</sup> grade for Swedish participants, i.e., the first year of the intermediate stage of the Swedish comprehensive school (see 6.1.1 for a brief overview of the respective education systems). At this stage, students of both learning environments normally are 10 years old. In order to determine the stage of instruction of different grammatical features, both a coursebook analysis and a large-scale teacher survey were conducted.

**Coursebook Analysis.** First, the coursebooks most commonly used by Austrian and Swedish students up to the age of 17 years and in school types relevant to the present study were identified. In the case of Austria, information on which textbooks are most frequently purchased by schools for the different levels and types of instruction was obtained through personal interaction with the Educational Media division of the Federal Ministry of Education, Science and Research in fall 2017. For the Swedish context, where such numbers are not available, 292 participants took part in a poll created in a Facebook group directed at teachers of English located in Sweden, also in fall 2017. Based on these data, the coursebooks listed in Table 7.7 were analyzed as to the sequence of grammatical items that they explicitly refer to.

Table 7.7 Course material used to investigate the level of instruction of grammatical features<sup>14</sup>

Level	Austria	Sweden
0 Primary school		Lower Stage
1	<i>More! 1 Student's Book</i> <i>English to Go 1 Coursebook</i>	<i>Magic ! 4 Textbook</i> <i>Good Stuff Gold 4 Workbook</i>
2 Academic High School (Lower) & Middle School	<i>More! 2 Student's Book</i> <i>English to Go 2 Coursebook</i>	Middle Stage
3	<i>More! 3 Student's Book</i> <i>English to Go 3 Coursebook</i>	<i>Magic ! 6 Textbook</i> <i>Good Stuff Gold A Workbook</i>
4	<i>More! 4 Student's Book</i> <i>English to Go 4 Coursebook</i>	<i>Wings 7 Textbook</i> <i>Good Stuff Gold B Workbook</i>
5 Upper Academic Secondary School	<i>Into English 1 Coursebook</i> <i>English in Context 5 Student's Book</i>	Comprehensive School
6 College for Higher Vocational Training	<i>English Unlimited HAK/HUM 1</i> <i>English Unlimited HTL 1</i>	Upper Stage
6 Upper Academic Secondary School	<i>Into English 2 Coursebook</i> <i>English in Context 6 Student's Book</i>	
6 College for Higher Vocational Training	<i>English Unlimited HAK/HUM 2</i> <i>English Unlimited HTL 2</i>	
7 Upper Academic Secondary School	<i>Into English 3 Coursebook</i> <i>English in Context 7-8 Student's Book</i>	Gymnasium
7 College for Higher Vocational Training	<i>English Unlimited HAK/HUM 3</i> <i>English Unlimited HTL 3</i>	<i>Solid Ground 1 Student's Book</i>

Table 7.8 provides an overview of the results of the coursebook analysis listing the selected target features. Both learner groups are introduced to third person *-s* in their first year of instruction, i.e., at age 10–11. Regular past and *did*-constructions are apparently taught in year 1 in Austria (*More! 1, English to Go 1*), and somewhat later in Sweden, in year 2 (*Good Stuff Gold C, Magic ! 5*). A larger divergence between the two countries was found for adverbs. The formation of the latter by adding the inflectional suffix *-ly* to the adjective is introduced in Austrian textbooks in year 2, and in Swedish textbooks only in year 5 (*More! 2, English to Go 2, Good Stuff Gold C, Magic ! 8, Wings 8*). Overall, according to the coursebooks, the level of instruction of three out of five of the grammatical features is higher in Sweden as compared

<sup>14</sup> The list of references of the course material used can be found at the end of the list of references.

to Austria, which is why certain target structures are likely to be taught slightly later in Sweden. However, whereas the coursebook is sometimes referred to as the 'hidden curriculum' (Cunningsworth, 1995), teaching practices can of course deviate, as detected in a teacher survey.

**Teacher Survey.** Considering that not all teachers are bound to follow the syllabus proposed by course books, an online teacher survey using [www.soscisurvey.de](http://www.soscisurvey.de) was set up. Data from 385 teachers were collected, counting 180 English teachers in Austria and 205 in Sweden<sup>15</sup>. Respondents had to indicate at what level (see 0–7 in Table 7.7; listed in the survey according to the school types and grades of the given educational system) they introduced specific grammatical features. An alternative option for the structure not being explicitly taught at all (see NET in Table 7.8) was also provided.

In the case of third person -s and regular past, the survey corroborated the textbook analysis. At the same time, it suggests that in Sweden, regular past is taught by an almost equal number of teachers at level 1 (i.e., when it mostly seems to be introduced in Austria) and level 2. Present simple vs. continuous were reported in the survey to be taught later than found in the textbook analysis, namely at level 3 or 2 in Austria and 3–5 or not explicitly at all in Sweden. This can be traced back to the fact that while the form of present continuous is introduced at level 1, its functional distinction from simple aspect is taught later. For the other features, *did*-constructions and adverbs (vs. adjectives), survey results seem to partly offset expected differences between the two countries. *Did*-constructions appear to be introduced in Austria most frequently at level 2 followed by level 1, mimicking Sweden. The adjectives vs. adverbs distinction is apparently taught—if at all—at level 3, 2, or 5 in Sweden, which partly overlaps with the indicated levels of instruction in Austria. Overall, the level of instruction of a given feature as reported in the survey is much less clear in Sweden than in Austria (see Table 7.8). In Austria, the vast majority of teachers agreed on a maximum of two levels, making the decision on *when to teach what* rather systematic. This was an important preliminary finding.

<sup>15</sup> Participants from different school types were recruited. Austria – Middle School: 88, Secondary Academic School: 51, Secondary Academic School: 21, College for Higher Vocational Education: 20. Sweden – Middle Stage Comprehensive School: 88, Upper Stage Comprehensive School: 77, Upper Secondary School: 40.

*Table 7.8 The estimated year of introduction of the target features in Austria and Sweden*

	Austria		Sweden	
	Coursebooks	Survey	Coursebooks	Survey
<b>Third person -s</b>	1	1 (83%), 3 (8%)	1	1 (30%), 2 (22%), 0 (19%)
<b>Present simple vs. continuous</b>	1	3 (39%), 2 (35%)	1	3 (20%), NET (16%), 4 (16%), 5 (16%)
<b>Regular past</b>	1	1 (57%), 2 (33%)	2	2 (32%), 1 (29%), 3 (14%)
<b>Did-constructions</b>	1	2 (49%), 1 (31%)	2	2 (31%), 1 (17%), 3 (17%)
<b>Adverbs ending in -ly</b>	2	2 (52%), 3 (27%)	5	3 (21%), NET (16%), 2 (15%), 5 (15%)

**Note.** Numbers obtained through the survey do not add up to 100% per grammatical feature, because only the three most frequently mentioned grades are reported in this table.

#### 7.2.2.4 Frequency

Fourthly, the frequency at which the target structures occur in everyday English is also a decisive factor in facilitating or obstructing their acquisition (DeKeyser, 2005). Considering that one of the purposes of the present study was to determine the potential impact of extramural English, only structures appearing frequently in the English language, notably in informal use, were selected. In order to do so, the *Cambridge Grammar of English* (Carter & McCarthy, 2007), a guide of spoken and written English based on the Cambridge International Corpus, was consulted. For instance, passive constructions were excluded from the study due to their primary occurrence in more formal registers, such as academic writing. Conversely, third person -s, present simple and present continuous were selected given that present time is most typically expressed by means of simple and continuous aspect of present tense. Regular past tense simple, then, was integrated as a form of past tense, the most common way of indicating past time. In contrast, present perfect has long been more present in British English than in American English (Foster, 1968; Hundt & Smith, 2009), a factor that needed to be taken into account considering the likely dominance of American media in teenagers' extramural English (see Clemons et al., 2019). Prototypical questions are complete clauses and are in interrogative form, and *do-* and *did-*constructions are one possible form of yes/no-questions, one of the most frequent form of questions. Negated *did*, informally *didn't* and more formally *did not*, is a common form of negation, occurring when there is no copular verb *to be*, nor modal or auxiliary verb. Lastly, adverb phrases are frequently used to modify verbs, adjectives, or other adverbs. They most typically function as adjuncts (e.g., *I ate my dinner very slowly*) rather than complements (*I put the keys just there*) (Carter & McCarthy, 2007). Since -ly dropping in so-

called flat adverbs is frequently observed in informal language use and increasingly accepted (see Balteiro, 2007; van Tieken-Boon Ostade, 2015), this was accounted for in test design and data evaluation.

### 7.2.2.5 *Practicality*

Finally, the factor of practicality in testing was a decisive one in the selection process of grammatical features. The issue of time affected the number and nature of target structures, and, in particular, the design of the oral narrative test (see 7.3.1.1). First, given the classroom-based nature of this empirical study and the need to keep compliance high, time was limited. Each grammatical feature had to appear multiple times in each test, and the number of target features thus determined test length. The set of target structures was therefore limited to six. The factor of time also led to the exclusion of item-based features, including irregular past, irregular comparative, and verb complements. To test mastery of regular, system-based features, they can appear in a given test each time under the guise of a different lexeme and context (e.g., *walked*, *talked*, *worked* for RP). For irregular structures, each lexeme (e.g., *spoke*, *thought*) would have to occur repeatedly in a test. Integrating irregular structures thus would not only considerably increase test length but can also help students fathom what is being tested. Second, the oral narrative test warrants special attention due to its agenda of concealing focus on form. The aim here was to create meaningful, natural-sounding storylines for the two input videos, while still encapsulating each feature multiple times. In addition, it was important to choose features that could be successfully elicited in the learners' reproduction through visual and lexical cues (see 7.3.1.1). While this did not pose problems for third person -s, regular past and *did*-constructions, use of present simple vs. continuous and adverbs were more difficult to elicit.

## 7.3 Test Design

### 7.3.1 *Measures of Automatized-Implicit and Explicit Knowledge*

This project builds upon the following measures of automatized-implicit (1–4) and explicit (5–6) knowledge:

- 1 Oral Narrative Test (ONT)
- 2 Elicited Imitation Test (EIT)
- 3 Timed Written Grammaticality Judgment Test (WTGJT)
- 4 Timed Aural Grammaticality Judgment Test (ATGJT)
- 5 Untimed Grammaticality Judgment Test (UGJT)
- 6 Metalinguistic Knowledge Test (MKT)

The selection of those tests is based on the applied pedagogic purpose of this study. Given that the main objective is to explore which factors promote EFL learners' ability to rapidly use grammatically accurate language, measures of automatized-implicit knowledge, including receptive *and* productive tests, are better suited than more distinct tests of implicit knowledge (see for instance Pawlak, 2019)<sup>16</sup>. Since automatized and implicit knowledge are claimed to be functionally similar, both can be expected to be captured by tests (1)–(4) (e.g. Godfroid & Kim, 2021; Suzuki, 2017) (see 2.2.2). Although the selected measures rely heavily on Ellis' seminal work (2005a) as well as an amalgam of more recent research (e.g. Godfroid, 2016; Suzuki, 2017; Suzuki & DeKeyser, 2015; Vafaee et al., 2019), their design has been fine-tuned and adapted to the needs and purposes of the present study. In this chapter, each test instrument is dedicated one section. An overview of the target features' word-for-word realizations across test instruments can be found in 11.2.

#### 7.3.1.1 *The Oral Narrative Test (ONT)*

In the ONT designed by Ellis (2005a), participants were asked to read a story which they in turn had to reproduce orally (see 2.2.2.1). In the current study, the medium of the stimulus was changed to short video clips, since audio-visual input was assumed to be more successful in fulfilling the test's aims and purposes (see Schurz, 2018). The aural delivery of the stimulus required real-time processing, which was intended to minimize opportunities for reflection (cf. Suzuki & DeKeyser, 2015). Through visual support and the underlying stories, attention

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<sup>16</sup> Initially, this study set out to merely incorporate measures 1–2 and 5–6. Factor analysis performed in SPSS showed that they loaded on two different factors, which may correspond to automatized-implicit and explicit knowledge. However, given that the two factors might as well translate into spoken vs. written language production, or aural vs. written stimuli, further tests were integrated in the test battery.

was directed more heavily on content rather than form. The video clips, which were also used as a basis for the recount, naturally established a time constraint, an important factor when testing automatized knowledge (R. Ellis, 2005a; Spada et al., 2015). Finally, by means of visual cues, this version of the ONT facilitated remembering and repeating the content of the stories.

The audio-visuals were based on instructional videos published on YouTube by *Oomongzu* (Oomongzu, 2016a, 2016b), of whom permission to use visuals of the videos had been obtained. The everyday topics covered in the two videos, including love and relationships, travelling, and work, are deemed graspable for the learner population of 13–14 years. Video 1, *The Story of Alice and Luke*, tells the story of a girl, Alice, starting a relationship with Luke, who, however, turned out to be married to a man, with Alice thereupon deciding not to make her state of mind depend on somebody else's company. Video 2, *Mia and the mysterious stalker*, recounts the story of the protagonist Mia going home late after work when the streets are already empty. She can hear footsteps and starts to run but finds out that the soles of her shoes came off and that she heard her own steps. It is noted that (1) the protagonists in both stories are women, potentially leading to a lack of character identification in male participants or participants of other gender identities, and (2) the female protagonist in video 2 is presented in a somewhat stereotypical way. Nevertheless, the stories had to be in line with what resources were available on the web and were thus chosen for practical reasons.

Although the storylines relied strongly on their original, they were modified so as to include the target features repeatedly, which was done with the help of an L1 speaker of British English and an L1 speaker of American English. Story 1 was delivered in past tense and story 2 in present tense (see the scripts in 11.3). When it comes to adjectives vs. adverbs, not all adjectives and adverbs featuring in the texts functioned as target features. I considered only predicative adjectives in non-comparative, non-superlative form and that can take the *-ly* ending to become an adverb, and adverbs with the *-ly* ending (as well as *fast*) (see the realization of features in 11.2). The number of times the grammatical features occurred in each video is listed in Table 7.9.

*Table 7.9 The frequency of occurrence of the target features in the ONT*

<b>Structure</b>	<b>Video 1</b>	<b>Video 2</b>
Regular past	14	
Negation with <i>did</i>	4	1
Question with <i>did</i>	2	1
Third person - <i>s</i>		15
Present continuous		5
Present simple		3
Adjectives (predicative)	3	2
Adverbs (ending in - <i>ly</i> )	6	7

The 179- and 170-word scripts were read out by a 27-year-old male Torontonian speaker with a neutral General American accent, a clear pronunciation and a voice deemed pleasant. Audacity and an Audio Technica A50 microphone were used for the recordings, and no background noises were discernable. The screenshots gathered from the original instructional videos were cut to size and altered. Graphics, such as speech bubbles and images, and verbal cues, e.g., the first few words of a sentence or a juxtaposition of words separated by commas, were supplemented (see Table 7.10). The purpose was not only to elicit the main ideas of the storylines but the specific target structures employed in the scripts. The resulting video clips were 1:46 and 1:56 minutes in length, corresponding to a speech rate of 122.6 and 109 words per minute. This is considered a slow speech rate (R. Griffiths, 1992), lying below the average speech rate of American English speakers of 150 words per minute (National Center for Voice and Speech [NCSV], n.d.).

Table 7.10 Extracts from the two stories captured in the ONT

Presentation in the video	Script with [target features]
	<p>One evening, she walked [regular past] over to a bar next door.</p>
	<p>But they did not [negated did] have the same interests.</p>
	<p>Through this experience, Alice learned [regular past] a lesson. Did she really need [interrogative did] to marry to be happy?</p>
	<p>While she is walking [present continuous] home, she suddenly hears [present simple, third person -s] footsteps behind her.</p>
	<p>She quickly [adverb] runs [third person -s] into the cemetery.</p>

Stories 1 and 2 were aggregated into a single video, containing the German/Swedish instructions, a written synopsis in German/Swedish, two non-muted and one muted screening of story 1, and two non-muted and one muted screening of story 2. The stories' synopses should help students attune to the storylines and facilitate comprehension and retention by reducing cognitive load (see Wilson, 2008, p. 71). The muted screenings served as a stimulus for reproduction and were played at a reduced pace, 75% of the non-muted version, to give students slightly more time to recount the stories and thereby reduce anxiety (see Purpura, 2005). Moreover, it contained additional, reappearing cues to remind participants to use the right tense, "Don't forget: This happened 20 years ago!" in story 1, and "Don't forget: This happens now!" in story 2. Before reproduction, the following instructions appeared in German or Swedish:

In a few seconds, video 1 will be played again, but without the sound. Try to remember what you heard and tell the story as you see the pictures. If you do not remember the exact wording, retell the story in your own words. It is important that you speak at all.

Once a primary version of the ONT had been generated, it was pilot-tested in five steps, with (I) university students aged 20–25 years ( $N = 10$ ), (II) Swedish students aged 15 years ( $N = 2$ ), (III) 16- to 17-year-old Austrian business college students ( $N = 21$ ), (IV) 13- to 14-year-old Austrian Middle school students ( $N = 18$ ), and (V) Austrian university students aged 20–25 years ( $N = 3$ ). After each of those steps, data were analyzed and the videos modified through inserting additional visual or textual cues (e.g., "It's Monday night...", "suddenly, hear footsteps"), reformulating the script, and adapting pauses and pace. The synopsis of each of the two stories was inserted in the video only after pre-testing. After step IV, item-based structures (gerund vs. infinitive, irregular comparison, and irregular past) were eliminated as target features. Test reliability of the pre-tests could not be computed due to the limited number of participants.

### 7.3.1.2 *The Elicited Imitation Test (EIT)*

The EIT was designed and administered on [www.soscisurvey.de](http://www.soscisurvey.de). It consisted of 40 items that were presented to students aurally and organized according to the topics *School, Politics & History, Computer & TV, Nature, Holidays & Spare Time, and Health & Food* (see 1 in Table 7.12). Each target feature occurred multiple times (see Table 7.11) and was realized as presented in 11.2. For the list of items as ordered in the EIT, see 11.4.1.

*Table 7.11 The frequency of occurrence of the target features in the EIT*

Structure	grammatical	ungrammatical
Adverbs (vs. adjectives)	3	3
Present simple	2	4
Present continuous	2	2
Third person -s	3	3
Regular past	3	3
Negated <i>did</i>	3	3
Interrogative <i>did</i>	3	3
Distractor	1	/
Practice items	1	2

The items were controlled for lexical complexity, length and speech rate, and ambiguity in terms of grammaticality. Vocabulary was kept simple, its frequency in use high and its difficulty low, as verified on [www.lextutor.ca](http://www.lextutor.ca). All items were 9–14 syllables long, with the mean of each set of items per structure lying at 10–12 syllables, corresponding to a medium stimulus length as defined for the TGJTs (see 7.3.1.3). The grand mean for sentence length was 10.86 syllables and 3.82 seconds (*s*), with syllables and seconds per stimulus showing a significant correlation ( $r = .65, p < .001$ ). The average speech rate of the recordings was 126 words per minute, also considered a slow rate (R. Griffiths, 1992) below the average speech rate of American English speakers (NCVS, n.d.). The shortest recording was 2.8 s, exceeding the span of 1.5–2.0 s, described as the time it takes for information to decay from phonological short-term memory without refreshing information or rehearsal (Baddeley et al., 1975). This should avoid rote repetition. The recordings were provided by the same American speaker as for the ONT. A pre-test with L1 speakers further allowed to confirm the sentences' (un)grammaticality (see further down). The position of the target structures was not systematically controlled for.

In order not to direct attention too exclusively to grammar, participants were instructed on the first page of the online survey that they would be tested on their listening and speaking skills. Further, the instructions (presented in German or Swedish) read

In the following, you are going to listen to English sentences about different topics. This is what you should do: (1) Indicate what the sentence is about, (2) Repeat each sentence in correct English.

After listening to a given statement (see 2 in Table 7.12), pupils answered a comprehension question on the content of the stimulus sentence, with the answer options *true*, *false*, and *I haven't understood the audio* (see 3 in Table 7.12). Whereas opinion questions (e.g. R. Ellis, 2005a) would allow (or even encourage) participants to give random answers, and, as a result, direct attention less to meaning (see J. Kim & Nam, 2017), objective comprehension questions with only one right answer were used to provide important information as to whether the test taker understood sentence meaning (for the comprehension questions, see 11.4.1). Likewise, attention should be directed to meaning by using a visual support for each item, which was taken from copyright-free databases such as Pixabay (see Table 7.12).

As in the ONT, rote repetition of the stimuli should be counteracted through initial focus on meaning, sufficient stimulus length, and a time lag between listening and reproduction (Erlam, 2006; Sarandi, 2015; Spada et al., 2015; Vinther, 2002) (see 2.2.2.2). The time lag was at seven seconds, after which participants were automatically forwarded to the page for reproduction, for which students also had seven seconds (see 4 in Table 7.12). While in Erlam (2006) participants were not informed that some stimuli sentences are incorrect, this was done here, since some pre-tested students otherwise were unable to fathom the task (see also Suzuki & DeKeyser, 2015). For an illustration of the presentation of the first item, PC1 *My classmates are waiting for the next break*, targeting present continuous, see Table 7.12.

Table 7.12 An illustration of the EIT

Step	Presentation in the EIT
1	 <p style="text-align: right;">10% completed</p> <h2 style="text-align: center; color: blue;">Topic 1: School</h2> 
2	 <p style="text-align: right;">11% completed</p> 
3	 <p style="text-align: right;">12% completed</p>  <p><b>What is the sentence about?</b> It's about my classmates' activity right now.</p> <p style="text-align: center;"> <input type="radio"/> True      <input type="radio"/> False      <input type="radio"/> I haven't understood the audio.     </p>
4	 <p style="text-align: right;">13% completed</p>  <p><b>Repeat the sentence in CORRECT English.</b></p> <p style="text-align: center;"> <span style="border: 1px solid gray; padding: 2px;">START</span> <span style="border: 1px solid gray; padding: 2px;">STOP</span> </p> <div style="border: 1px solid black; width: 80%; margin: 10px auto; height: 10px;"></div> <p>Time left: 0:04</p>

The time constraint for reproduction was calculated by means of two pilot test cycles with L1 speakers of English at the age of 20–25 years. In the first pre-test ( $N = 11$ , age 20–22 years), the timer for reproduction was set for 10 s, lest participants be under significant time pressure. While the audio recording started automatically, participants could click on STOP as soon as they completed the utterance. The native speakers' production time for each sentence was gauged by identifying the offset of the utterance using Audacity 2.3.3. To exclude outliers, the median production time of each item across L1 participants was calculated (see Kim & Nam, 2017). Next, the maximum value of these median production times was computed, 4.86 s. To this, 20% was added, because non-native speakers are slower at processing the input, resulting in 5.83 s (see Ellis, 2005). Since (1) participants in the main study were considerably younger (13–14 years) than the native speakers (23–25 years) in the pre-test, and (2) the level of frustration experienced by the young test takers should be curbed, a time constraint of 7 s was opted for. Whereas in some studies the time constraint for reproduction was adjusted to syllable length (e.g. Graham et al., 2010; J. Kim & Nam, 2017), this was not the case in the present study given that reproductions often are not identical to the stimuli and might therefore differ in terms of syllable length. Consistency in the time available for reproduction was also expected to help students adjust to the task. The pre-tests with native speakers further served the confirmation of the statements' (un)grammaticality. Some sentences, such as *\*Tom sits by the lake and waits* (ungrammatical, PC), had to be modified in order to more successfully prompt the target structure, in this case *Where's Tom? Oh, he sits by the lake*. Other sentences, such as *Video games become more and more exciting today* (ungrammatical, PC), were excluded because they were sometimes identified as grammatical by the majority of native speakers. In all, the test required about 20 minutes for completion.

The EIT was then pre-tested on (I) 16- to 17-year-old Austrian Business College students ( $N = 21$ ), (II) 15-year-old Swedish students ( $N = 2$ ), (III) 13- to 14-year-old Austrian Middle School students ( $N = 18$ ), and (IV) 14- to 15-year-old Austrian Business College students ( $N = 10$ ). Prior to each of the pre-tests I–IV, the EIT was tried out on international university students ( $N = 12$ ). After each pre-test, data were analyzed and sentences modified in order to more effectively elicit the target structures by including tense and aspect markers (e.g., *Yesterday one of my friends downloaded a movie; Right now, my classmates are waiting for the next break*), and to reduce cognitive load by avoiding lexical and phonological complexity (e.g., *Most children are liking to eat fish for Most adults...*). Cronbach's alpha could not be calculated for the entirety of items due to extensive replacement behavior and hence frequent missing values. Instead, inter-item correlations were inspected. The mean score was 0.55 for sample III ( $SD = 0.11$ ) and 0.83 ( $SD = 0.18$ ) for sample IV, suggesting that the EIT would be a good fit for the

level of the target age group of 13–14 years. However, it should be noted that until pre-test III, only four items per grammatical feature were included, the item-based structures (gerund vs. infinitive, irregular comparison, and irregular past) still formed part of the study, the timer for reproduction was at 9 seconds, the recordings were not started and stopped automatically but had to be operated by participants (arguably compensating for the 2 s longer time limit than in the main study), and three items differed slightly in terms of lexis.

In order to try out the final version of the EIT to be used in the main study, with the established timer of 7s, another pre-test with native speakers ( $N = 14$ , age 20–25) was carried out. The time these participants needed for reproduction yielded a maximum median value of 5.46 s and a value of 6.55 s with the 20% added, confirming the feasibility of the timer.

### 7.3.1.3 *The Timed Grammaticality Judgment Tests (TGJTs)*

The TGJTs consisted of a written (WTGJT) and an aural (ATGJT) part of equal length. It was administered on [www.soscisurvey.de](http://www.soscisurvey.de), where so-called assignment tasks, measuring response latency in milliseconds, can be designed and conducted. Each part counted 47–48 items, constituted by three correct and three incorrect sentences per structure (but four incorrect items for present simple in the ATGJT), and five grammatical distractors. In addition to that, the written and aural test began with five and three practice examples respectively. For an overview of the target features' realization, see 11.2. For an index of items in the order as presented in the respective test, see 11.5.

Similar to the EIT, items were controlled for lexical complexity, length and speech rate, and ambiguity in terms of grammaticality. First, they were generated so as not to lexically strain participants by choosing vocabulary of high frequency and low difficulty, as checked at [www.lextutor.ca](http://www.lextutor.ca). Second, the sets of three grammatical and three ungrammatical sentences each existed once in short (7–9 syllables), medium-long (10–12 syllables), and long (13–15 syllables) form. Hence, syllable length of the items was comparable in the aural and written parts. The grand mean for sentence length was 11 in syllables and 3.7 in seconds, which showed a significant correlation ( $r = .84, p < .001$ ). For the ATGJT, the stimuli were recorded by the same speaker as for the ONT and EIT. The average speech rate of the recordings was 128 words per minute, i.e., again a slow rate (R. Griffiths, 1992) below the average speech rate of American English speakers (NCVS, n.d.). Third, the items were also checked on ambiguity in correctness together by two native speakers of American English, and by means of a pilot test on English native speakers aged 20–25 years ( $N = 12$ ), after which items that were not unambiguously evaluated as correct or incorrect were slightly modified (e.g., *Did the fridge*

*work well at the beginning?* for ...*in the beginning?*, \*Teenagers are wanting *the new iPhone* for ...*a new iPhone*). The position of the target structures was not systematically controlled for.

In both the WTGJT and the ATGJT, each of the sentences was presented individually and had to be evaluated as fast as possible in terms of grammatical accuracy. The instructions (presented in German or Swedish) read:

Part 1: Right or wrong? You will be presented with a number of sentences in written form. For each sentence, respond whether it is grammatically correct or incorrect by pressing  (incorrect) or  (correct) on your keyboard.

For part 2, the ATGJT, instructions were the same, except for the information that students would *listen* to sentences instead of the sentences being presented in written form. While the written items were displayed for seven seconds, corresponding to the time participants had to respond, the aural stimuli could be reacted to within eight seconds, including the length of the stimuli itself. To facilitate remembering which arrow should be pressed for which response, each item was presented with an image of the thumbs-down gesture on the left and an image of the thumbs-up gesture on the right (see 1 in Table 7.13). After the seven- and eight-second response time, the instructions “Please wait...” appeared for three seconds (see 2 in Table 7.13). For an illustration of the presentation of item RP4 in the WTGJT, targeting regular past, see Table 7.13.

Table 7.13 An illustration of the WTGJT

Step	Presentation in the WTGJT
1	 <div style="text-align: right; margin-top: -20px;"> <span style="width: 20%; background-color: #4f81bd; display: inline-block; vertical-align: middle;"></span> 55% completed         </div> <p style="text-align: center; margin-top: 20px;">In 1780 King Louis travel to Italy.</p> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;">   </div>
2	 <div style="text-align: right; margin-top: -20px;"> <span style="width: 20%; background-color: #4f81bd; display: inline-block; vertical-align: middle;"></span> 55% completed         </div> <p style="text-align: center; margin-top: 20px;">... Please wait ...</p> <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;">   </div>

The time constraint of 7–8 s was based on the response times given by native speakers of English ( $N = 10$ ) aged 20–25 years. In this version of the test, instructions were the same as above, but participants had no time limit to respond to the items. To calculate the time constraint for the main study, the maximum value of the L1 users' median reaction times per item was computed, yielding 5594 milliseconds (ms) for the WTGJT and 6635 ms for the ATGJT. This was supplemented by 20% to account for the fact that nonnatives process input more slowly (e.g. R. Ellis, 2005a; Godfroid & Kim, 2019), which yielded 6712 ms and 7962 ms for the WTGJT and ATGJT respectively. This result was rounded and thus implemented as a 7 and 8 s time constraint for the two different sections. This rather lenient time constraint was hoped to mitigate test anxiety (Purpura, 2005). Furthermore, as in the EIT, consistency in the time available to respond to each item was expected to help students adjust to the task. However, in data evaluation, only correct responses supplied within an item-specific time constraint were rated as correct (see Suzuki, 2017; Suzuki & DeKeyser, 2017).

The TGJT was piloted on Austrian students aged 15–17 years attending a Secondary School for Economic Professions ( $N = 38$ ). For practical reason, students aged 13–14 years could not

be recruited for a pilot-study in time before data collection started<sup>17</sup>. Cronbach's alpha was at .86 for the ATGJT and at .82 for the WTGJT, and the mean score was 0.62 for the ATGJT ( $SD = 0.15$ ) and 0.60 for the WTGJT ( $SD = 0.11$ ). The tests' identical versions were used in the main study's data collection.

#### *7.3.1.4 The Untimed Grammaticality Judgment Test (UGJT)*

The UGJT was conducted as a pen-and-paper test except for school H, who participated online at [www.soscisurvey.de](http://www.soscisurvey.de) due to the outbreak of the Covid-19 pandemic. Both the absence of a time constraint and focus on form should give access to explicit knowledge (R. Ellis, 2005a; Loewen, 2009). The item battery consisted of two to three grammatical and two to three ungrammatical sentences per structure, with the exception of five correct items for adjectives/adverbs (see 11.2 for an overview of the realization of features). The items were generated with the help of an L1 speaker of American English and checked on ambiguity in grammaticality by a speaker of British and a speaker of American English each. The test sheets can be found in section 11.6.1.

Similar to its timed counterpart, the UGJT asked students to classify each sentence as grammatical or ungrammatical. However, unlike the TGJT, students also had to provide corrections of sentences classified as incorrect (e.g. Åberg, 2020). This was done because test takers in pre-tests frequently rated grammatical sentences as incorrect whilst correcting only non-target features, which would merit a full score. Vice versa, ungrammatical items rated by participants as incorrect whilst correcting only non-target features would be wrongly allocated a full score if no correction on the part of participants was required. Whereas in Ellis (2005a) the UGJT also included source attributions and confidence ratings, this was excluded here due to time constraints and supposed poor validity of self-reports (see 2.2.1.1). For an illustration of the UGJT, see Table 7.14.

*Table 7.14 An Illustration of the UGJT*

✓ or ✗?	Correction (if sentence incorrect)
Last week we decided to visit Paris.	
My dad speak three languages almost perfectly.	
A loaf of bread is costing £1.50.	

<sup>17</sup> Originally, the plan for this study was to compare students of two age groups, 13–14 and 16–17 years.

The UGJT was pilot-tested on (I) 13-year-old Austrian ( $n = 16$ ) and Swedish students ( $n = 19$ ), and on (II) one class each of Austrian Middle School students (age 13–14,  $n = 20$ ) and a Secondary School of Business (age 14–15,  $n = 25$ ). After cycle (I) and (II) each, data were analyzed for reliability and items modified in turn. Upon the exclusion of variables with item-based structures from the analysis, Cronbach's alpha of cycle I was at .84 and the mean score was 0.66 ( $SD = 0.17$ ). Before cycle II, items targeting item-based structures (gerund vs. infinitive, irregular comparison, and irregular past) were discarded and test items not correlating with the others were modified (e.g., in terms of lexis or syllable length) or eliminated. Cronbach's alpha of cycle II was at .68 and the mean score was 0.83 ( $SD = 0.14$ ). Afterwards, five items were slightly modified in terms of lexis (e.g., *The Vikings did not live in South America* instead of *Shakespeare..., summer* instead of *spring*) and four new items added (one item per target structure).

### 7.3.1.5 *The Metalinguistic Knowledge Test (MKT)*

Like the UGJT, the MKT was administered as a pen-and-paper exam, apart from school H, who took part on [www.soscisurvey.de](http://www.soscisurvey.de) due to the Covid-19 pandemic. To allow learners to draw on their (unautomatized) explicit knowledge, test takers were not pressured in terms of time available to perform the tasks (see 2.2.2.4). The metalinguistic terminology was provided bilingually. For Austrian participants, who typically encounter the terminology in English (as for instance seen in course books), metalanguage on the test paper was in English. For the Swedish students, the test itself featured terminology in Swedish, because in ELT, metalanguage more often seems to be provided in Swedish, as was reflected in an informal survey conducted with 64 teachers of English on Facebook. The translated terms in German (for the Austrian participants) and English (for the Swedish participants) were provided in a word list on a separate sheet of paper (see 11.7.2). To make sure the terminology integrated in the MKT corresponds to what is used in ELT in the respective geographical context (see 2.2.2.4), a pedagogical grammarian from each country checked the respective MKT. The MKT, of which the test sheets are presented in 11.7.1, consisted of two main parts.

Part 1 of the MKT contained two identification tasks, A and B. In task A, students had to read a 101-word dialogue to identify and underline examples for a set of metalinguistic terms presented in a column next to the dialogue in the form of metalanguage (*helping/auxiliary verb did, present continuous/continuous, third person -s, present tense simple, regular past tense, negated past tense, adverb*). In task B, participants had to scan a 104-word text and underline and write down one example for each of the seven grammatical terms. Part 1 of the MKT was

similar to part 2 of the MKT used in Erlam (2009) and Zhang (2015). For extracts from tasks A and B in part 1 of the Austrian version of the MKT, providing metalanguage in English, see Figure 7.1.

<b>A</b>	
Lisa is telling Eva what her cat <u>has been doing</u> the last few days.	present perfect tense
Eva: What did your cat do while she was at home alone?	helping/auxiliary verb did
Lisa: Usually, when we are not home, she plays a lot with the toys that are lying around.	present progressive/ continuous
<b>B</b>	
present perfect tense	have (just) come
present tense simple	
third person -s	
<p>'My name is Catherine and I <u>have just come</u> home from work. My husband's name is Tom, and he really enjoys cooking. Right now, he is preparing ...'</p>	

Figure 7.1 Extracts from tasks A and B in part 1 of the MKT

In part 2 of the MKT, participants were presented with 18 multiple-choice items. In each item, one ungrammatical sentence was presented, for which students had to select one out of four statements that best explained the incorrectness of the sentence. Each structure was represented by three items, with adverbs vs. adjectives and simple vs. progressive aspect forming one structure each. This was hoped to increase test reliability compared to previous research that included one single choice item per structure (e.g. Elder, 2009; R. Ellis, 2005a; J. Kim & Nam, 2017; Zhang, 2015). Whereas in Elder (2009) and Ellis et al. (2009), for instance, certain items might have been answerable with implicit rather than explicit/metalinguistic knowledge (e.g., *We must use "[correct form]" to express...*) (see 2.2.2.4), this was avoided here. For an extract of part 2 of the MKT, see item ND3, targeting negated past, in Figure 7.2 (alternatives A-D translated from German/Swedish).

**Most teenagers read not the last Harry Potter.**

- A Negated past tense is constructed with *not* + the verb in past tense.
- B The helping/auxiliary verb is required in front of *read not*.
- C A helping/auxiliary verb is missing between *Most teenagers* and *read not*.
- D Negation is formed with *do* (in present or past tense) + *not* + infinitive.

Figure 7.2 A multiple-choice item featuring in part 2 of the MKT

In the process of item creation, the entirety of tasks was checked by an L1 speaker of British and an L1 speaker of American English. It was pilot-tested on (I) 13- to 14-year-old Swedish ( $n = 18$ ) and Austrian students ( $n = 16$ ), and (II) Austrian Business College students aged 14–15 years ( $N = 44$ ). Pre-test I yielded Cronbach's alpha of .69, after which the bulk of items was modified to have a response rate of at least 10% per response option. Pre-test II yielded Cronbach's alpha of .49, which was likely due to the relatively weak and unmotivated learners. The mean score was 0.38. In turn, parts 1 and 2 of the MKT were transposed, translations of terms provided on a separate sheet instead of directly next to the items, instructions simplified and one single choice item per structure added.

### 7.3.2 Measuring Proficiency: The C-Test

To evaluate the participants' English proficiency, a C-TEST, administered at [www.soscisurvey.de](http://www.soscisurvey.de), was also included in the study (see 11.8.1 for a print version). As done in previous research (Spada et al., 2015), the incorporation of a C-TEST should allow to establish a baseline for the comparison of different learner groups. The format of a C-TEST was picked since it requires little time to administer (20 minutes here) and has proven to be a valid predictor of general language proficiency (e.g. Dörnyei & Katona, 1992; Eckes & Grotjahn, 2006; Grotjahn, 2010).

C-TESTs that had been previously adopted in research were found to target only higher levels of English proficiency, which is why a new test had to be generated. Since the project initially endeavored to recruit students aged 13–14 and 15–16 years, the test was designed and conducted to cover a wide range of levels, A2–C1. Against this background, one short text passage each from five *Penguin Readers* of different levels A2–C1 (Bryant, 2008; Cartledge & Huxley, 2008; Disney Enterprises, 2009; Grogan, 2005; Maule & Wells, 2008) and a *New York Times* article (Holson, 2019) were selected. Half of every second word was deleted, the larger half for words with an odd number of letters. The initial and last sentence of each passage, as well as the heading, proper names and numbers were left unchanged (Grotjahn, 2010; Sigott, 2004). This procedure resulted in 120 partially filled-in blanks, 20–21 per text passage. To illustrate the task to the students, the first passage, based on a text on the level A2 (Dahl &

Escott, 2008), had already been done for them. In the subsequent passages to be filled in by the participants, the only possible answer option mostly was the word given in the original text. However, in certain cases, alternatives were accepted (see 11.8.2 for a list of accepted responses). For each correct completion of a given mutilated word, one point was awarded. Zero points were allocated for gaps left empty. The score was computed based on the mean of correct and incorrect (or missing) responses.

The C-TEST was first piloted on four native speakers and one advanced level nonnative speaker. Two passages, which could not be easily completed entirely, were exchanged, and the new version of the test was piloted on four additional native speakers. In turn, the C-TEST was pre-tested on 16- to 18-year-old Swedish Upper Secondary School students ( $N = 25$ ) and 14- to 15-year-old Austrian Business College Students ( $N = 18$ ), yielding a Cronbach's alpha value of .93 and .96 and a mean score of .49 and .34 respectively. Even though the complete test was presented to the participants, only passages 1–5 were used in the data evaluation. Passage 5 was too difficult for the target group and only few students attempted filling it in. Originally, the study was designed to include two target age groups, 13–14 and 15–16 years, which is why passage 5 was initially integrated in the C-TEST.

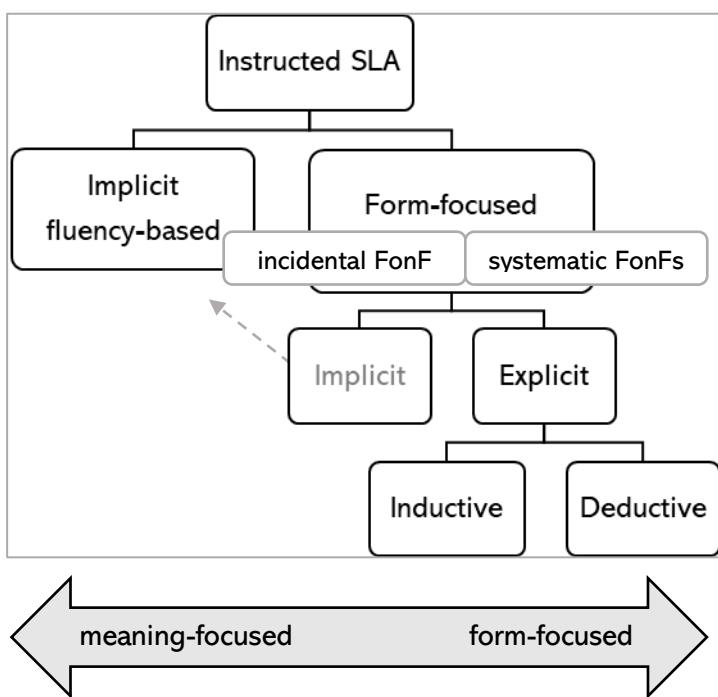
### **7.3.3 *The Teacher Survey***

To explore the type of instruction in the two geographical contexts, this study integrated a teacher survey—in addition to a student questionnaire, subject of 7.3.4. Adopting an explanatory sequential research design (Tashakkori et al., 2015), in which the quantitative and qualitative parts are of equal relevance, the students' current English teachers first filled out a questionnaire and in turn took part in an interview.

#### **7.3.3.1 *The Teacher Questionnaire***

The teacher questionnaire (see 11.10) consisted of four parts: (1) demographic information about the teacher and school; (2) class-related information; (3) a table with the target structures, where teachers had to note down in which grade (if at all) they introduce those features; and (4), a Likert-based survey on the type of instruction. This fourth section was adopted from Schurz & Coumel (2020), who drew on Long's (1991) typology of L2 instruction and the model of ISLA presented by Graus and Coppen (2016) (see Figure 7.3). It consisted of 23 items encompassing four constructs and a five-point Likert-type scale: strongly agree, agree, neither agree nor disagree, disagree, strongly disagree. The four constructs are based on an Exploratory Factor Analysis using principal component analysis with Oblimin rotation run in

Statistical Package für Social Sciences (henceforth SPSS) 25. EXPLICIT instruction was characterized by the teaching of grammar rules and metalinguistic terminology, and was further deconstructed into INDUCTIVE VS. DEDUCTIVE instruction. IMPLICIT FLUENCY-BASED instruction was conceptualized as meaningful input and fluency-based, communicative tasks. Thus, implicit instruction was not investigated as part of form-focused but rather meaning-focused instruction (see dashed arrow in Figure 7.3). Form-focus was operationalized as INCIDENTAL focus-on-form, taking place in reaction to learner errors or mistakes, and SYSTEMATIC focus-on-formS, which occurs as predetermined, for instance by the course book (Schurz & Coumel 2020). Only one item from Schurz & Coumel (2020) was changed, IP1 “I teach grammatical structures when students produce errors in using them” to “I teach grammar when *needed*, i.e., when students have difficulties.” The survey was administered analogically and, to avoid translation bias (see Thompson & Dooley, 2019), in English. For a complete list of items ordered according to the four factors, see Table 7.15.



*Figure 7.3 The typology of L2 instruction as operationalized in the teacher questionnaire (adapted from Schurz & Coumel, 2020)*

*Table 7.15 The 23 items featured in the teacher questionnaire here (adapted from Schurz & Coumel 2020)*

Item	Factor loading
<b>Factor 1: Explicit instruction (Cronbach's <math>\alpha = .77</math>)</b>	
EI1 I discuss grammar rules explicitly in my English classes.	.76
EI2 I supply my pupils with explicit grammar rules.	.76
EI3 Familiarizing pupils with technical terms forms part of my teaching practices.	.73
EI4 When teaching grammar, I discuss metalanguage.	.73
<b>Factor 2: Inductive (vs. deductive) instruction (Cronbach's <math>\alpha = .79</math>)</b>	
ID1 (recoded) First I give my students the grammar rule and then they can practice its use.	.76
ID2 (recoded) I present grammar rules upfront.	.75
ID3 I teach grammar by having pupils infer a rule from text.	.67
ID4 (recoded) I present a rule, we practice it, and in turn students (learn to) produce it in free spoken or written interaction.	.61
ID5 I let my pupils derive grammar rules from examples.	.58
<b>Factor 3: Implicit fluency-based instruction (Cronbach's <math>\alpha = .72</math>)</b>	
IF1: The main purpose of my English classes is to enable pupils to use language with relative ease without thinking too much about mistakes.	.72
IF2: My pupils acquire grammar automatically by being exposed to many examples of a grammatical structure.	.68
IF3: My pupils master grammar by encountering it incidentally in context (i.e., in sentences or a text).	.67
IF4: The focus of English lessons lies on learning how to communicate.	.61
<b>Factor 4: Incidental (vs. planned) focus-on-form (Cronbach's <math>\alpha = .73</math>)</b>	
IP1 I teach grammar when <i>needed</i> , i.e., when students have difficulties.	.80
IP2 (recoded) I teach all the important grammatical structures no matter what.	.76
IP3 I only teach a given grammatical structure if learners make mistakes in it.	.72
IP4 I do not explain a grammar feature if my students already seem to use it correctly.	.71

### 7.3.3.2 The Teacher Interview

To further investigate the approach adopted in teaching, the participating teachers were also interviewed. Through digging deeper and possibly examining the approach adopted in teaching from an alternative perspective, complementary information to the one collected by means of the teacher questionnaire was sought to be gathered (see Riemer, 2016). By adding a qualitative measure to the quantitative nature of the student and teacher questionnaire, results on the type of instruction could be triangulated and opaque information, e.g., due to teachers being unaware of the extent to which they apply focus on form (Basturkmen et al., 2004; Riemer, 2016), perhaps revealed. Reports on these interviews, presented in a similar

form in this thesis, had previously been published in Schurz and Coumel (2021) and Schurz et al. (2022).

The design of the teacher interview was semi-structured, i.e., it was entered with topics that could be elaborated on (see Dörnyei, 2007) rather than with a set of pre-formulated questions. While the interview outline features overarching questions noted down in full length, sub-topics were listed in cue words (see Table 7.16). The sub-topics represent aspects of the main questions that could optionally be addressed to elicit answers. Following an introductory question 1, question 2 targeted the focus in one's teaching (e.g., skills-practice vs. focus on systems, such as grammar), which was for example elaborated on in terms of syllabus design, the use of course books, or the degree to which the focus differs according to school years. In questions 3 and 4, impacting factors in the development of grammar knowledge and fluency, notably instruction and/or extramural English, were discussed. Grammar teaching was for example addressed in terms of the nature of different activities—representing for instance implicit or explicit instruction—ways of assessing grammar knowledge (e.g., in isolation vs. integrated in tasks), and the learners' nature of grammar knowledge (e.g., intuitive vs. rule-based). Fluency activities were discussed in terms of factors such as interaction format (i.e., individual vs. group work), student engagement, frequency, and assessment. Besides instruction, the bearing that extramural English seems to have on a given language area, as for instance depending on the onset, intensity, and types of out-of-class activities, was addressed. Lastly, by means of question 5, reports on practices in relation to the connection of English in class and out-of-school, regarding factors such as learner motivation, skills in particular language areas, and teacher encouragement of the use of (specific types of) EE, were elicited. With the flexible sequence of the questions and sub-topics, the interview was intended to flow naturally and remain situational (see interview guide approach in L. Cohen et al., 2011).

Table 7.16 *The outline of the teacher interview*

1. A) *What brings you to this school?*  
B) *What do you currently work on in your English classes with the participating group(s) of students?*<sup>18</sup>
2. *What do you find most important when teaching English? What skills/language areas are the focus in your teaching?*
  - syllabus structure based on...
  - role of textbook
  - level-dependency
3. *What is your perception of how your students develop grammar knowledge?*
  - Instruction
    - implicit/explicit approach
    - assessment of grammar knowledge
    - student attitudes & difficulties
    - student knowledge (implicit/explicit)
    - teacher education & training
  - Extramural English
    - types of activities
    - starting age/amount
4. *How do you train your students to develop fluent language use?*
  - Instruction
    - types of activities
    - assessment of fluency
    - student attitudes & difficulties
    - teacher education
  - Extramural English
    - types of activities
    - starting age/amount
5. *How do you perceive the link between English used in the students' spare time and English at school?*
  - embedded in curriculum
  - learner motivation
  - informal vs. formal language use
  - encouragement to use RE

While the interview outline contains technical terms, these were avoided in the actual interview (see Dörnyei, 2007). The interview was conducted in the teachers' respective L1, i.e., Swedish, German, or French, so that interviewees would not feel evaluated in terms of their English language skills and could more candidly express their feelings and views. Prior to conducting the main study, the interview was piloted with two teachers, who in turn provided feedback on the interview style and the questions asked. The interview took about 10–20 minutes and was voice-recorded, for which written consent from the teachers had been obtained.

<sup>18</sup> The introductory question 1A), asked in schools E and F, where the teachers were also observed in 2–3 ELT lessons with the participating students, was supplemented by B) in the remainder of schools. Originally, this thesis sought to include classroom observations, which, however, would have exceeded the scope of the study.

### **7.3.4 The Learning Experiences Questionnaire (LEQ)**

As a means of obtaining insight into the target group's experiences learning English, participants filled out a pen-and-paper Learning Experiences Questionnaire (henceforth LEQ) administered in German and Swedish respectively. It consisted of three parts, enquiring about sociodemographic information, the type of instruction, and extramural English. For the questionnaire sheets, see 11.9.

#### *7.3.4.1 Sociodemographic information*

To begin with, the survey contained a section enquiring learners about sociodemographic information, which englobed not just questions on gender and the year and country of birth. In order to assess the linguistic and migratory background of students, they were asked to indicate their L1, other languages spoken outside class, and for how long they had lived in Austria or Sweden respectively. A question on whether students had dyslexia should prove instrumental for a fair evaluation of the metalinguistic knowledge and untimed grammaticality judgment tests, where learners had to write down words and sentences in correct form. Finally, questions targeting the socioeconomic status (SES) of the participants' families were included. Such information was gathered by a single-choice question on the highest educational level attained by parents and an open-response question asking for their professions and a short description of the jobs. As to the highest parental educational level, the number of options available in the Austrian vs. Swedish questionnaire were at variance. The options *no specific education or training*, *obligatory school*, and *tertiary education* were provided in both contexts alike. In Austria, upper secondary education counted two options, (1) *vocational education without A-levels*, and (2) *upper secondary education with A-levels*. In Sweden, this level corresponded to a single category, *upper secondary high school*. Although students of this so-called *Gymnasium* can take either vocationally oriented school leaving exams or obtain a higher education entrance allowance, this distinction was omitted due to its expected complexity in the eyes of students. In Austria, the Austrian term for A-levels (Ger. *Matura*) presumably is well known also among younger generations.

#### *7.3.4.2 The Type of Instruction*

Secondly, the LEQ also targeted three areas to be responded to by means of Likert scales: The participants' perception of (1) the frequency at which particular activities are performed in class (A1–A9); (2) impacting factors in the construction of grammar knowledge (FG1–4); and (3) the focus applied in instruction, based on the constructs *focus-on-form* vs. *focus-on-formS*

(Long, 1991) (F1–5, FS1–3). These items are listed in Table 7.17, together with the Likert-scale response options and the items' SHORT FORM, which will be used to refer to the items in the reports on data evaluation and findings. No short forms are listed for items F1–5 and FS1–3, because these items were first summarized based on a factor analysis (see 7.5.6.1). While the questionnaire also asked learners to explain what 'grammar' means to them (see 11.9), an analysis of responses would have gone beyond the scope of this thesis. The items were first designed in German and subsequently translated into Swedish by a native speaker of Swedish with a high, near-native proficiency in German. To avoid translation bias (see Thompson & Dooley, 2019), the two sets of items were in turn scrutinized for semantic ambiguity with the help of a Swedish professor of English didactics. The LEQ was piloted in its earlier versions in three cycles on 13- to 17-year-old Austrian students from Academic High Schools and a New Secondary School ( $N = 184$ ). Due to inconclusive factor analysis results and infelicitous item wordings, major revisions were carried out in turn, with items being deleted, added, and modified.

*Table 7.17 The instruction items featured in the Learning Experiences Questionnaire*

Items in short and full form	Likert scale
<b>A1</b> GRAMMAR PRACTICE We practice grammar (e.g., reformulating sentences, completing clozes, correcting texts).	<i>(almost) never, a few times a year, a few times a semester, a few times a month, (almost) every English class</i>
<b>A2</b> READING We read (e.g., books, texts from the course book, texts from the internet).	
<b>A3</b> WATCHING We watch something (e.g., video clips, films, documentaries, theater plays).	
<b>A4</b> LISTENING We listen to something (e.g., listening tasks, radio emissions, songs, podcasts).	
<b>A5</b> GRAMMAR RULES We speak about or revise grammar rules.	
<b>A6</b> WRITING We write (e.g., creative texts, formal texts, answering questions).	
<b>A7</b> SPEAKING We speak English (e.g., discussions, role plays, presentations, conversations with the teacher).	
<b>A8</b> VOCABULARY We speak about or write down different words (e.g., defining or explaining words, inserting them in clozes).	
<b>A9</b> Other activities: _____	
<b>FG1</b> EFFECT OF EE ON FEEL I develop a feel for grammar (e.g., endings, tenses) when using English in my spare time.	<i>don't agree at all, rather disagree, neither agree nor disagree, rather agree, fully agree</i>
<b>FG2</b> EFFECT OF EE ON RULES By using English in my spare time, I learn grammar rules, i.e., how English words and phrases are constructed.	
<b>FG3</b> EFFECT OF INSTRUCTION ON RULES English instruction helps me learn English grammar rules.	
<b>FG4</b> EFFECT OF INSTRUCTION ON FEEL I develop a feel for English through instruction.	
<b>F1</b> In our English classes, we talk about grammar when it turns out to be problematic for us.	<i>don't agree at all, rather disagree, neither agree nor disagree, rather agree, fully agree</i>
<b>F2</b> Grammar teaching is a reaction to our mistakes.	
<b>F3</b> Grammar is dealt with on the side rather than as a lesson's main topic.	
<b>F4</b> Grammar is dealt with superficially rather than in depth.	
<b>F5</b> Our teacher focuses in spoken English (e.g., discussions, presentations) mainly on content.	
<b>FS1</b> We work on grammatical features systematically, one after another.	
<b>FS2</b> It's the lessons' goal to study or revise a grammar chapter.	
<b>FS3</b> Our teacher finds it important that we speak grammatically correctly also in spoken English (e.g., discussions, presentations).	

### 7.3.4.3 *Extramural English*

The core of the LEQ was constituted by questions on the frequency of EE use (EE FREQUENCY), weekly hours of EE engagement (WEEKLY EE), and the starting age of regular EE use (EE ONSET)—in each case according to different types of activities (see Table 7.18). The eight main categories used for EE activities included READING, WRITING, LISTENING, SPEAKING, SINGING, WATCHING audio-visuals, GAMING and LISTENING TO MUSIC. Some of these types of activities had subcategories, such as writing by oneself vs. in interaction (see Table 7.19). For each of these activity types, the same pattern of three successive questions was observed (see Table 7.18). Students who did not usually engage in a given activity put this down in (1) and left (2) blank. Other types of EE activities listed in the survey were English language use abroad and contact with friends or family members in English. The entirety of items was largely adopted from a survey designed in Swedish by Bengtsson (forthcoming), who used a similar form in his PhD project on extramural Japanese. For the Austrian sample, the questionnaire was translated into German.

*Table 7.18 The three successive EE questions featured in the Learning Experiences Questionnaire*

<b>(1) EE FREQUENCY</b>	<b>Do you usually [read, write, etc.] in English in your spare time?</b>	Likert scale: (almost) never, a few times a year, once or a few times a month, once or a few times a week, (almost) daily
<b>(2) In case you [read, write, etc.] in English in your spare time...</b>		
i. WEEKLY EE	<i>For how many years/months have been you [reading, writing, etc.] regularly in English?</i>	Text entry: __ years, __ months

ii. EE ONSET	<i>For how long did you [read, write, etc.] last week in English in your spare time?</i>	Text entry: __ hours, __ minutes
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*Table 7.19 The EE activity types and subtypes featured in the Learning Experiences Questionnaire*

Item short form	Options in (2)ii.	Examples
READING	A) Comics/texts in which mainly pictures tell the story	<i>Manga, comics, memes, etc.</i>
	B) Texts in which mainly the text tells the story	<i>Books, new articles, Wikipedia, emails, texts on Instagram, etc.</i>
WRITING	A) With someone	<i>Chat, WhatsApp, email, etc.</i>
	B) By yourself	<i>Diary, stories, etc.</i>
LISTENING TO MUSIC	/	
LISTENING (excl. music)	/	<i>Podcasts, radio, audio books, etc.</i>
SPEAKING	A) In person with someone you meet	
	B) By yourself	<i>Presentations, speaking to oneself, etc.</i>
	C) With someone on remotely	<i>Phone, Skype, Facetime, etc.</i>
SINGING	/	
WATCHING	A) With English subtitles	<i>Series, movies, videos, etc.</i>
	B) With subtitles in another language	
	C) Without subtitles	
GAMING	A) By yourself	<i>As a single-player in mobile apps/on the computer, online without any contact with other gamers, etc.</i>
	B) With others	<i>In multiplayer online games, etc.</i>

For questions concerning the reliability and validity of the EE survey, as well as illustrations of the linguistic and non-linguistic modalities involved in the eight activity types, the interested reader is referred to the dissertation by Bengtsson (forthcoming).

## 7.4 Data Collection

When collecting data in a school context, situational and institutional factors—such as the limited classroom time available, an inflexible timetable, a shortage of classrooms, and unforeseen teacher and student absences—inevitably need to be considered. A balance had to be struck between feigning a laboratory setting to strive for absolute test reliability on the one hand, and data collection dictated by external factors on the other hand. Another difficulty encountered in test administration were apparent cross-national differences in attitudes towards participation and testing. For example, in Sweden, grading starts only in grade 6, at age 12–13 (SNAE, 2021d), compared to grade 2 and age 7–8 in Austria. Additionally, in PISA 2015, 61.1% of 15-year-olds in Sweden reported feeling anxious about school tests even when well prepared<sup>19</sup>, compared to 50.8% in Austria (OECD, n.d.-a). Given such data, it might be that Austrian students have a tendency towards being more acquainted with and less anxious about testing situations. Aspects like these are inevitable shortcomings of cross-national comparisons and need to be borne in mind. In what follows, the processes of participant recruitment and test administration will be described and participant samples characterized.

### 7.4.1 *Recruitment*

All participants attended or worked in public schools situated in small towns of 6.200 to 25.000 inhabitants. A total of 227 participants, composed of 110 students and 5 teachers in Austria and 103 students and 9 teachers in Sweden, took part in the study. These numbers do not include participants who were excluded from the data set and disregarded in the analysis (see 7.4.3.1). While Sweden has a comprehensive school system, for the Austrian sample students from both lower secondary school types were recruited, 66 attending Academic Lower High School (henceforth AHS; schools A, B) and 44 attending Middle School (henceforth AMS; schools C, D). This distribution is not ideal given that in Austria, more students attend Middle School rather than Academic High School (e.g., 171:100 in 2018/19, Statistics Austria, 2019). However, due to Covid, a scheduled data collection at an Austrian Middle School had to be cancelled. In order to account for this imbalance, most parts of the data analysis—notably ones on the type of instruction—include a separate analysis by school type. Concerning the intactness of classes that were recruited, they were quasi-intact in Austria. Contrarily, in Sweden, only a minority of students in each class was willing to participate, resulting in low participation rates (PR) except for class G1. Both student test anxiety and the level of teacher

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<sup>19</sup> These students agreed or strongly agreed with the statement “even if I am well prepared for a test, I feel very anxious” (OECD, n.d.-a).

engagement in the project likely determined the rate of participation. For an overview of the number of participants per school and class considered in the study, see Table 7.20.

The project, including all instrument outlines except for the TGJTs and the C-TEST and the German letters of information and consent, underwent ethical vetting at the ethics board of the University of Vienna in October 2018. Since the TGJTs and the C-TEST were designed just before the beginning of data collection, there was not enough time for them to undergo ethical vetting. This is not deemed problematic because these tests do not ask for voice recordings or the like. Schools were recruited via existing personal contacts to teachers, an Austrian education directorate, and a Facebook group for English teachers in Sweden. The study was approved by the schools' principals, and, in the case of Austria, the respective education directorates<sup>20</sup>. In some schools, principals invited specific teachers and their classes to participate; in others, the researcher directly approached teachers to ask whether they would be willing to be part of this study. A German/Swedish letter of consent was distributed to all students of a given class as well as to the teacher. A prototype of the German and Swedish information letters each<sup>21</sup> and an English translation are given in 11.1. Caretakers, students and teachers actively had to give consent to take part in the study prior to testing. Participation was voluntary and the collected data pseudonymized.

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<sup>20</sup> Education directorates had to approve of the study only in Austria but not in Sweden, as clarified in personal communication with the Swedish National Agency of Education (*Swe.: Skolverket*).

<sup>21</sup> The letters of consent distributed to participants in the different schools deviated slightly from one another. This was due to institutional differences such as time restrictions, and the researcher's increasing experience with how much time is required for test administration and how best to clarify the procedures to students and parents.

*Table 7.20 School, class, and teacher ID, number of participants, and the participation rate (PR) of intact classes*

	School	n	Class	n	PR (%)	Teacher		
<b>Austria</b> <i>N = 110</i>	AHS	A	A1	15	93.8	Julia		
			A2	16	100	Elena		
		B	B1	18	78.3	Andrea		
			B2	17	72.7			
	AMS	C	C	24	100	Barbara		
		D	D	20	95.2	Veronika		
		E	E1	4	25	Magnus		
			E2	6	30			
<b>Sweden</b> <i>N = 103</i>			E3	3	13	Christine		
			E4	10	52.6	Pia		
F	17	F	15	60	Emma			
		G1	16	76.2	Sara			
G	38	G2	11	45.8	Eva			
		G3	8	32	Karin			
H	19	H1	14	51.9	Pernilla			
		H2	4	/	Kerstin			

#### 7.4.2 Test Administration

Data collection was stretched out over three months in total and took place in November–December 2019 and May 2020 in Sweden and in February 2020 in Austria. On average, a number of 19 and 25.5 students could be tested within a week in Sweden and Austria respectively. Data collection was administered on-site by the researcher, in the participants' respective school. An exception to this was school H, of which students took part only in the written part of the study (LEQ, C-TEST, TJGT, UGJT, MKT<sup>22</sup>) and did so online using [www.soscisurvey.de](http://www.soscisurvey.de), under supervision of the respective English teacher. In this school, the teacher questionnaire was only filled out by teacher H1, and no teacher interview was carried out.

The participants were informed about the precise objective of the study only after having been tested, lest they focus on grammar even under the more meaning-based condition of the ONT and EIT. Likewise, attention was paid to ensure that more content-focused tasks were performed first, with the default sequence being (1) ONT and EIT, (2) TGJTs and C-TEST, and (3)

<sup>22</sup> To remind the reader, LEQ stands for Learning Experiences Questionnaire, TJGT for Timed Grammaticality Judgment Test, UGJT for Untimed Grammaticality Judgment Test, and MKT for Metalinguistic Knowledge Test.

UGJT and MKT. However, in the case of classes A2 and B1 (see Table 7.20), step (3) proceeded step (2) because the latter required access to a PC-lab that was not always a given. The LEQ was conducted whenever the school timetable allowed.

In order to be able to group a participant's performance on the different measuring instruments as a unit, students were assigned a personal, pseudonymized ID-code. In each test or questionnaire, participants had to indicate a code constituted of (1) the second and third letter in their first name, (2) the last letter in their mother's first name, and (3) their month of birth (see Figure 7.4). To exemplify this, a participant named Alexandra, her mother named Itha, and her month of birth being June would have been attributed the code *LEA06*.

- My code:**
- 2nd and 3rd letter of your first name
  - the last letter of your mum's first name
  - birth month (for example 03 for March)

Figure 7.4 The ID-code box in the Learning Experiences Questionnaire

To allow a grouping of participants according to school and class, schools were assigned a letter and classes and teachers a number, both in consecutive order according to when data collection took place. *A2\_LEA06* would thus be the full ID-code of Alexandra if she attended the first school (A) and second class (2) visited during data collection in Austria. The school and class codes were not indicated by the participants but added by the researcher.

Given that the ONT and EIT required thorough explaining and guidance, they were administered in two-on-one sessions with two students and the researcher. This took place in a separate room during ongoing lessons. This was also necessary to provide a quiet environment and prevent students from eavesdropping on others taking the same test simultaneously. First, the EIT was explained to both participants and the three practice examples were performed together with the researcher. In turn, one student started performing the EIT, while the other was briefly introduced to the ONT before beginning with it as well. After about 20 min., when both students finished the respective task, they changed seats and performed the second test. The entire process took 40 minutes per student pair. Given room shortage, the set-up for the oral tasks ranged from the two students finding themselves six meters apart (school D), with the test administrator sitting in the middle, to the three of them sharing a desk of about 80 cm<sup>2</sup> (school F). Certainly, the distraction created by the other student's utterances and the (close) presence of the test administrator must not go unnoticed.

The TGJTs and the C-TEST, which took about 15 minutes and 20 minutes respectively, were carried out class-wise in a PC-lab (Austria) or on the students' personal laptops (Sweden). The MKT, UGJT, and LEQ generally were carried out as pen-and-paper tests for practicality reasons, given that Austrian participants did not have a personal laptop at school and flexible access to PC-labs is not a matter-of-course.

### 7.4.3 Participants

#### 7.4.3.1 The Student Sample

**Gender and Age.** In Austria, 66.4% of the test takers were girls, compared to 51% among the Swedish participants. On average, students in Sweden were 0.45 years younger than learners in the Austrian sample, with a mean age of 13.60 and 14.05 years respectively (see Table 7.21). This is due to the fact that students in Sweden enrol in grade 7 at a slightly younger age (but not by an entire year) than Austrian students in grade 8 (see 6.1.1).

Table 7.21 Gender and mean age in the two samples

	School	Girls	Boys	other/NA	Age, mean	Age, SD
Austria	A	18	13	-	14.00	0.51
	B	26	8	1	14.02	0.37
	C	17	7	-	14.05	0.36
	D	12	8	-	14.16	0.50
Total (%)		73 (66.4)	36 (32.7)	1 (0.9)	14.05	0.44
Sweden	E	9	13	7	13.40	0.27
	F	10	5	2	13.49	0.45
	G	21	13	4	13.61	0.38
	H	11	7	1	13.93	0.47
Total (%)		51 (49.5)	38 (36.9)	14 (13.6)	13.60	0.42

**Years of Residence and Dyslexia.** In order to ensure that all participants experienced primary education at least partly in Sweden or Austria respectively, students who arrived five years prior to testing or later were excluded from the sample ( $n = 6$ , Sweden). Students who were raised with English as a first language were also excluded ( $n = 2$ , Sweden). The remainder of participants born elsewhere indicated 5.8–15.6 years of residency, constituting 1.8% of participants in Austria (Hungary, Romania) and 10.7% in Sweden (France, Greece, Iran,

China, Kosovo, Norway, Poland, Russia, Syria). While 8.2% of test takers in Austria indicated to speak languages other than German outside school (Albanian, Croatian, French, Hungarian, Italian, Korean, Polish, Romanian, Russian, Serbian, Slovakian, Slovene), the percentage is higher among students in Sweden, 18.4% (Albanian, Arabic, Danish, Finnish, Turkish, German, Greek, Kurdish, Norwegian, Palestinian, Persian, Polish, Russian, Spanish). Similarly, although negligible for both contexts, dyslexia seems to occur less frequently in the Austrian sample, 1.8%, than in the Swedish sample, 4.9%. This, however, might be due to less testing and thus fewer diagnoses in Austria. For raw numbers (*n*) and the number of cases where the information could not be obtained (NA), see Table 7.22.

*Table 7.22 Migratory background, L1, and dyslexia in the two samples*

	School	Born elsewhere		Other L1		Dyslexic	
		<i>n</i>	NA	<i>n</i>	NA	<i>n</i>	NA
Austria	A	1	-	4	-	-	3
	B	-	1	4	1	1	6
	C	-	-	-	-	1	1
	D	1	-	1	-	-	3
<b>Total (%)</b>		<b>2 (1.8)</b>	<b>1 (0.9)</b>	<b>9 (8.2)</b>	-	<b>2 (1.8)</b>	<b>13 (11.8)</b>
Sweden	E	3	6	5	8	3	12
	F	1	2	1	2	2	5
	G	5	3	10	3	-	10
	H	2	1	3	1	-	2
<b>Total (%)</b>		<b>11 (10.7)</b>	<b>12 (11.7)</b>	<b>19 (18.4)</b>	<b>14 (13.6)</b>	<b>5 (4.9)</b>	<b>29 (28.2)</b>

**Socioeconomic Status.** The assessment of the learners' socioeconomic status warrants special attention. Here, responses to the Learning Experiences Questionnaire items eliciting educational level and parental occupation proved instrumental. As to the highest educational level attained by parents, the categories to which students could respond were classified according to the International Standard Classification of Education (henceforth ISCED) (United Nations Educational, Scientific and Cultural Organization (UNESCO) Institute for Statistics, 2012). As explained in 7.3.4.1, upper secondary school, i.e., ISCED level 3, was further divided into vocational training and schools with A-levels for Austria but corresponded to a single category, Upper Secondary School, for Swedish test takers. Ten participants from Austria and 38 participants from Sweden did not provide information on their parents' educational background. Results of the remainder of students yielded that the most frequent highest educational level indicated by the Austrian participants were A-levels, 38.2%, and tertiary

education in the Swedish sample, 52.4% (see Table 7.23). This finding is likely to have been distorted by student rather than parental report and a high rate of missing responses.

*Table 7.23 Student-reported parental educational level*

<b>ISCED level<sup>1</sup></b>	<b>Austria</b>					<b>Sweden</b>				
	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>Total (%)</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>	<b>Total (%)</b>
None	-	-	-	-	-	-	-	-	-	-
ISCED level 2	-	-	-	1	<b>1 (0.9)</b>	-	-	-	-	-
ISCED level 3V	10	9	6	8	<b>33 (30)</b>	2	2	6	1	<b>11 (10.7)</b>
ISCED level 3G	12	12	13	5	<b>42 (38.2)</b>					
ISCED level 6-8	8	10	4	2	<b>24 (21.8)</b>	15	10	18	11	<b>54 (52.4)</b>
NA	1	4	1	4	<b>10 (9.1)</b>	12	5	14	7	<b>38 (36.9)</b>

**Notes.** ISCED levels correspond to:

None: not completed any specific level of education

Level 2: compulsory education

Level 3 (Sweden): secondary school

Level 3V (Austria): school for intermediate vocational education, vocational school for apprentices

Level 3G (Austria): academic upper secondary school with A-levels

Level 6-8: tertiary education

The results on the learners' educational background nevertheless somewhat coincide with the second component indicating socioeconomic status, the family's occupational status. The parental professions indicated by students were calibrated against the International Socio-Economic Index of Occupational Status (henceforth ISEI) (Ganzeboom et al., 1992; Ganzeboom, 2010). The ISEI scale allowed a classification of professions and the attribution of a score representing social status with the help of a list of 345 occupation categories of the International Standard Classification of Occupations (International Labour Office [ILO], 2008; Treiman, 1977). The resulting score increases for occupations requiring a higher education and yielding a larger income. The scale ranges from 10 for kitchen assistants to 88.96 for judges, but it does not include homemaker or unemployment (Ganzeboom et al., 1992). The latter categories hence had to be treated as missing responses. As done in high-stakes educational attainment studies such as PISA (OECD, 2019), the highest parental score per participant (henceforth HISEI) was used as an indicator of socioeconomic status. The HISEI of test takers who noted down the occupation of at least one parent was found to be on average 51.00 among Austrian and 56.30 among Swedish participants (see Table 7.24), suggesting a slightly higher socioeconomic status of learners from the Nordic country. These scores somewhat mimic the socioeconomic status computed for the nearly 7000 and 5500 15- to 16-year-old students in Austria and Sweden respectively who were tested in the 2018 PISA evaluation

(Suchań et al., 2019; SNAE, 2019b): While the Austrian sample yielded a HISEI of 50.8, the value was at 59.5 for Sweden (Reiss et al., 2019).

*Table 7.24 The HISEI according to the student-reported parental occupation*

	School	Mean	Med	SD	Min	Max	NA (%)
Austria	A	52.36	48.00	15.16	28.00	85.00	3 (9.7)
	B	55.58	54.00	13.44	26.00	85.00	4 (11.4)
	Total	54.05	54.00	14.25	26.00	85.00	7 (10.6)
AMS	C	52.17	53.00	13.00	26.00	71.00	0 (0)
	D	37.13	37.00	10.20	22.00	58.00	5 (25)
	Total	46.38	46.00	13.99	22.00	71.00	5 (11.4)
Sweden	Total	51.00	48.00	14.57	22.00	85.00	12 (10.9)
	E	56.95	54.00	15.11	32.00	88.00	10 (34.5)
	F	63.25	66.00	15.27	40.00	88.00	5 (29.4)
	G	54.81	54.00	13.61	36.00	84.00	7 (18.4)
	H	53.41	48.00	12.60	42.00	88.00	2 (10.5)
	Total	56.30	54.00	14.13	32.00	88.00	24 (23.3)

**Notes.** AHS refers to Austrian Academic High School and AMS to Austrian Middle School. NA refers to data that is not available.

**English Proficiency.** In order to be able to compare the two samples with respect to their general proficiency in English, participants completed a C-TEST (see 7.3.2). The C-TEST yielded a Cronbach's alpha of .96 for the Swedish sample and .92 for the Austrian sample. Swedish participants scored significantly lower than Austrian participants,  $t(175) = -7.54, p < .001$ , 95% of the mean difference CI[-0.20, -0.12] (see Table 7.25). This was true for both Austrian school types, Academic High School,  $t(133) = -7.83, p < .001$ , 95% CI[-0.23, -0.14] and Middle School,  $t(114) = -4.33, p < .001$ , 95% CI[-0.18, -0.07]. The two Austrian samples also seemed to differ significantly in that Academic High School students achieved higher results,  $t(101) = 2.53, p = .01$ , 95% CI[0.01, 0.12]. This coincides with national reports indicating that Academic High School students outperform Middle School students in English (e.g. FIERID, 2020) (see 6.1.1).

*Table 7.25 C-test scores of the Austrian and Swedish sample*

	<b>School</b>	<b>Mean</b>	<b>Med</b>	<b>SD</b>	<b>Min</b>	<b>Max</b>	<b>n NA (%)</b>
Austria	A	0.40	0.40	0.13	0.18	0.63	4 (12.9)
	B	0.44	0.45	0.11	0.20	0.68	1 (2.9)
	Total	<b>0.42</b>	<b>0.43</b>	<b>0.12</b>	<b>0.18</b>	<b>0.68</b>	<b>5 (7.6)</b>
AMS	C	0.42	0.42	0.10	0.26	0.63	0 (0)
	D	0.27	0.28	0.13	0.00	0.64	2 (10)
	Total	<b>0.35</b>	<b>0.34</b>	<b>0.14</b>	<b>0.00</b>	<b>0.64</b>	<b>2 (4.5)</b>
	Total	<b>0.39</b>	<b>0.40</b>	<b>0.13</b>	<b>0.00</b>	<b>0.68</b>	<b>7 (6.4)</b>
Sweden	E	0.24	0.25	0.10	0.09	0.45	7 (24.1)
	F	0.22	0.21	0.15	0.01	0.50	0 (0)
	G	0.23	0.20	0.17	0.03	0.67	8 (21.1)
	H	0.27	0.32	0.24	0.02	0.57	14 (73.7)
	Total	<b>0.23</b>	<b>0.22</b>	<b>0.15</b>	<b>0.01</b>	<b>0.67</b>	<b>29 (28.8)</b>

To estimate how participants fare in English relatively to other learners that the recruited teachers taught or had taught, the latter were asked to indicate this in the teacher questionnaire. Whereas in Sweden most classes were claimed to be ‘average’, the Austrian sample apparently includes an almost equal group of learners evaluated as ‘above average’, ‘below average’, and ‘average’ (see Table 7.26). Teacher Kerstin did not fill out the teacher questionnaire, which is why information indicated on class H2 is missing.

*Table 7.26 Teacher-reported learner proficiency of classes in English*

	<b>Austria</b>		<b>Sweden</b>	
	<b>n</b>	<b>Classes</b>	<b>n</b>	<b>Classes</b>
<b>Above average</b>	39	A1, C	11	G2
<b>Average</b>	35	B1, B2	63	E3, E4, F, G1, G3, H1
<b>Below average</b>	36	A2, D	12	E1, E2

The participants’ competence in English can also be looked at in comparison to their respective wider population. In Sweden, results of the National Exams in years 6 and 9 are publicly available (SNAE, 2020d). Together with other students from the same age cohort, participants from school F and G attained a score of 14.8 and 14.1 respectively in the year preceding data collection, 2018/2019 (SNAE, 2020d). If these scores are mapped onto the girls:boys ratio (21:13 and 10:5) and the number of participants (34 and 15) from each school F and F in this thesis, this yields a mean score of 14.3. In comparison, the national average score was 14.9

(SNAE, 2020d). These numbers suggest that test takers from school F and G could represent below-average learners. For schools E and H, 2018/19 exam results for grade 6 are not available. In Austria, no school-specific data are available. A report conducted in 2013 (FIERID, 2014) indicates that in the two regions featured in the sample, Carinthia and Lower Austria, the level of English of 8 graders was below ( $M = 501$ ) and above ( $M = 525$ ) the national mean score ( $M = 519$ ) respectively. However, given the small sample size of students from each region, this information is not revelatory here.

#### *7.4.3.2 The Teacher Sample*

Fourteen teachers agreed to take part in the study with their English classes. Thirteen teachers were female, with a mean age of 42.4 and 44.6 years and an average of 19.4 and about 16.3 years of experience in the teaching profession in Austria and Sweden respectively (see Table 7.27). All teachers completed teacher education in the respective country except for two teachers in Sweden who also studied in France and England respectively. Whereas the five teachers in Austria had been teaching the given class for three years and a half, i.e., since grade one of the given school type, the teachers in Sweden had more recently started teaching the study's participants. Besides the subject English, the teachers in Austria also taught Spanish, German, sports, Math, choir and drama, geography, history, and music at the time of testing. In Sweden, five teachers also taught Swedish, one teacher had French and Japanese as additional subjects, and the remainder of participants did not report an additional subject. While the teachers' level of intrinsic motivation to participate in the study cannot be evaluated, it might be worth noting that only Emma reached out to the researcher themselves rather than being invited to do so by a colleague or superior functioning as a contact person.

*Table 7.27 Preliminary information on the teacher participants*

	<b>Teacher-ID</b>	<b>Class</b>	<b>Gender</b>	<b>Age</b>	<b>Years in profession</b>	<b>Years with class</b>
<b>Austria</b>	Julia	A1	f	32	7	~3.5
	Elena	A2	f	28	6	~3.5
	Andrea	B1, B2	f	30	5	~3.5
	Barbara	C	f	62	42	~3.5
	Veronika	D	f	60	37	~3.5
<b>Mean</b>		-	-	<b>42.2</b>	<b>19.4</b>	<b>~3.5</b>
<b>Sweden</b>	Magnus	E1, E2	m	28	1+	~1.3
	Christine	E3	f	35	7.5	~0.3
	Pia	E4	f	55	30	~0.3
	Emma	F	f	50	22	~0.7
	Sara	G1	f	52	20	~0.3
	Eva	G2	f	44	15	~0.3
	Karin	G3	f	42	9	~0.3
	Pernilla	H1	f	51	26	1
	Kerstin	H2	-	NA	NA	NA
	<b>Mean</b>		-	<b>44.6</b>	<b>~16.3</b>	<b>~0.6</b>

## 7.5 Data Preparation and Test Evaluation

This section serves the description of how the raw data collected by the language tests, questionnaires and the interview were prepared, i.e., transcribed, entered, coded, and/or rated, and—in the case of quantitative data—in turn processed to compute scores (for the language tests) or subsumed to produce factors (for the questionnaires). All statistical analyses for data preparation and test evaluation were carried out using SPSS Statistics 26, separately for the two countries. As to the language tests, items were examined for facility and internal consistency. Each test yielded Cronbach's alpha of  $\geq .8$ , suggesting high reliability (Pallant, 2010), apart from the MKT in the case of the Swedish sample (.60). Regarding the student and teacher questionnaires, items belonging to one constructs were also assessed for reliability and, where suitable, summed up through factor analyses.

### 7.5.1 The Oral Narrative Test (ONT)

#### 7.5.1.1 Data Preparation and Preliminary Considerations

The student performances on the ONT were transcribed in MAXQDA 2020 under application of the transcription conventions put forward by the Vienna Oxford International Corpus of English (VOICE Project, 2007) (see 11.3.2). However, breaks, pronunciation variations, etc. were noted down systematically only for target features. This was done by a graduate of the English and American Studies teaching program at the University of Vienna. The transcribed performances were rated using the same software, and correct and incorrect realizations of the target features were coded with a range of variables explained in the following two sections.

In some previous studies (e.g. R. Ellis et al., 2006; Erlam, 2006), self-correction was not included in the evaluation of the oral production test since it may reflect reliance on explicit knowledge. Self-correction certainly can be an expression of students accessing explicit, unautomatized knowledge. However, pausing, too, can allow participants to access this type of knowledge (i.e., covert self-repair), but it would not be feasible to exclude all target feature occurrences that follow a pause of a specific length. Moreover, in the present study, self-correction very frequently followed *fragmented* first takes, and not considering their retakes would have left me with too few obligatory occasions that could be rated. In Austrian Middle School, this would have resulted in the computation of an ONT score for only 24 out of 40 students. Therefore, in the present study, retakes were considered.

In order to calculate a percentage score including retakes, specific variables in addition to ones for correct and incorrect first takes and retakes had to be created. If the take and retake were correct, the retake was coded as *corr+corr*. If the take and retake were incorrect, the retake was coded *incorr+incor*. If the retake was identical with the first take, the retake was disregarded in the analysis. If a retake was preceded by a first take that could not be coded, the retake was coded as *only.retake*, in addition to its coding as, for instance, correct retake of regular past, *RP\_1\_ret*. This scenario applies to cases where a retake was preceded by a fragmented (e.g., they *en-* they really enjoy), unintelligible (e.g., they *<un> xx </un>* they really enjoy), or non-targeted (e.g., irregular past) first take. The few cases of third takes were also coded as retakes and *only.retakes*. Why exactly these additional codes were needed is clarified in 7.5.1.3, serving the explanation of the formula used to calculate the total ONT score.

The entirety of codes used in MAXQDA can be categorized as (1) affirmatives and aspect<sup>23</sup>, (2) negation, (3) interrogatives, and (4) adverbs. These categories will be clarified in the subsequent sections, containing tables that provide an overview of the codes used. Codes that might seem to be missing in a table (e.g., correct or incorrect retakes, ‘only retakes’ or *corr+corr/incorr+incor* of a given category) were not needed because no such instances were found in the student performances.

### 7.5.1.2 *The Four Target Structure Categories*

**Affirmatives and Aspect.** The group of affirmatives essentially integrates third person -s and regular past (see Table 7.28). However, other codes had to be used as well. A great number of verbs, produced in non-finite form, could not be classified as either incorrect third person -s (TS) or incorrect regular past (RP) in the rating. A separate category was therefore created for incorrect, non-finite verb forms, *0\_base\_reg*. Irregular non-finite verbs were not considered in the evaluation, because correct irregular past was not evaluated either, given that irregular past does not form part of the study. Retakes of regular verbs with first takes in irregular past were coded as *only.retakes*.

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<sup>23</sup> For an explanation why these target features were grouped as one, see 7.5.1.2.

Table 7.28 Codes used for the evaluation of affirmatives

Target features	Codes	Examples
Affirmatives	<b>Third person -s</b>	1_TS(_ret) 0_TS(_ret)
	<b>Regular past</b>	1_RP(_ret)
	<b>Non-finite and unidentified forms</b>	0_base_reg(_ret) 0_TS/RP_unID
	<b>Additionals</b>	0_affirm_corr+corr 1_affirm_incorr+incorr 1_only.retake 0_only.retake
	She works, she walks I wants the footsteps stop (.) stops	Mia worked Alice ha- Alice wondered
	Mia (.) work late while she she walk <i>realizedes</i> <i>followeds</i>	Mia (.) work late while she she walk
	Mia worked (.) works They enjoy (.) enjoyed	He run [...] and hide hiding
	would marry wants marry she (.) rea- realized	would marry wants marry she (.) rea- realized
	Luke hat- hate Someone fo- following	Luke hat- hate Someone fo- following

**Note.** Codes starting with 1\_ were used to rate correct occurrences, and codes starting with 0\_ relate to incorrect occurrences.

To rate aspect, as a first step, a guideline (see 11.3.2) on which occurrences in the script are obligatory occasions of simple or continuous aspect was created with the help of an L1 BE and two L1 AmE speakers. Occasions where both options were possible were not considered in the analysis. Due to the fact that student performances deviated from the script in terms of lexis and morphosyntax, the guideline did not always suffice to predict if the student utterance was correct (with the opposite choice being incorrect). Therefore, the L1 BE speaker, who was also an English grammar tutor at the University of Vienna, rated the performances based on the guidelines as well as his native speaker intuition. Even though in most cases the L1 speaker showed a clear preference for one or the other aspect, in many cases it was delicate to determine whether the less preferred option was still acceptable. Overall, a lenient approach was adopted. Simple vs. continuous aspect were coded according to whether the correct (1\_smpl, 1\_cont) or incorrect (0\_smpl, 0\_cont) aspect was used and whether it was a retake (see Table 7.29). Both present and past continuous were rated. Realization errors of continuous could not be identified as correct or incorrect aspect (0\_cont/smpl\_unID) and were rated as incorrect aspect by default. Otherwise, only finite verbs clearly classifiable as present tense or past tense were considered in the analysis of aspect<sup>24</sup>. After the coding was carried out by

<sup>24</sup> Negated and interrogative forms, non-finite verbs, and unidentifiable forms were not considered. Likewise, ungrammatical collocations that could not be attributed to a corresponding grammatical expression (e.g., \*they make a holiday) were not classifiable as correct or incorrect aspect.

the L1 speaker, *only.retakes*, i.e., retakes preceded by a fragment or a verb that was not considered in the coding of aspect (see above), were coded.

*Table 7.29 Codings used for the evaluation of aspect*

Target features	Codes	Examples
<b>Present simple vs. continuous</b>	<b>Simple aspect</b> 1_smpl(_ret)	She <i>works</i> in a office. if she want (.) <i>wants</i> some drinks
	0_smpl(_ret)	She's <i>saying</i> [...] realize- she <i>is realizing</i>
	1_cont(_ret)	While she's <i>running</i> While she <i>was</i> <i>is walking</i>
	0_cont(_ret)	already midnight and she <i>works</i> while she we- she <i>walks</i> home
<b>Unidentified forms</b>	0_cont/smpl_unID(_ret)	Mia (.) still (.) <i>working</i> She ru- she <i>is run</i> they <i>were arrive</i>
<b>Additionals</b>	1_aspect_only.ret 0_aspect_only.ret	realize- she <i>is realizing</i>

**Note.** Codes starting with 1\_ were used to rate correct occurrences, and codes starting with 0\_ relate to incorrect occurrences.

Affirmatives and aspect were grouped as one variable given several overlaps in the codings. For instance, correct continuous form and present simple plural were considered only in terms of aspect but not in terms of affirmatives. Conversely, in the category of affirmatives, base forms—that could have been intended as continuous forms—and incorrect present simple plural (*TS\_0*) were considered and rated. The reason why continuous form and plural present simple were not rated in both affirmatives and aspect is that they are not target features in the same way as third person -s and regular past, which were looked at in terms of correct formation *and* aspect. If correct forms of continuous and present simple plural had also been considered in the category of affirmatives, student scores obtained on the ONT would have been even higher and resulted in a ceiling effect.

**Negation.** The category of negation essentially included negated *did* (*ND*) and *0\_neg\_base* for non-finite negation (see Table 7.30). Since base forms could be failed productions of negated *do/does* in present tense, correct versions of the latter were considered as well, and so were category errors (i.e., use of present/past perfect tense instead of past tense). Where applicable, negation was also coded in terms of *only.retakes*, of which cases of negated *did* and non-finite negation were found. Retakes preceded by a first take other than interrogative or negative form—and other than fragments, non-target features, or unintelligible speech—were

coded as *1\_ND\_ret\_take=other* in order to be able to analyze these two forms separately from the other target features. *Neg\_corr+corr* and *neg\_incorr+incorr* only include first takes of the category of negation. Instances of negated interrogative were only coded as interrogative but not as negation. This was an arbitrary decision that had to be made in order not to code instances of interrogatives or negation twice.

*Table 7.30 Codes used for the evaluation of negation*

Target features	Codes	Examples
Negation	<b>Negated did</b>	she <i>didn't think</i> she don't need <i>didn't need</i>
	0_ND(_ret)	They <i>loved not</i> Why (.) didn't realized why <i>don't realized</i>
	<b>Non-finite negation</b>	why this <i>not come</i> she couldn't (.) she <i>don't need</i>
	<b>Additionals</b>	She did- she <i>didn't need</i>
	0_neg_only.ret	they had <i>had not same</i>
	1_ND_ret_take=other	looked (.) both <i>didn't look</i>
	1_neg_corr+corr	didn't need to look <i>didn't like to</i>
	0_neg_incorr+incorr	<i>didn't realized why don't realized</i>

**Note.** Codes starting with *1\_* were used to rate correct occurrences, and codes starting with *0\_* relate to incorrect occurrences.

**Interrogative.** This third category of target features took into account questions in past tense (*QD*), present tense (*1\_interr\_present*), and non-finite form (*0\_interrog\_base*) (see Table 7.31). The variables *interr\_only.retake* feature *only.retakes* of different forms of interrogatives. There were no retakes of first takes that did not belong to the category of interrogatives.

Table 7.31 Codes used for the evaluation of interrogatives

Target features	Codes	Examples
Interrogatives	<b>Interrogative <i>did</i></b>	Why <i>didn't she think</i> Loved <i>did they love</i>
	0_QD(_ret)	Why <i>didn't she realized</i> why she did why <i>didn't she noticed</i>
	<b>Interrogative <i>do/es</i></b>	<i>Does she need</i> Do she- (.) <i>does she really need</i>
	<b>Non-finite interrogative</b>	<i>Do she really need to marry</i> They do they <i>do she need marry</i>
	<b>Additionals</b>	why did not why <i>didn't I think</i>
	0_interr_only.retake	They do they <i>do she need marry</i>

**Note.** Codes starting with 1\_ were used to rate correct occurrences, and codes starting with 0\_ relate to incorrect occurrences.

**Adverbs.** Lastly, although both adverbs and adjectives were coded in the student performances, adjectives were eventually excluded from the analysis due to extremely rare learner mistakes and little variation across participants. Likewise, the word *really* occurred 380 times as such in the performances and was thus excluded in the analysis. Adverbs were rated as *AV* and retakes as *AV\_only.retakes* if the first take was fragmented or belonged to a different category (see Table 7.32). As pointed out in section 7.3.1.1, only adverbs formed by adding the -ly ending to the related adjective were considered. For the main analysis, rating was undertaken according to the prescriptive rule of adverbs requiring the -ly suffix. An additional code for cases of 0\_AV that can be evaluated as correct in informal language use, 1\_AV\_inf was employed (see reference to flat adverbs in 7.2.2.4; Balteiro, 2007; Tieken-Boon Oostade, 2015). Such occurrences were identified with the help of a British L1 speaker and a poll featuring all types of 0\_AV tokens published in a Facebook group of North Americans in Austria. 32 group participants took part in the poll, and the six verb-adverb collocations that were voted acceptable by 9–32 participants are *runs slow*, *runs quick*, *is running quick*, *turned around slow*, *go slow*, *awful sad*. Only 14 cases fell into the category of 1\_AV\_inf.

Table 7.32 Codes used for the evaluation of adverbs

Target features	Codes	Examples
Adverbs	1_AV(_ret)	she <i>totally</i> fell in love was terrible <i>terribly</i> sad
	0_AV(_ret)	<i>terrible</i> sad she sadly <i>sad</i> realize
	1_AV_inf	<i>to run slow</i> , <i>to run quick</i> , <i>to be running quick</i> , <i>to turn around slow</i> , <i>to go slow</i> , <i>awful sad</i>
Additionals	1_AV_only.ret	was terri- <i>terribly</i> sad
	0_AV_only.ret	sa- (.) she <i>sad</i> realize

**Note.** Codes starting with 1\_ were used to rate correct occurrences, and codes starting with 0\_ relate to incorrect occurrences.

### 7.5.1.3 The ONT Score: Computation and Reliability

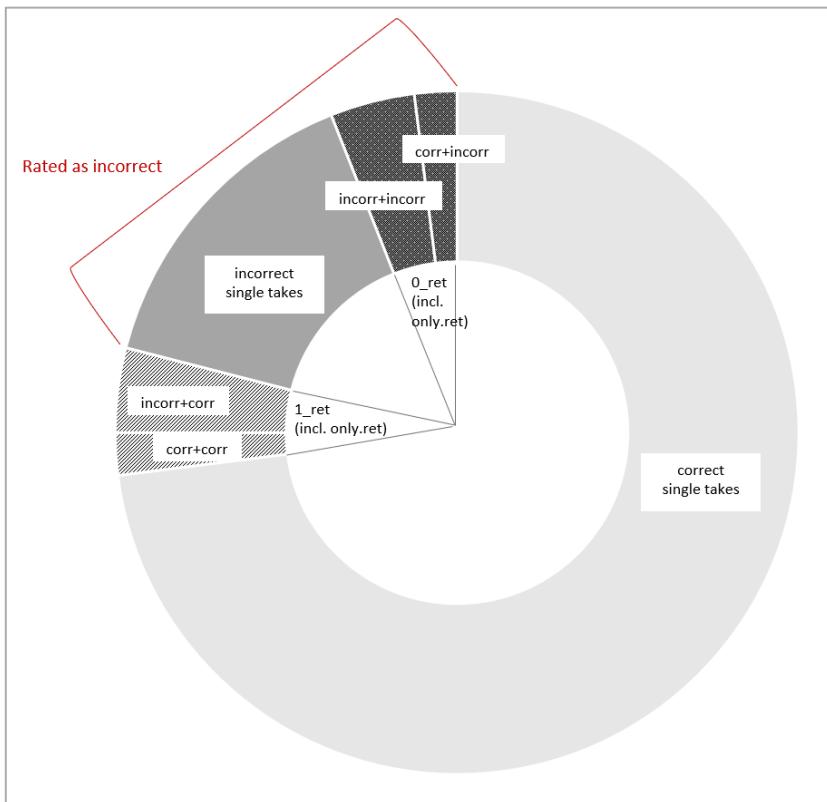
**Score Computation.** For each of the four variables presented above, a score was computed. To calculate these scores taking into account retakes, the sum of correct instances was divided by the total number of cases (see Figure 7.5). In the numerator, i.e., the upper part of the fraction, the content of the first bracket allowed to compute the number of cases in which a correct production was followed by an incorrect production (*corr.incorr*). These cases needed to be deducted from correct first takes (1\_). The second bracket computed the number of cases of (1) correct 'only retakes' (1\_only.ret) and of (2) an incorrect production being followed by a correct production (*incorr.corr*). These cases had to be supplemented to correct first takes (1\_). In the denominator i.e., the lower part of the fraction, the total number of correct and incorrect productions was computed. This was done by adding correct first takes (1\_) to incorrect first takes (0\_) and to all 'only retakes'. Retakes did not have to be added separately because if these were 'only retakes', they already appeared in the code *only.ret*; if these were retakes of first takes, they already featured in the codes for correct first take (1\_) and incorrect first take (0\_). To better grasp this calculation, the different types of codes and their approximative percentual occurrence<sup>25</sup> of the entirety of codes used are presented in a ring chart in Figure 7.6.

<sup>25</sup> The ring chart presented in slightly deviates from the actual percentual occurrence of each type of code, since 0\_ret and corr+corr would otherwise be too small to be clearly visible. The actual percentual occurrences per code type were the following:

1_	76.8
0_	16.2
0_ret	1.7
1_ret	5.3
corr+corr	0.4
incorr+incorr	4.9

$$\text{Var} = \frac{1_ - (0_{\_ret} - \text{incorr.incorr} - 0_{\_only.ret}) + (1_{\_ret} - \text{corr.corr})}{(1_ + 0_{\_+ only.ret})}$$

*Figure 7.5 The formula used for the computation of the four variable scores*



*Figure 7.6 Ring chart of the different types of codes*

Once the score for each variable was computed, a total percentage score for the ONT was calculated. This percentage score weighted the four variables in a way that affirmative/aspect constituted half of the percentage score and interrogatives, negations, and adverbs one sixth each (see Figure 7.7). Affirmative/aspect weighed a half (or three sixths) since it combines three variables: TS, RP, and aspect. Given the weighting, the ONT score could only be computed for students who produced language corresponding to and could be rated on each of the four target structure categories.

$$\text{ONT} = \text{affirm\&aspect}*(1/2) + \text{interrogative}*(1/6) + \text{negation}*(1/6) + \text{adverbs}*(1/6)$$

*Figure 7.7 The formula used for the computation of the ONT score*

Given the small number of variables constituting the ONT score, i.e., the four target structure categories, calculating Cronbach alpha is not deemed feasible (see Taber, 2018). Instead, the

mean inter-item correlation was computed, which should lie between .15 to .50 to suggest internal reliability (see Briggs & Cheek, 1986; Clark & Watson, 1995; Taber, 2018). This value was 0.22 for Austria ( $N = 71$ ) and 0.41 for Sweden ( $N = 63$ ).

*Table 7.33 Mean and standard deviation of scores achieved per target structure category*

	Affirmatives & aspect	Interrogative	Negation	Adverbs
<b>Austria M, SD</b>	0.81, 0.13	0.87, 0.31	0.74, 0.27	0.69, 0.28
<b>Sweden M, SD</b>	0.73, 0.23	0.88, 0.29	0.80, 0.31	0.77, 0.27

**Two Exemplary Performances.** To better illustrate the relationship between a score attained by a student and their performance, this section provides insight into an exemplary high-scoring (1.00) and low-scoring (0.29) student performance (see Table 7.34). The high-achieving student did not make any mistakes producing the target structures. Tense shift, occurring in story 2 of this performance, never counted towards the score. In the weaker performance, in contrast, the frequent occurrence of non-finite verb forms, -ly drop, incomprehensible speech and fragmented sentences becomes apparent.

*Table 7.34 Two exemplary student performances*

Score	Story 1	Story 2
<b>1.00</b>	Ten years ago a girl named Alice lived by herself in an apartment in New York. One day she walked over to (...) one evening she walked over to a bar next door (...) to meet Luke. They talked (...) and (...) he invited her for a drink. And that was the beginning of their story. But they didn't have the same interests as for example Luke absolutely hated shopping. They did not feel happy with each other. Were they really in love with each other? One day they decided to travel to Italy together. They stay at incredibly beautiful hotel in Rome (...) where they had a really good time and enjoyed (...) themselves. When they arrived back home (...) Alice was so happy. She believed that Luke was the one she (would) wanted to marry. After that she received a phone call only to know that Luke has been cheating on her (with another man). She felt so bad and was terribly sad. Luke did not call her after that. But then she realized she didn't actually miss being with someone. She could travel by herself. And the lesson she learned was: did she really need to marry to be happy?	It's Monday night and Mia is working late. When she had finished her work it was already midnight. When she gotta <un> x </un> the office she sadly realized that the streets were empty. While walking home (...) suddenly she hears footsteps. She slowly turns around (...) only to see that no one was there. She continues walking and she still hears some footsteps. She starts to run. She thinks someone is following her. While running she finds a cemetery. Mia is quickly running and she hides she is hiding. Once she stops the footsteps had gone. She felt extremely scared and was feeling terrible. She realized that there was a shop nearby. She is running fast (...) and enters the store. She tells the worker at the store (...) to help her and that someone is following her and that she could hear footsteps. The man says [...] She asks herself why did I not realize that myself. Mia smiled (...) happi(ly).

Score	Story 1	Story 2
.29	Alive (.) live in apartment (.) with herself (.) in ten years ago. One morning has she go to (.) bar. He meet Luke (.) and he (.) <un> x </un> drink. The beginning, <pvc> that {they} </pvc> had not same interest. Luke hate to shop with Alice. Love each other? This not going to be (-). Look happy (.) don't look happy together. One day the go to the Italy. They stay <pvc> increb {indredible} </pvc> to the beautiful hotel in Rome. They (did) love. One day do (.) do Alice arrive back home happy. I wanted (.) she married him. Phone <pvc> kill {call} </pvc> (-). Luke has a husband. Alice feels bad terrible sad. Luke don't call her. But she (.) begin with someone. But she travel by <pvc> hisself {himself} </pvc>. I need marry to be happy by some.	It's Monday night. Mia has worked alone. She is already to work (.) at midnight. She leave office (.) sad realize (-). But she walk home suddenly hear (.) <un> x x x </un> [...]. Slow turn around. Mia said nothing. Mia has go (.) and go. Still hear (-). She <pvc> hers {hears} <ipa> h3:rs </ipa> </pvc> the foot. Mia start run. [...] She someone follow her. Mia (while/well) run to the cemetery. Quick run. She heard the [...]. He stop. She was at (.) extremely scared and feel terrible. She wants to <pvc> spring {sprint?} </pvc> at the shop. She she (.) run to the shop fast. [...] Why (miss out) why it's not myself. Mia smiles happy.

### 7.5.2 The Elicited Imitation Test (EIT)

The audio files collected by means of the EIT were transcribed based on the same transcription guidelines as for the ONT (see 11.3.2). In addition, if a non-target word at the beginning or the end of the sentence was cut off but could straightforwardly be guessed, this was written down. Hesitation expressed by occurrences such as “need-s” or “nervous-ly” was noted in the transcription but not rated separately or differently from occurrences without such explicit hesitation markers. Like in the ONT and for reasons of consistency, retakes were considered (see 7.5.1.1).

Rating was undertaken systematically based on a frequency analysis of all responses and the subsequent allocation of 0–2 points. While zero points were allocated to responses of erroneous target structure representations, two points was the full score for right answers. One point was allocated for instance for present continuous items produced without *to be* and present simple items in third person singular produced without third person -s. If the target feature was not produced, this was considered as a missing value and thus disregarded. Category errors, e.g., present or past perfect instead of past tense (in combination with a marker such as *last year*), were considered in the rating, as was done in the ONT. If the pronunciation of a target feature was off, e.g., *prepared* instead of *prepared*, this was still rated, in this case as correct regular past. Exemplary responses and their rating can be found in 11.4.2.

19 items (AV1, AV2, AV4, ND1, ND2, ND4, ND6, PC2, PC4, PS1, PS2, QD1, QD2, RP1, RP2, RP3, RP6, TS7) were excluded from the EIT based on low facility of  $\leq .10$  or high facility of  $\geq .90$  and/or a negative or very low item-factor correlation. For the remaining 19 items (AV3, AV5–

6, ND3, ND5, PC1, PC3, PS3–5, QD3–6, RP4–5, TS4–6), the item-factor correlation was mostly  $\geq .30$  (14–15 items<sup>26</sup>), but in some cases .20 (2–3 items) or .10 (two items). Facility was mostly between .30 to .70 (12–13 items) but sometimes at .20 (one item), .80 (3–4 items) and in 1–2 cases at .90. The items showing a low item-factor correlation and/or a facility value were still included in order to have each structure occur at least twice. Cronbach's alpha was at .76 for Austria ( $N = 40$ ) and .85 for Sweden ( $N = 32$ ), suggesting high reliability. The EIT score was computed as a percentage score of correct responses. The few instances where students answered the comprehension questions<sup>27</sup> of the EIT incorrectly were not considered in the computation of scores.

### **7.5.3 *The Timed Grammaticality Judgment Tests (TGJT)***

As mentioned in the description of the design of the TGJTs (see 7.3.1.3), only responses provided by participants within a certain item-specific time frame were considered in the rating. To compute this time frame, 55 native speakers of English performed the test using [www.soscisurvey.de](http://www.soscisurvey.de). They were at the age of 13–60 years ( $M = 26.8$ ,  $SD = 13.8$ ) and had lived in an English-speaking country for 0–51 years ( $M = 20.58$ ,  $SD = 11.4$ ). As a first step, the items were analyzed as to whether their reaction times showed a normal distribution, using Kolmogorov-Smirnov test. If so, the mean was calculated; for non-normally distributed items the median was computed. To this, 20% was added to account for the increased difficulty to perform the test for nonnative speakers (e.g. Godfroid & Kim, 2019). For the items in the WTGJT, this yielded time constraints ranging from 2797 to 7568 ms ( $M = 5232$ ,  $MD = 5299$ ,  $SD = 1127$ ), and for items in the ATGJT a range of 2411 to 5237 ms ( $M = 3652$ ,  $MD = 3527$ ,  $SD = 712$ ) was computed. Performance was rated binarily according to whether students correctly classified the presented sentences as grammatical or ungrammatical within the given time constraint. Like in the other tests, missing responses were disregarded in the evaluation and rating. The test scores were a percentage score of correct responses. The items and their grammaticality status can be inspected in 11.5.

#### **7.5.3.1 *The Aural TGJT***

In the ATGJT, both grammatical and ungrammatical items were used, since reliability analyses suggested that the combination of the two types of items provides an internally consistent test. Fourteen items (AV2, AV4–5, PC1, PC5, PS4, PS7, QD2, QD4, RP4, RP6, TS5–6, ND1) were

<sup>26</sup> In each case, an indication of two values refers to the two samples, Austria and Sweden.

<sup>27</sup> See 7.3.1.2 for the reason of including comprehension questions in the EIT and 11.4.1 for the list of questions.

excluded from the ATGJT based on low facility of  $\leq .10$ . and/or a negative item-factor correlation. For the remaining 29 items, the item-factor correlation was mostly  $\geq .30$  (18–21 items), but in some cases .20 (6–7 items<sup>28</sup>) or .10 (2–3 items). Facility was mostly between .30 to .70 (20–21 items) but sometimes at .20 (3–7 items), .80 (2–4 items) and once at .90 in Austria. The items showing a low item-factor correlation and/or a low or high facility value were still included in order to cover all target structures to about the same extent. Cronbach's alpha was at .80 for Austria ( $N = 56$ ) and .86 for Sweden ( $N = 60$ ), suggesting high reliability.

### 7.5.3.2 *The Written TGJT*

As in the case of the ATGJT, both grammatical and ungrammatical items of the WTGJT were used to compute the score. 13 items (AV4–6, ND5, PC2, 4, 6, PS4–5, RP6, TS3, 5–6) were excluded from the WTGJT based on low facility of  $\leq .10$ . and/or a negative item-factor correlation. For the remaining 29 items, the item-factor correlation was mostly  $\geq .30$  (20–22 items<sup>29</sup>), but in some cases .20 (4–5 items) or .10 (3 items). Facility was mostly between .30 to .70 (19–22 items), but sometimes at .20 (5–7 items) and once at .10 in the case of Sweden. The items showing a low item-factor correlation and/or a facility value were still included in order to have a comparable number of items per target structures. Cronbach's alpha was at .80 for Austria ( $N = 36$ ) and .82 for Sweden ( $N = 25$ ), suggesting high reliability.

### 7.5.4 *The Untimed Grammaticality Judgment Test (UGJT)*

All pen-and-paper tests were entered in Excel by the researcher and a helper, with one person reading out the responses and the other person typing. The entered data were checked for correctness once, and this was also done as a pair. Grammatical items were rated as correct if (A) they were marked by participants as correct and left unedited or (B) they were marked as incorrect but merely non-target features were corrected. Ungrammatical items were rated as correct if the erroneous target feature was corrected. By means of a frequency analysis of all responses, response tokens were reduced to types and the latter were categorized as correct (2 points), half correct (1 points), or incorrect (0 points). This created a coding scheme and facilitated the rating process. Student spelling errors arguably representing spoken language, such as *believ*, *speek*, *professionaly*, *easely*, *your still reading*, and *believing God*, were accepted in order to—at least to a certain extent—compensate for the written modality of the explicit grammar tests. For a list of accepted responses per target structure, see 11.6.2.

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<sup>28</sup> In each case, an indication of two values refers to the two samples, Austria and Sweden.

<sup>29</sup> In each case, an indication of two values refers to the two samples, Austria and Sweden.

The item analysis revealed that almost all *grammatical* items of the UGJT showed constant values, with little to no variation among participants. Facility of these items was high,  $\geq .8$ , most items showing a facility value of  $\geq .9$ . Therefore, all grammatical items were excluded and the UGJT evaluated only in terms of ungrammatical items. All 17 ungrammatical items correlated positively and yielded Cronbach's alpha of .88 for Austria ( $N = 70$ ) and .92 for Sweden ( $N = 41$ ), both suggesting high internal reliability (Pallant, 2010). Item-factor correlation was  $\geq .5$  except for 1–4<sup>30</sup> items showing a value of .3–.4. Facility was between the recommended .30 to .70 across items except for 1–5 items, showing a value of .10–.80. The UGJT score is a percentage score of correct responses. Missing values were not considered.

### **7.5.5 The Metalinguistic Knowledge Test (MKT)**

As in the case of the UGJT, student responses were entered in Excel and in turn checked, and both was done by the researcher together with a helper. For parts A and B, responses were reduced from tokens to types and the latter were categorized and rated as correct or incorrect (see 11.7.3 for a list of accepted responses). In part C, the multiple-choice items, only one option was possible (see English MKT). The MKT score was computed by dividing correct responses by the total number of responses supplied.

Given the very different level and nature of metalinguistic knowledge of the two student populations, item analysis of the MKT proved problematic. First, items showing a low factor-item correlation and/or containing distractors with a low  $p$ -value were inspected and analyzed for content. Following this, QD4 and RP1 were excluded, since, in both cases, 28 students scoring high on the test overall responded incorrectly—possibly due to misleading formulations of distractors and the use of an uncommon technical term respectively. As for the remaining 17 items, data from the Swedish sample yielded facility values of .30–.60, except for nine items showing a facility of .10–.20. Item-factor correlation was below .30 in 14 out of the 30 items. The fact that the MKT was too difficult for the Swedish sample became apparent not only based on these numbers (as well as based on the mean score of 0.31, see 8.5.1.1) but also test administration on-site, where students clearly expressed their struggling. On average, every item was answered by 70% of the participants. Conversely, for Austria, facility lay mostly between .50–.70 but at .80 for seven items, at .90 for six items, and once at 1.00. Factor-item correlation was mostly at  $\geq .30$  but was lower, at .10–.20, for nine items. Cronbach's alpha was .80 for the Austrian sample ( $N = 61$ ) and .59 ( $N = 8$ ) for Sweden, hence suggesting reliability only in the case of the Austrian group (Pallant, 2010). High test difficulty and consequent

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<sup>30</sup> In each case, an indication of two values refers to the two samples, Austria and Sweden.

guessing behavior and low compliance are likely to explain low reliability among Swedish participants. Yet, the alpha value of responses provided by only eight participants cannot be taken at face value. Unfortunately, an MKT of acceptable difficulty for both groups seemed impossible to construct, nor was it feasible to retrospectively exclude the preponderance of items.

### **7.5.6 Questionnaire Data on the Type of Instruction**

Student and teacher responses on the type of instruction received or provided—collected through the learning experience questionnaire (LEQ) and the teacher questionnaire respectively—were entered in Excel and in turn checked. This was again done by the researcher together with a helper.

#### **7.5.6.1 Student Responses**

Student responses on the type of instruction consisted of two main parts, addressing the frequency of different tasks performed in class and the concepts of FOCUS-ON-FORM vs. FOCUS-ON-FORMS (see 7.3.4.2). The items representing the effect of instruction and EE on grammar and intuition were used as such. For part one, the individual classroom activity items were used as such in subsequent evaluations. As to part two, a Principal Component Analysis using Promax rotation (for interdependent variables) was run on the data in order to subsume the eight items (F1–5, FS1–3) as the two targeted constructs, FOCUS-ON-FORM and FOCUS-ON-FORMS<sup>31</sup>. This was done separately for the two countries. Items F1 and F5 were excluded from the factor analysis, given that they did not clearly load on either of the two factors consistently in both samples. It must be noted that in the remainder of items, F2–4 and FS1–3, used to construct the new variables, a ceiling effect became apparent in the case of FS3 in the Austrian data, and a floor effect in the case of F4. A correlation table of the items is presented in Table 7.35.

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<sup>31</sup> For greater reader friendliness, the items rejected from (✗) and maintained in (✓) the analysis are again listed here:

- ✗ F1 *In our English classes, we talk about grammar when it turns out to be problematic for us.*
- ✗ F5 *Our teacher focuses in spoken English (e.g., discussions, presentations) mainly on content.*
- ✓ F2 *Grammar teaching is a reaction to our mistakes.*
- ✓ F3 *Grammar is dealt with on the side rather than as a lesson's main topic.*
- ✓ F4 *Grammar is dealt with superficially rather than in depth.*
- ✓ FS1 *We work on grammatical features systematically, one after another.*
- ✓ FS2 *It's the lessons' goal to study or revise a grammar chapter.*
- ✓ FS3 *Our teacher finds it important that we speak grammatically correctly also in spoken English (e.g., discussions, presentations).*

*Table 7.35 Pearson correlations of the student items of focus-on-form vs. focus-on-formS in the two countries*

	F2	F3	F4	FS1	FS2
<b>Austria</b>	<b>F3</b>	.17			
	<b>F4</b>	.40**	.33**		
	<b>FS1</b>	-.11	-.11	-.25*	
	<b>FS2</b>	.01	-.24*	-.17	.25**
	<b>FS3</b>	-.09	-.05	-.24*	.22*
<b>Sweden</b>	<b>F3</b>	.38**			
	<b>F4</b>	.35**	.40**		
	<b>FS1</b>	.13	.08	.26*	
	<b>FS2</b>	.40**	.19	.21	.48**
	<b>FS3</b>	.15	-.03	.14	.08
					.21*

**Notes.** \* Correlation is significant at the .05 level, \*\* Correlation is significant at the .001 level (2-tailed). N was 107-108 for Austria and 82-89 for Sweden.

With regards to the Principal Component Analysis, the screeplots did not unambiguously indicate how many factors to extract. However, the eigenvalue  $\geq 1$  criterion and the theoretical assumptions suggested the extraction of two factors, to be named FOCUS-ON-FORM and FOCUS-ON-FORMS (see Table 7.36). For the Austrian sample, the Kaiser-Meyer-Olkin measure was .60, above the recommended value of .5 (Field, 2018), and Bartlett's test significant,  $\chi^2(15) = 69.83, p = .001$ . Factor 1 comprised F2, F3, and F4, explained 33.18% of the variance and was labelled FOCUS-ON-FORM; factor 2 contained FS1, FS2, and FS3, explained 20.15% of the variance, and was labelled FOCUS-ON-FORMS. For the Swedish comprehensive school, the Kaiser-Meyer-Olkin measure of sampling adequacy was .66 and Bartlett's test of sphericity was significant,  $\chi^2(15) = 68.55, p < .001$ . Factor 1 and 2 contained the same variables as in the case of Austria and explained 37.78% and 17.62% of the variance respectively. The mean inter-item correlation, often used to verify internal reliability of constructs comprising only few items, was 0.30 for Austria and 0.37 for Sweden in the case of F2–4, and 0.27 for Austria and 0.28 for Sweden in the case of FS1–3. These values support the idea that the constructs are internally reliable (Briggs & Cheek, 1986; Clark & Watson, 1995; Taber, 2018).

*Table 7.36 Pattern matrix of the student items of focus-on-form vs. focus-on-formS in the two countries*

		Austria		Sweden	
		Factor 1	Factor 2	Factor 1	Factor 2
<b>F2</b>	0.81	0.20	<b>F3</b>	0.87	-0.24
<b>F4</b>	0.76	-0.17	<b>F2</b>	0.67	0.14
<b>F3</b>	0.59	-0.07	<b>F4</b>	0.66	0.13
<b>FS2</b>	0.06	0.80	<b>FS3</b>	-0.29	0.78
<b>FS3</b>	0.04	0.75	<b>FS2</b>	0.29	0.65
<b>FS1</b>	-0.15	0.56	<b>FS1</b>	0.18	0.57

**Notes.** N was 105 for Austria and 79 for Sweden.

Considering the two Austrian school types separately, the Principal Component Analysis produced the same two factors in the case of Academic High School (see Table 7.37). Here, factor 1 accounted for 30.56% of the variance and factor 2 for 22.18% of the variance (Kaiser-Meyer-Olkin = .54, Bartlett's Test  $p < .005$ ). In Middle School (Kaiser-Meyer-Olkin = .63, Bartlett's Test  $p < .001$ ), the factors accounted for 37.55 and 21.73% of the variance respectively. However, FS1 loaded somewhat more strongly on factor 1—albeit negatively—than on factor 2, which needs to be borne in mind. A correlation table is not included here for reasons of space.

*Table 7.37 Pattern matrix and factor loading matrix of focus-on-form vs. focus-on-formS in the Austrian school types*

		AT, Academic High (AHS)		AT, Middle School (AMS)	
		Factor 1	Factor 2	Factor 1	Factor 2
<b>FS3</b>	0.73	-0.09	<b>F3</b>	0.74	0.19
<b>FS2</b>	0.73	-0.06	<b>F2</b>	0.73	0.19
<b>FS1</b>	0.68	0.18	<b>F4</b>	0.63	-0.37
<b>F4</b>	-0.01	0.84	<b>FS1</b>	-0.55	0.34
<b>F2</b>	0.17	0.69	<b>FS3</b>	0.32	0.89
<b>F3</b>	-0.18	0.59	<b>FS2</b>	-0.10	0.77

**Notes.** N in Austria (AT) was 63 for AHS and 43 for AMS.

### 7.5.6.2 Teacher Responses

Given the small sample of teacher participants, the teacher questionnaire was not re-evaluated as to its construct validity and internal reliability as previously done in Schurz and Coumel (2020) (e.g., Cronbach's alpha = .7-.8, see 7.3.3.1). Teacher responses on the distributed questionnaires were digitalized and looked at only descriptively.

### 7.5.7 Questionnaire Data on Extramural English

As a reminder for the reader, the Learning Experiences Questionnaire (LEQ) consisted of questions on the frequency, weekly hours, and previous years of engagement in extramural READING, WRITING, LISTENING, SPEAKING, SINGING, WATCHING audio-visuals, GAMING, and LISTENING TO MUSIC. Responses on the EE FREQUENCY of engagement in the different activities, ranging from “(almost) never” to “(almost) daily” (see 7.3.4.3), were used as such in the statistical analyses (coded as 1 to 5). In contrast, in the case of WEEKLY EE hours and the STARTING AGE of EE use, data preparation was more cumbersome. Participants who generally did not engage in a given activity indicated this in the question on the frequency of engagement and left the questions on previous years/months and weekly hours/minutes of EE blank, which were thus counted as zero months and minutes respectively.

Otherwise, the weekly hours spent on each of the eight activities were calculated based on the sum of the sub-categories, e.g., *reading with pictures* and *reading without pictures* for the category READING<sup>32</sup>. In turn, drawing on Bengtsson (forthcoming), values that were unfeasibly high were deleted. The accepted limit was 70 hours a week for music and 60 hours a week for all other activities. The underlying assumption was that for the most avid users of spare time English, 8 hours and 10 hours a day are possible on days of the week and weekend respectively. For example, on days of the week, high-EE users might watch YouTube videos or watch reels on Instagram from 7–8 am, 2–6 pm, and 7–10 pm, and on days of the weekend from 10 am to 1 pm, 2–6 pm, and 7–10 pm. 31 values exceeding that limit were deleted. Subsequently, the total WEEKLY EE hours were calculated based on the sum of individual activities. In turn, the obtained numbers of total WEEKLY EE were capped at > 140 hours (Bengtsson, forthcoming). It was estimated that many activities—notably music combined with any other activity but also for instance reading and writing—were done simultaneously, for instance in the use of social media. Total weekly hours exceeded the cut-off value in the case of 18 students. Of these, the individual entries per activity were discarded as well.

Similar to cut-off values for WEEKLY EE, student responses on prior years of engagement were deleted in the case of READING, WRITING, SPEAKING, and GAMING allegedly being started with before the age of six and singing before the age of three. This was verified by comparing responses on prior years of EE with the students’ age at the time of being tested. Starting with these activities in English before the respective age on a regular basis was estimated as being unlikely. For listening, watching, and listening to music, any value that did not exceed the

<sup>32</sup> Considering the entirety of subcategories, only ones of watching audio-visuals and gaming were looked at separately. This was done in a short descriptive illustration of learners’ preferences in the use of subtitles and gaming with co-players (see 8.2.2.2).

learner's age was accepted. Based on the learners' responses on previous years of EE engagement, new variables were created for the age of EE ONSET. This was done by deducting previous years of engagement from the student's age at testing, which they indicated in the LEQ. Cases of students never having started regularly doing a specific activity in English had to be counted as missing values.

### **7.5.8 Interview Data on the Type of Instruction and Extramural English**

The teacher interviews targeted (1) the focus applied in ELT, (2) incidental vs. systematic instruction, (3) accuracy teaching, (4) fluency teaching, (5) the effect of EE on learning, and (6) the effect of EE on ELT. The audio recordings were first orthographically transcribed by native speakers of the given language (German, Swedish, and French) and translated into English by myself and a native speaker of English. Subsequently, I used MAXQDA to code data according to the predefined broad topics (1)–(6) and more specific codes that were created partly based on the sub-topics listed in the teacher interview outlined (see 7.3.3.2), and partly inductively through skimming the data (see Table 7.38). The data could in turn be extracted (ordered according to the labels) and synthesized. The analysis of topics (1)–(2) and (3)–(6) previously appeared in Schurz & Coumel (2021) and Schurz et al. (2022) respectively.

*Table 7.38 Categories and codes used in the interview analysis*

Topics	Codes
<i>The focus applied in ELT</i>	Communication, grammar, content/topics, reading, listening, speaking, writing, classroom atmosphere
<i>Incidental vs. systematic instruction</i>	Pre-selected grammar features, course book, curriculum, current events, student needs
<i>Accuracy Teaching</i>	Implicit instruction, explicit instruction, inductive presentation, deductive presentation, practice
<i>Fluency Teaching</i>	Monologic practice, dialogic practice, learner difficulties and remedies
<i>The Effect of EE on Learning</i>	General effect of EE, effect on grammar, speaking, writing, vocabulary, learner motivation
<i>The Effect of EE on ELT</i>	Teacher encouragement to use EE, adapting ELT to EE
<i>Learner EE Practices</i>	EE use in general, and when blogging, reading books, gaming, travelling, watching films/series/videos, listening to music

## 7.6 Statistical Analyses

Once the data were prepared and test scores computed as outlined in the section above, statistical analyses were run using IBM SPSS Statistics 26 to respond to research questions 1-4, and R Studio to answer research questions 6-7 (see 7.1, p. 91). For research question 5, both SPSS and R were used. Analyzing data descriptively included the computation of the mean, 95% confidence interval, median, standard deviation, the minimum and maximum, bivariate correlations, and a search in the data for potential outliers. The narrative description of the data is mostly based on the median rather than the mean, since often, data was non-normally distributed at least in the case of one country sample. Whether the mean or the median is reported in the narrative description is indicated in a footnote at the beginning of each section, 8.1, 8.2, and 8.3. To describe the strength of correlations, I use the modifiers ‘very weak’ for values of 0 to .19, ‘weak’ for .2 to .39, ‘moderate’ for .40 to .59, ‘strong’ for .6 to .79, and ‘very strong’ for values between .80 and 1. To detect outliers, I produced boxplots; ‘out’ values were retained by default (shown as a small loop in SPSS), whereas ‘far-out’, extreme values (shown as starred in SPSS) were inspected for errors in data entering and in terms of preliminary sociodemographic information (e.g., AGE, DYSLEXIA, L1, etc.) provided in the Learning Experiences Questionnaire. If no peculiarities or errors could be spotted, the cases were retained in order to work with natural data (see Field, 2018). For any inferential statistical tests, the fulfillment (or violation) of different assumptions (e.g., the normality of the data distribution) implied by the given method was reported before listing the results.

Results of inferential tests included reports of precise  $p$ -values with two decimal places, except for very low numbers, which were indicated as  $p < .001$  or  $p < .01$ , and except for values just below .05 (e.g.,  $p = .049$ ), indicated as  $p < .05$ . While only values of  $p < .05$  were considered as significant,  $p < .1$  was reported as ‘near-significant’ or as a ‘statistical tendency’. This is because a strict application of the threshold of  $p < .05$  in reporting statistical significance results in a very different interpretation of values such as  $p = .05$  and  $p = .49$ , despite them being nearly the same (see Bengtsson, forthcoming). As measures of effect size, (partial) eta-squared ( $\eta^2$ ) ( $< .06$  ‘small effect’,  $.06$  to  $.14$  ‘medium effect’,  $> .14$  ‘large effect’) and Cohen’s  $d$  ( $< .5$  ‘small effect’,  $.5$  to  $.8$  ‘medium effect’,  $> .8$  ‘large effect’) were reported (J. Cohen, 1988) for analyses of variances and  $t$ -tests respectively. This was done using an online calculator (Hemmerich, 2018). The interested reader can retrieve the output of the entirety of computations carried out in SPSS as well as R Studio in the Phaidra repository (see 11.12).

### 7.6.1 RQ1: The Type of Instruction

#### 7.6.1.1 Student Responses

Regarding RQ1, enquiring about the type of instruction in Austria and Sweden, student responses were first looked at. Given that ELT methods applied in Austrian Middle School and Academic High School seem to differ (Schurz et al., 2022; Schurz & Coumel, 2021), all analyses regarding the type of instruction were carried out separately for the three school types. Descriptive statistics of the total Austrian sample were included in the appendix.

For both dependent variables, (1) the frequency of occurrence of the seven in-class activities and (2) FOCUS-ON-FORM vs. FOCUS-ON-FORMS, the first step was to evaluate descriptive data. In turn, one-way Analyses of Variance (henceforth ANOVA) were run for these two sections to detect whether there were any differences in participant answers between the three school types. One-way ANOVAs were used in lieu of a Multiple Analysis of Variance (henceforth MANOVA) given that variables did not strongly and consistently correlate in the three groups. Before running the ANOVAs, it was verified that data fulfilled with six assumptions was verified: (1) the independent variable consists of independent groups, (2) observations are independent, (3) the dependent variables are continuous, (4) there are no univariate outliers, (5) ideally, the data distribution is normal, as assessed through Shapiro-Wilk and visual inspection of histograms<sup>33</sup>, and (6) error variances are homogeneous, as gauged by Levene's test (considering the median in the case of non-normal distributions) (see Field, 2018). Assumptions (1)–(2) are fulfilled by default given the two countries and three school types form separate groups. As to (3), the dependent variables, which are based on a 5-point Likert scale, were considered to be continuous. I acknowledge that integrating such variables in inferential statistics can be perceived as problematic, because the distance between response options is not the same for each pair of neighboring response options (e.g., *(almost) never* to *a few times a year* compared to *a few times a year* to *a few times a semester*). Nevertheless, as is the case even in very renown and widely used questionnaires (e.g. the 'Big Five', John et al., 1991), I treated these Likert-scale-based variables as continuous.

In terms of assumption (4), univariate outliers were retained if the case was not conspicuous, as explained at the beginning of section 7.6. As to (5), in the case of a non-normal distribution of the data, this was acknowledged but disregarded given the general robustness of ANOVA

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<sup>33</sup> It has been argued for instance in Loerts et al. (2019, p. 158) that the distribution of large sample sizes of  $N > 200$  cannot be reliably assessed through the Shapiro Wilk test, which is why the data distribution was additionally inspected in histograms.

against non-normality (see Berkovits et al., 2000)<sup>34</sup>. Finally, the few cases of assumption (6) being violated were reported and possible implications listed. After verifying the assumptions, the one-way ANOVAs were computed, followed by post-hoc analyses using Tukey. If error variances were not homogenous, Welch's ANOVA and, instead of Tukey, Games-Howell post-hoc test were used (see Tomarken & Serlin, 1986). All obtained results were tested using 5000-iterated bootstrapping.

### 7.6.1.2 Teacher Responses

For each of the four factors appearing in the teacher questionnaire (see 7.3.3.1)—EXPLICIT, INDUCTIVE vs. DEDUCTIVE, IMPLICIT FLUENCY-BASED, and INCIDENTAL vs. SYSTEMATIC instruction—the mean of the corresponding items was computed and listed for each teacher. As to the age of instruction, a table of the six grammatical features and the response given by each teacher on those structures was created. The mean level of introduction of these features was computed for each teacher. The small teacher sample did not allow for inferential tests of the teacher reports, but the descriptive data allowed for an internal comparison of participants and for a comparison with data obtained by Schurz and Coumel (2020)<sup>35</sup>.

### 7.6.2 RQ2: Extramural English

As for RQ2, enquiring about the students' EE habits, student responses on EE FREQUENCY, WEEKLY EE, and the age of EE ONSET were first analyzed descriptively. Since it is natural that in any context there are students engaging in (or having started with) EE much more or less (or much earlier or later) than the average learner, outliers were included, with the exception of truly unfeasible values (e.g., a weekly total of over 140 hours, see 7.5.7). First, descriptive statistics were looked at separately by COUNTRY. In the case of EE FREQUENCY and WEEKLY EE, data were also looked at separately by COUNTRY and GENDER, since gender had previously been shown to be a major predictor of EE habits (see 6.2, e.g. Olsson, 2012; Schwarz, 2020). In addition, the two country samples did not show an equal ratio of females and males (see 7.4.3.1). Descriptive statistics tables by SCHOOL TYPE were included in the appendix. EE ONSET was inspected separately only by COUNTRY, and not by GENDER or SCHOOL TYPE, because sample size per country was considered too small to provide meaningful results. Nevertheless, tables of descriptives per COUNTRY/GENDER were

<sup>34</sup> In addition to the robustness of ANOVA against violations of normality, the Central Limit Theorem suggests that large samples (of at least  $N > 30$ ) are normally distributed by nature (Field, 2018).

<sup>35</sup> For a summary of their findings of their entire dataset, see 7.1.1.

included in the appendix. Subsequent inferential tests were computed only for WEEKLY EE and EE ONSET; additional analyses of EE FREQUENCY would have been out of scope.

Before running a mixed ANOVA on the variables of WEEKLY EE (i.e., the different activities), the data were first inspected for extreme outliers and ceiling effects through boxplots, while considering the cut-off values addressed in the previous paragraph. It was also verified whether the data and residuals were normally distributed, using histograms and Shapiro-Wilks test<sup>36</sup>, and whether homogeneity of variances was given, based on Levene's test. Mixed ANOVA was computed despite data being non-normally distributed (see 7.6.1.1). In the case of a non-normal distribution, Levene's test was considered based on the median rather than the mean values (Field, 2018). Through Box's test, it was verified whether equality of covariances was given. In turn, the mixed ANOVA was run on the eight activities as within-factor variables, and the country and gender as between-factor variables. A mixed ANOVA was opted for instead of individual *t*-tests to account for the eight EE variables as constituting a whole (i.e., overall EE use), and to avoid producing cumulative alpha error and increasing the probability of false positives. While a MANOVA would also have served these two purposes, the mixed ANOVA could not only detect between-subject effects, i.e., overall weekly EE in Austria vs. Sweden and among girls vs. boys, but also interactions of within-factor and between-factor variables, i.e., of WEEKLY EE across activities and across countries/gender (see Field, 2018). The mixed ANOVA further computed within-subject effects, i.e., a comparison of the weekly hours spent across activities but in the sample as a whole. These results are not of immediate relevance to the present study and are therefore not reported. If Mauchly test indicated a violation of sphericity, I used Greenhouse-Geisser (for Greenhouse-Geisser  $\epsilon < .75$ ) or Huynh-Feldt (for Greenhouse-Geisser  $\epsilon > .75$ ) adjustment (see Girden, 1992).

To explore the age of EE ONSET, *t*-tests had to be used for the individual activities because of the limited number of participants from each country having started to regularly engage in *all eight* activities,  $N = 7$  for Austria and  $N = 14$  for Sweden. These numbers were too low for a mixed ANOVA (or a MANOVA) to yield telling results. The data were scrutinized for normality, based on Shapiro-Wilks test and histograms (see footnote below), and for homogeneity of variances, through Levene's test. Yet, in the case of the data being non-normally distributed, this was disregarded given the assumed relative robustness of *t*-

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<sup>36</sup> It has been argued for instance in Loerts et al. (2019, p. 158) that the distribution of large sample sizes of  $N > 200$  cannot be reliably assessed through the Shapiro Wilk test, which is why the data distribution was additionally inspected in histograms.

tests in this regard (e.g. Rasch et al., 2007)<sup>37</sup>. Results were confirmed by 5000-iterated bootstrapping, but *t*-tests did not allow me to control for GENDER.

### **7.6.3 RQ3: The Reported Effect of EE and Instruction on Learning**

In RQ3, I targeted student responses on the perceived EFFECT OF EE ON FEEL, the EFFECT OF EE ON RULES, the EFFECT OF INSTRUCTION ON FEEL, and the EFFECT OF INSTRUCTION ON RULES. To compare countries, descriptive statistics and *t*-tests were computed. For the *t*-tests, the same procedure as described in the last paragraph of the section above, 7.6.2, was adopted, including the inspection of boxplots to spot potential outliers and ceiling or bottom effects. *T*-tests were in turn also run separately for each of the Austrian school types. Descriptive statistics by Austrian school types were provided in the appendix.

### **7.6.4 RQ4: Tapping into Automatized-implicit and Explicit Knowledge**

To explore RQ4, i.e., how the six measures of grammatical knowledge (ONT, EIT, ATGJT, WTGJT, UGJT, MKT) load in a factor analysis, I first looked at descriptive statistics of test performance in the two countries and three school types, excluding cases listwise. The correlation table of the different tests was presented in the main text rather than the appendix and also reported narratively, because the interrelation of the variables needs to be taken into account when computing factor analyses.

Subsequent factor analysis was performed separately by country and Austrian school types. For the analysis by country, I performed a Confirmatory Factor Analysis (henceforth CFA) using R. CFAs are known to be more robust than Exploratory Factor Analyses, and they can be used if the predicted factor solution is based on substantial theoretical claims and previous research (see Field, 2018). The prediction of the ONT, EIT, ATGJT, and WTGJT to load on one factor and of the UGJT, MKT to load on another factor was indeed based on an extensive body of previously reported results (see 2.2.2). As an alternative factor solution, I computed a model in which all tests load on a single factor. To evaluate which model would be a better fit, I considered indices of global goodness of fit, namely chi-square ( $\chi^2$ ), the *p*-value and 90% confidence interval of RMSEA (Root Mean Square Error of Approximation), SRMR (Standardized Root Mean Square Residual), and CFI (Comparative Fit Index). In terms of chi-square, better model fit is indicated by a higher *p*-value and a low  $\chi^2$  value (relative to the degrees of freedom) (Alavi et al., 2020). For the remainder of indices, good model fit was assumed given

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<sup>37</sup> In addition, the Central Limit Theorem suggests that large samples (of at least  $N > 30$ ) are normally distributed by nature (Field, 2018).

an RMSEA lower confidence interval value at or below 0.06 and a nonsignificant *p*-value, SRMR values at or below 0.08, and CFI values at or above .95 (Hu & Bentler, 1999; Kline, 2016). In addition, I compared the Akaike Information Criterion (henceforth AIC) indices using the aictab() function. All CFA analyses were conducted in R using the lavaan, AICcmodavg, and semPlot packages. A similar approach to interpreting factor solutions was for instance adopted in Kim (2020).

For the factor analyses done separately by Austrian school types, I instead computed an Exploratory Factor Analysis (henceforth EFA) in SPSS, because of the relatively small sample sizes of these groups. I computed the EFA using Principal Axes Factor Analysis with Promax rotation and Kaiser Normalization. It was verified whether Bartlett's test of sphericity was significant and whether Kaiser-Meyer-Olkin measure of sampling adequacy was above the recommended value of .5 (Field, 2018). Although Principal Component Analysis is the most common type of Factor Analysis and was for instance also used in R. Ellis (2005a), this test assumes an absence of measurement errors and aims to reduce the number of variables (Bühner, 2010). In the present study, however, all further analyses were carried out looking at the six grammar tests individually, rather than subsuming them into new variables of automatized-implicit and explicit knowledge<sup>38</sup>. Results were rotated using oblique rotation (Promax), because the different grammar tests were not expected to be unrelated, and interpreted based on an eigenvalue of  $\geq 1$  and the elbow criterion (see R. Green, 2013).

### **7.6.5 RQ5-RQ7: Automatized-Implicit and Explicit Knowledge and Influencing Factors**

#### **7.6.5.1 Descriptive Analysis**

To investigate RQ5, RQ6, and RQ7 I first computed the descriptive statistics as pertinent for the Linear Mixed Models described in the subsequent section 7.6.5.2. Descriptive statistics were calculated for the six grammar tests (ONT, EIT, ATGJT, WTGJT, UGJT, MKT) according to COUNTRY and SCHOOL TYPE, excluding cases pairwise<sup>39</sup>. The same analysis was performed on total WEEKLY EE *excluding* listening to music<sup>40</sup>. WEEKLY EE by individual activities was also

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<sup>38</sup> These factor score variables could have been used in subsequent analyses of the impact of EE on those outcome measures in the Linear Mixed Models. Such factor scores would have removed measurement errors and extracted only factor-relevant data (Field, 2018). However, a factor score can be computed only for participants having performed *all* tests belonging to the given factor. This would have considerably reduced my sample sizes and results would not have been representative in any way.

<sup>39</sup> For RQ4, the descriptive statistics of these variables were computed excluding cases *listwise*.

<sup>40</sup> For RQ2, descriptive statistics of total WEEKLY EE were computed *including* LISTENING TO MUSIC. However, in accordance with RQ5–RQ7 and its hypotheses, LISTENING TO MUSIC was assumed to be less

looked at excluding cases pairwise, but only by COUNTRY, as I did not run the respective Linear Mixed Models by SCHOOL TYPE. I opted to include WEEKLY EE hours rather than EE FREQUENCY in the models described in the section below because these variables provide truly metric data, and because using more than one EE variable in the linear models would have entailed issues of multicollinearity due to strong inter-variable correlations. No separate analysis for the age of EE ONSET was run given the many missing student responses for learners never having started with a given activity (see 8.2.3).

Besides EE, the plan was to also consider the type of instruction as independent variables in the Linear Mixed Models (see RQ5–RQ6). Unfortunately, none of the instruction variables was assumed to validly and reliably depict the explicitness of grammar teaching and/or the level of communicative practice (see 9.1 for a discussion). Therefore, rather than including potentially biased data and running the risk of finding false positive or negative findings, I limited the scope of RQ5–RQ7 to the influence of EE on learning and the cross-country differences. The descriptive statistics of the remainder of variables relevant for RQ5–RQ7, i.e., the control variables, can be looked up in the section dedicated to the description of participants, 7.4.3.1, and in the online material (see 11.12).

#### 7.6.5.2 *Linear Mixed Models*

In turn, I analyzed the data by means of Linear Mixed Models using the *lme4* package (Version 1.1-27; Bates et al., 2015) in R Studio (Version 1.2.5033R Core Team, 2020). I explored the effect of WEEKLY EE (in total and according to individual activities), COUNTRY and SCHOOL TYPE—the independent variables—on the ATGJT, WTGJT, EIT, ONT, UGJT, and MKT—the dependent variables. I further included the C-TEST, the HISEI, GENDER, DYSLEXIA, L1, and AGE as independent control variables. All variables were between-participant variables. The categorical predictors COUNTRY, SCHOOL TYPE, GENDER, DYSLEXIA, and L1 were dummy-coded, i.e., coded into dichotomous variables: Austria/Sweden, AMS/AHS<sup>41</sup>, female/male, dyslexic/not diagnosed for dyslexia, and country's majority language as L1/other L1. In each categorical predictor, one category functioned as a reference category: Sweden in COUNTRY, Comprehensive School in SCHOOL TYPE, female in GENDER, dyslexic in DYSLEXIA, and country's majority language in L1. The independent variables were modelled as fixed effects, while SCHOOL and CLASS were modelled as random effects. These random effects were nested, with each student belonging to one of the sixteen classes and each class being part of one of the eight schools.

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effective than other EE activities, which is why in the Linear Mixed Models, total WEEKLY EE was computed *excluding* LISTENING TO MUSIC (see 7.1.5).

<sup>41</sup> To remind the reader, AMS refers to Austrian Middle School and AHS to Austrian Academic High School.

This data structure was modelled by using a random intercept for each school as well as for each class (for an introduction to R and mixed models, see Winter, 2020).

For each dependent variable, I started with a simple model with just the independent variables. In a next step, I added the control variables. Lastly, I added interactions (see Table 7.39). In the ‘Total EE Models’, independent variables encompassed total WEEKLY EE and COUNTRY (step 1), including control variables (step 2) and the interaction of country and total WEEKLY EE (step 3). In line with the overall cross-national perspective of the study, these models were first run by COUNTRY, followed by the same analysis run by SCHOOL TYPE. Thus, steps 1–3 were replicated in steps 4–6, but by SCHOOL TYPE.

In the ‘Individual Activities Models’, steps 1–3 were identical with the respective steps in the Total EE Models, except for the integration of individual WEEKLY EE activities (one at a time) instead of total WEEKLY EE. In the Individual Activities Model, the impact of SCHOOL TYPES was not looked at.<sup>42</sup> The total number of models computed thus was 36 for the Total EE Models (six steps, six grammar tests), and 144 for the Individual Activities Models (three steps, eight EE activities, six grammar tests).

*Table 7.39 Overview of the Linear Mixed Models run for total weekly EE and EE by activities*

<b>Total EE Models</b>	<b>Step 1</b>	Total EE, Country
	<b>Step 2</b>	Total EE, Country, control variables
	<b>Step 3</b>	Total EE, Country, control variables, Country*Total EE
	<b>Step 4</b>	Total EE, School Type
	<b>Step 5</b>	Total EE, School Type, Control variables
	<b>Step 6</b>	Total EE, School Type, control variables, School Type*Total EE
<b>Individual Activities Models</b>	<b>Step 1</b>	EE Reading (/ Writing, Listening, Speaking, Singing, Watching, Gaming, Music), Country
	<b>Step 2</b>	EE Reading (/ Writing...), Country, control variables
	<b>Step 3</b>	EE Reading (/ Writing,...), Country, control variables, Country*EE Reading (/ Writing, ...)

Based on the different types of models described above, I assessed the level of the impact of EE (activities) (1) in total, (2) in the Swedish sample, and (3) in terms of the difference between the size of the effect in Austria vs. Sweden. To also obtain the precise numbers for the

<sup>42</sup> This would have gone beyond the scope of the study, and extensive analyses on SCHOOL TYPE could have been misleading given the limited number of participants per group.

effect of EE in the Austrian context, the models were additionally run separately on the Austrian sample. Before running the entirety of models, the four assumptions that linear models are based on were tested (see Winter, 2020): (1) the normality of the residuals, assessed through graphic inspection in histograms, (2) the absence of multicollinearity, gauged based on the variance inflation factor (VIF), (3) homoscedasticity (i.e., to verify if the variance in scores of the dependent variable is similar at all the values of the independent variable), as evaluated through graphic inspection in residuals vs. fits plots, and (4) the linearity of the relationship between the dependent and independent variables, as assessed via scatterplots.



## 8 RESULTS

This chapter serves the report of the study's results. The sequence in which results are presented is in line with the seven research questions (see 7.1, p. 91). The type of instruction and extramural English in the two countries are subject of sections 8.1 and 8.2 respectively. Section 8.3 outlines the effects of EE on learning as reported by students and teachers. The interrelation and construct validity of the six grammar tests will be covered 8.4. Finally, in section 8.5, this chapter concludes with findings on the impact of extramural English on the learners' automatized-implicit vs. explicit knowledge in the two countries. To remind the reader, the Austrian school types Academic High School and Middle School are abbreviated as AHS and AMS respectively.

### 8.1 RQ1: The Type of Instruction

#### 8.1.1 *The Student-Reported Frequency of In-Class Activities*

**Descriptive Statistics.** Student responses on the frequency of in-class activities in the three samples mostly fully covered the five-point Likert scale, ranging from (*almost*) never (point 1) to (*almost*) every class (point 5) (see Table 8.1). Histograms, which can be inspected in the online supplementary material (11.12), suggested a widely non-normal distribution of data. The median<sup>43</sup> of READING, LISTENING, WATCHING, WRITING, and VOCABULARY was identical across school types, suggesting that audio-visuals were used *a few times per semester* and the remainder of activities *once or a few times a month*. 95% confidence intervals in most cases widely overlapped. Among these variables, visible differences in confidence intervals between the two countries surfaced only for VOCABULARY, perhaps focused on more in Austrian classrooms, and arguably for WATCHING audio-visuals, apparently occurring more often in Swedish classrooms (see Figure 8.1).

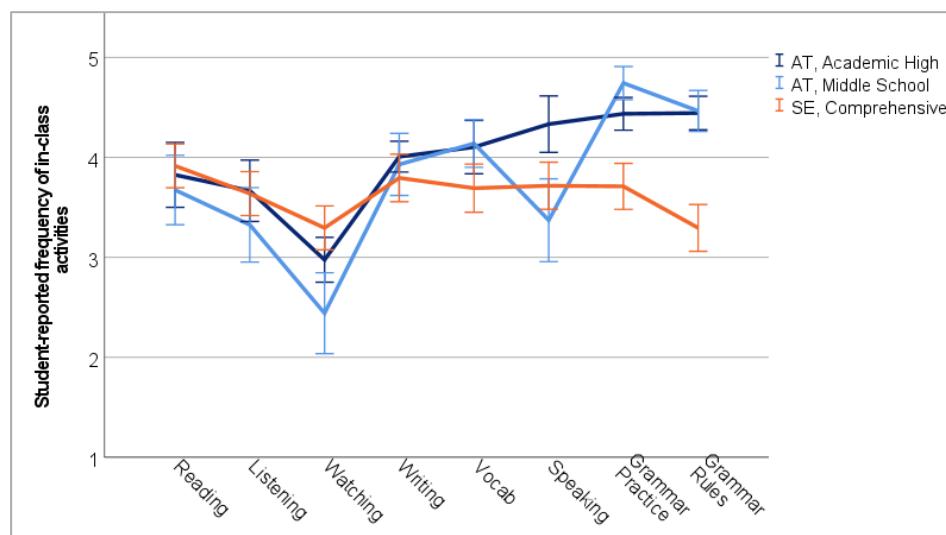
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<sup>43</sup> To remind the reader, all narrative data reports are based on the median in the case of non-normally distributed data and on the mean in the case of normally distributed data. In this section on the type of instruction, 8.1, the description refers to median values if not indicated differently in the text.

*Table 8.1 Descriptive statistics of the frequency of activities in class*

	<b>Read</b>	<b>Listen</b>	<b>Watch</b>	<b>Write</b>	<b>Vocab</b>
<b>AHS</b>	<b>Mean</b>	3.81	3.69	2.98	4.01
	<b>95% CI</b>	3.49, 4.13	3.38, 3.99	2.76, 3.20	3.86, 4.16
	<b>Median</b>	4.00	4.00	3.00	4.00
	<b>SD</b>	1.28	1.22	0.88	0.61
	<b>Minimum</b>	1.00	1.00	1.00	2.00
<b>AMS</b>	<b>Maximum</b>	5.00	5.00	4.50	5.00
	<b>Mean</b>	3.67	3.34	2.45	3.91
	<b>95% CI</b>	3.33, 4.02	2.98, 3.71	2.06, 2.85	3.60, 4.22
	<b>Median</b>	4.00	4.00	3.00	4.00
	<b>SD</b>	1.13	1.20	1.30	1.01
<b>Sweden</b>	<b>Minimum</b>	1.00	1.00	1.00	1.00
	<b>Maximum</b>	5.00	5.00	5.00	5.00
	<b>Mean</b>	3.92	3.62	3.32	3.76
	<b>95% CI</b>	3.72, 4.13	3.40, 3.84	3.11, 3.54	3.52, 3.99
	<b>Median</b>	4.00	4.00	3.00	4.00
	<b>SD</b>	0.99	1.04	1.00	1.11
	<b>Minimum</b>	2.00	1.00	1.00	1.00
	<b>Maximum</b>	5.00	5.00	5.00	5.00

**Notes.** N was 64 for AHS, 44 for AMS, and 87-90 for Sweden.

*Figure 8.1 The frequency of occurrence of in-class activities across school types, with 95% CI*

More salient differences across countries and/or school types arose for GRAMMAR RULES, GRAMMAR PRACTICE, and SPEAKING (see Table 8.2). 95% confidence intervals of the two countries did not intersect in terms of GRAMMAR PRACTICE and GRAMMAR RULES, both more frequent in Austrian school types than in Sweden, according to the student responses. In

Sweden, it seems that grammar generally is practiced *once or a few times a month* and that rules are addressed *once or a few times a semester*. In Austria, responses to both categories showed a median suggesting an occurrence in (*almost*) *every class*. SPEAKING appears to occur more frequently in AHS than in AMS and Sweden, with non-overlapping confidence intervals. The median of SPEAKING was thus highest in AHS ((*almost*) *every class*), followed by Swedish classrooms (*a few times a month*), and AMS (*a few times a semester*). A correlation table of the in-class activities by SCHOOL TYPE (Table 11.3) and descriptive statistics of the entire Austrian sample (Table 11.4 and Table 11.5) can be found in the appendix, section 11.11.5.

*Table 8.2 Descriptive statistics of the frequency of grammar and speaking activities in class*

	<b>Speak</b>	<b>Gr. Practice</b>	<b>Gr. Rules</b>
<b>AHS</b>	<b>Mean</b>	4.34	4.45
	<b>95% CI</b>	4.07, 4.62	4.28, 4.61
	<b>Median</b>	5.00	5.00
	<b>SD</b>	1.12	0.65
	<b>Minimum</b>	1.00	2.00
<b>AMS</b>	<b>Maximum</b>	5.00	5.00
	<b>Mean</b>	3.39	4.73
	<b>95% CI</b>	2.98, 3.79	4.56, 4.89
	<b>Median</b>	3.00	5.00
	<b>SD</b>	1.33	0.54
<b>Sweden</b>	<b>Minimum</b>	1.00	3.00
	<b>Maximum</b>	5.00	5.00
	<b>Mean</b>	3.68	3.69
	<b>95% CI</b>	3.45, 3.91	3.46, 3.91
	<b>Median</b>	4.00	4.00
	<b>SD</b>	1.10	1.06
	<b>Minimum</b>	1.00	1.00
	<b>Maximum</b>	5.00	5.00

**Notes.** *N* was 63–64 for AHS, 43–44 for AMS, and 87–90 for Sweden.

**One-way ANOVA.** Before running the one-way ANOVA (*N* = 63–64 for AHS, 43–44 for AMS, 87–90 for Sweden), the prerequisites were checked. Univariate outliers, found in the AHS data in WRITING and among AMS students in GRAMMAR PRACTICE (see Figure 11.1 in 11.11.1), and the non-normal distribution of the data in the three groups, as seen in the Shapiro-Wilk test,  $p \leq .001$ , and mostly also in histograms, were detected but disregarded (see 7.6.1.1). A ceiling

effect became evident in the case of GRAMMAR RULES in the Austrian schools, in GRAMMAR PRACTICE and SPEAKING in AHS, and in VOCABULARY in AHS and AMS (see Figure 11.1). Moreover, while I could determine homogeneity of the error variances in READING ( $p = .08$ ), LISTENING ( $p = .30$ ), VOCABULARY ( $p = .10$ ), and SPEAKING ( $p = .06$ ), it was not given in WATCHING ( $p < .01$ ), WRITING, GRAMMAR PRACTICE ( $p < .001$ ), and GRAMMAR RULES ( $p < .05$ ).

One-way univariate ANOVAs indicated no significant differences between the three groups in READING ( $F(2, 194) = .73, p = .49, \eta^2 = 0.01$ ), WRITING (Welch's  $F(2, 103.91) = 1.63, p = .20, \eta^2 = 0.01$ ), and LISTENING,  $F(2, 192) = 1.32, p = .27, \eta^2 = 0.01$ ), each showing a small effect (see Figure 8.2).

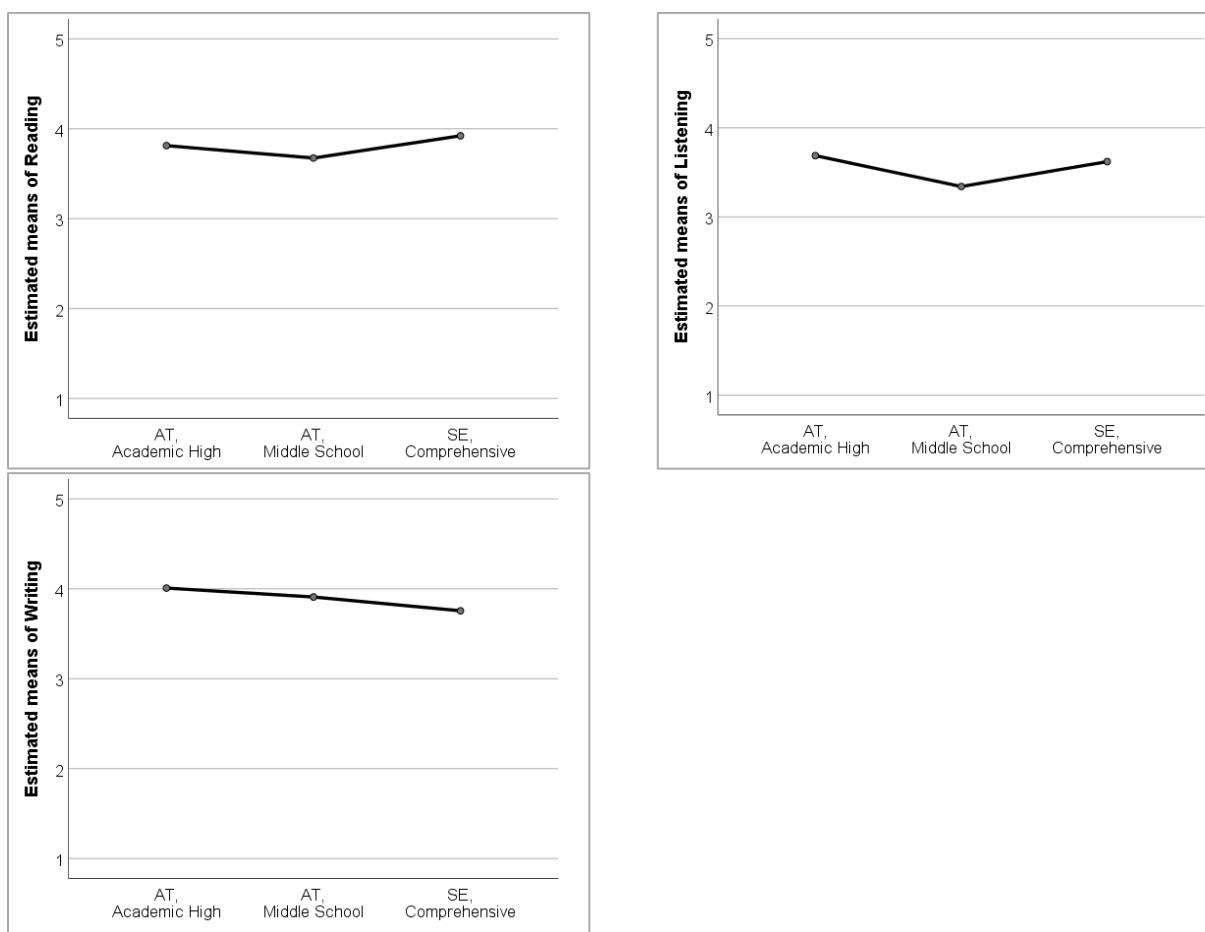


Figure 8.2 Estimated means of frequency of the in-class activities Reading (top left), Listening (top right), and Writing (bottom)

A statistically significant difference was detected between the school types in the case of WATCHING audio-visuals (Welch's  $F(2, 101.17) = 8.05, p < .01, \eta^2 = 0.10$ , medium effect), VOCABULARY ( $F(2, 193) = 4.77, p < .01, \eta^2 = 0.05$ , small effect), SPEAKING ( $F(2, 194) = 10.24, \eta^2 = 0.10$ , medium effect), GRAMMAR PRACTICE (Welch's  $F(2, 124.37) = 28.13, \eta^2 = 0.22$ , large

effect), and GRAMMAR RULES (Welch's  $F(2, 118.10) = 37.33, \eta^2 = 0.30$ , large effect) ( $p < .001$ ) (see Figure 8.3). These findings were confirmed by bootstrapping using 5000 iterations.

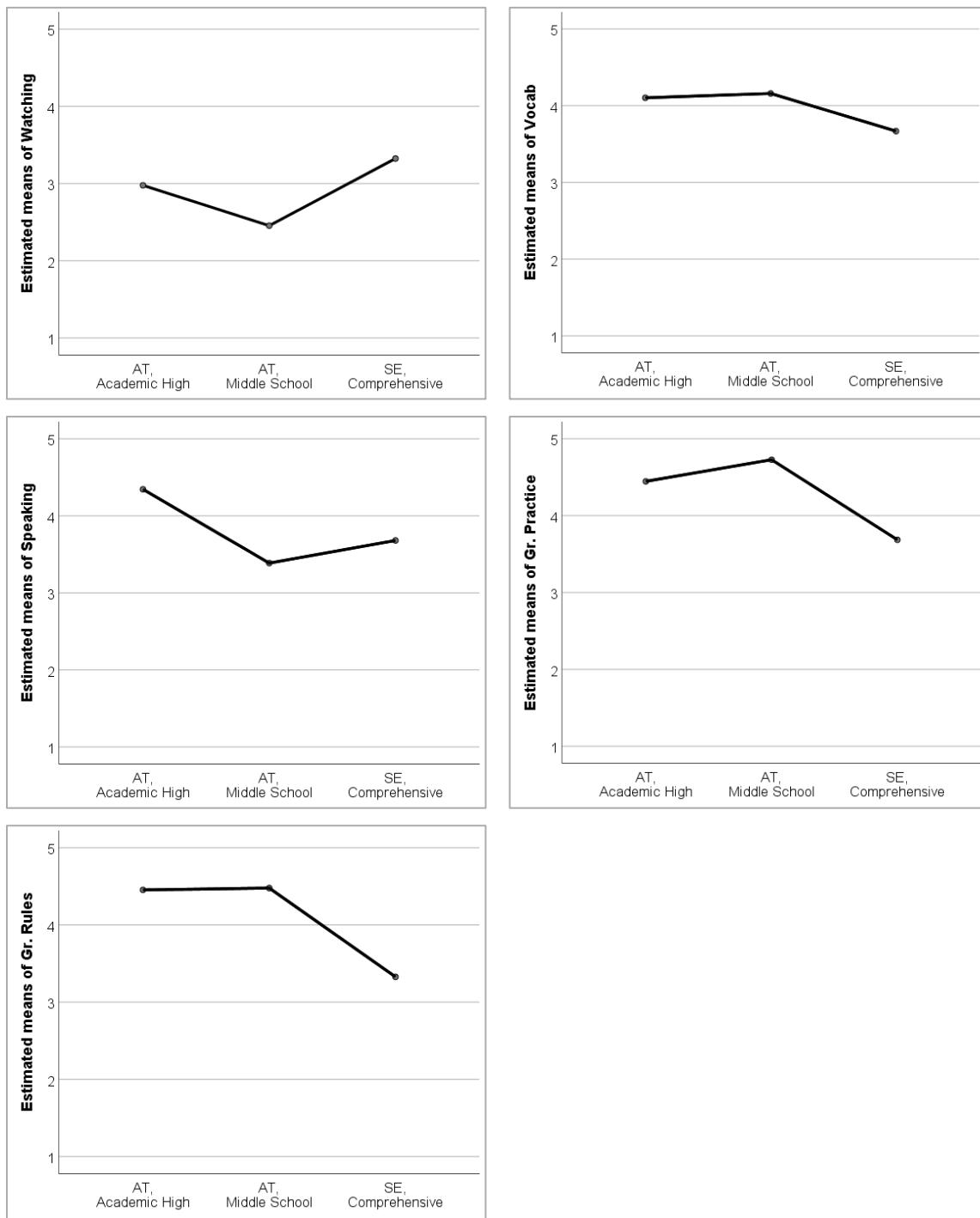


Figure 8.3 *Estimated means of frequency of in-class activities Watching, Vocab, Speaking, Grammar Practice, and Grammar Rules*

More precisely, Tukey post-hoc revealed a significant difference in (1) VOCABULARY between Sweden and AHS, -0.44, 95% of the mean difference CI[-0.84, -0.03], and Sweden and AMS, -0.49, 95% CI[-0.94, -0.04] ( $p = .03$ ), but not between AHS and AMS, -0.06, 95% CI[-0.54, 0.43],

$p = .96$ . (2) Games-Howell test detected a significant difference in WATCHING audio-visuals between Sweden and AMS, 0.87, 95% CI[0.33, 1.40],  $p < .01$  but not between Sweden and AHS, 0.35, 95% CI[-0.02, 0.71], nor between AHS and AMS, 0.52, 95% CI[-0.02, 1.06],  $p = .06$  (see Figure 8.3). (3) Tukey test found a difference in SPEAKING between Sweden and AHS, -0.66, 95% CI[-1.11, -0.22],  $p < .01$ , and between AHS and AMS, 0.96, 95% CI[0.42, 1.49],  $p < .001$ , but not between Sweden and AMS, -0.29, 95% CI [-0.21, 0.80],  $p = .36$ . Games-Howell reported differences (4) in GRAMMAR PRACTICE between Sweden and AHS, -0.76, 95% CI[-1.09, -0.43] and Sweden and AMS, -1.04, 95% CI[-1.37, -0.71] ( $p < .001$ ), and between AHS and AMS, -0.28, 95% CI[-0.56, -0.01],  $p = .04$ ; and lastly, (5) in GRAMMAR RULES between Sweden and AHS, -1.13, 95% CI[-1.46, -0.79] and Sweden and AMS, -1.15, 95% CI[-1.51, -0.79] ( $p < .001$ ), but not between AHS and AMS, -0.02, 95% CI[-0.33, 0.29],  $p = .98$  (see Figure 8.3). While in GRAMMAR PRACTICE and GRAMMAR RULES AMS showed the highest mean, followed by AHS and Sweden, AHS ranked highest in terms of SPEAKING, followed by Sweden (see Table 7.7). These findings were confirmed by bootstrapping using 5000 iterations.

To conclude, similarities between the two countries emerged in the student-reported frequency of READING, LISTENING, and WRITING in class, whereas the frequency of GRAMMAR teaching and VOCABULARY work appeared higher in the Austrian samples. The next section addresses the concepts of FOCUS-ON-FORM and FOCUS-ON-FORMS.

### 8.1.2 The Student-Reported Role of Form

**Descriptive Statistics.** The data of the multidimensional variables FOCUS-ON-FORM and FOCUS-ON-FORMS overall boasted a rather broad range of responses, covering at least four points of the full five-point scale, ranging from *don't agree at all* to *fully agree* (see Table 8.3). Histograms, which can be inspected in the online supplementary material (11.12), indicated a partly non-normal distribution of data. In general, students perceived their teachers to FOCUS-ON-FORMS more heavily than to apply FOCUS-ON-FORM (see Figure 8.4). Yet, differences between school types arose for both constructs. FOCUS-ON-FORMS seemed to be applied more strongly in the Austrian school types than in Sweden, and 95% confidence intervals did not overlap. Vice versa, statements of FOCUS-ON-FORM received higher agreement among Swedish participants considering the mean and the median, followed by AMS and AHS students<sup>44</sup>. However,

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<sup>44</sup> It needs to be borne in mind that in the factor analysis computed on the underlying items of focus-on-formS and focus-on-form, FS1 loaded slightly more heavily on the factor labelled as focus-on-form (negative loading) than on the factor called focus-on-formS (positive loading) (see 7.5.6.1).

confidence intervals of all three groups intersected. A descriptive statistics table of the entire Austrian sample can be found in the appendix, Table 11.6 in section 11.11.2.

*Table 8.3 Descriptive statistics of focus-on-formS vs. focus-on-form across school types*

		Focus-on-FormS	Focus-on-Form
Austria	AHS	<b>Mean</b>	3.94
	AHS	<b>95% CI</b>	3.77, 4.12
	AHS	<b>Median</b>	4.00
	AHS	<b>SD</b>	0.69
	AHS	<b>Minimum</b>	2.00
	AHS	<b>Maximum</b>	5.00
Austria	AMS	<b>Mean</b>	3.84
	AMS	<b>95% CI</b>	3.61, 4.08
	AMS	<b>Median</b>	4.00
	AMS	<b>SD</b>	0.76
	AMS	<b>Minimum</b>	2.00
	AMS	<b>Maximum</b>	5.00
Sweden		<b>Mean</b>	3.33
		<b>95% CI</b>	3.16, 3.49
		<b>Median</b>	3.33
		<b>SD</b>	0.79
		<b>Minimum</b>	1.00
		<b>Maximum</b>	4.83

**Note.** N = 64 for AHS, 44 for AMS, and 89 for Sweden.

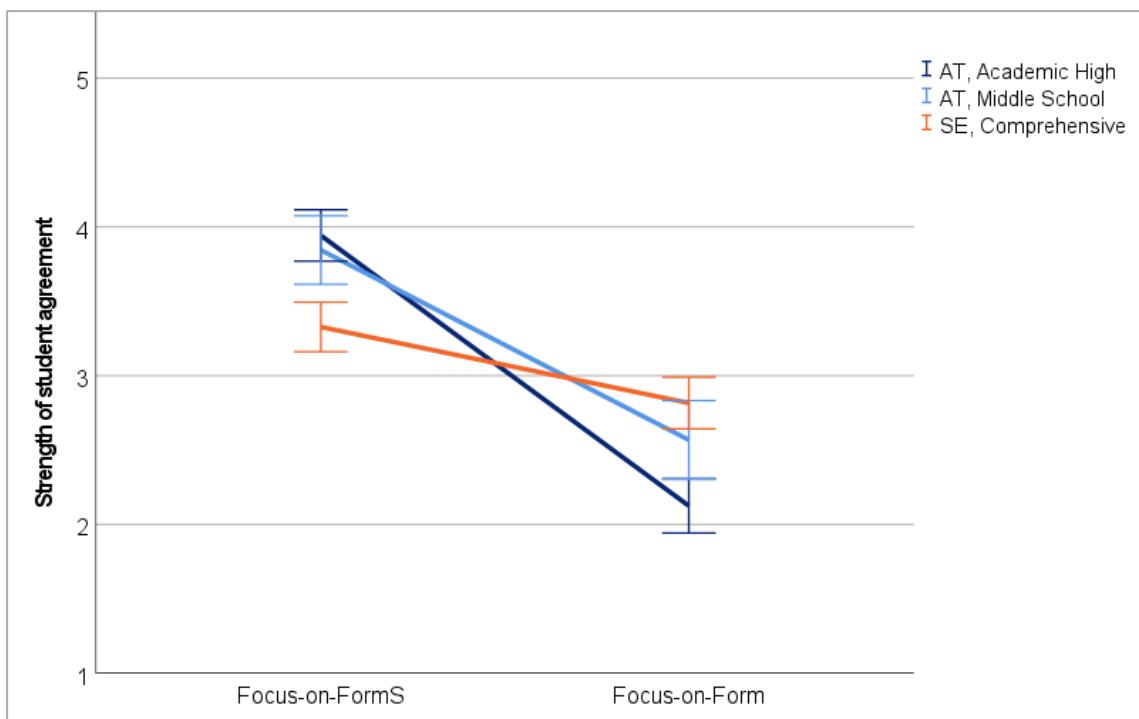


Figure 8.4 Students' agreement with classes reflecting characteristics focus-on-formS vs. focus-on-form across school types, with 95% CI error bars

As becomes apparent in Figure 8.4, Swedish students agreed only to a slightly lower degree with statements of FOCUS-ON-FORMS as compared to FOCUS-ON-FORM. This was reflected in the correlations (Table 8.4), with the two constructs correlating significantly albeit weakly with one another in the case of Sweden. In contrast, and more in line with the theoretical assumption of the two constructs occupying different poles on a continuum, a negative correlation between them became evident for the Austrian school types.

Table 8.4 Pearson correlations of focus-on-formS and focus-on-form across school types

	Focus-on-Form
AHS	Focus-on-FormS
AMS	Focus-on-FormS
Sweden	Focus-on-FormS

**Notes.** \* Correlation is significant at the .05 level, \*\* Correlation is significant at the .001 level (2-tailed). N was 64 for AHS, 44 for AMS, and 89 for Sweden.

**One-way ANOVA.** Before running the one-way ANOVA ( $N = 64$  for AHS, 44 for AMS, 89 for Sweden), the prerequisites were checked. First, there were no univariate extreme outliers in the data (see Figure 11.2 in 11.11.2). Second, the distribution of data was normal, except for both constructs in AHS ( $p < .05$ ) and for FOCUS-ON-FORMS in the Swedish sample ( $p < .002$ ),

which, however, became less apparent in histograms. Third, I could determine homogeneity of the error variances for both FOCUS-ON-FORMS ( $p > .85$ ) and FOCUS-ON-FORM ( $p > .32$ )<sup>45</sup>.

Univariate ANOVA indicated a statistically significant difference between the school types ( $p < .001$ ) in the case of both FOCUS-ON-FORMS,  $F(2, 194) = 14.46$ ,  $\eta^2 = 0.13$ , (medium effect), and FOCUS-ON-FORM,  $F(2, 194) = 13.72$ ,  $\eta^2 = 0.12$  (medium effect) (see Figure 8.5). These results were confirmed by bootstrapping using 5000 iterations.

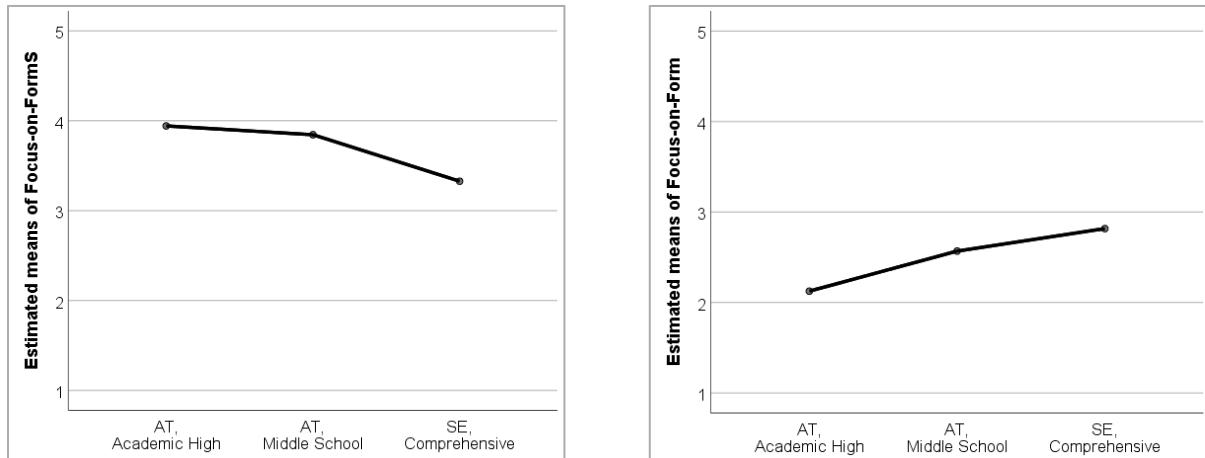


Figure 8.5 Estimated means of agreement with focus-on-form (left) and focus-on-formS (right)

Tukey post-hoc analysis on FOCUS-ON-FORMS revealed a significant difference ( $p < .001$ ) between Sweden and AHS, -0.61, 95% of the mean difference CI[-0.91, -0.32], and Sweden and AMS, -0.52, 95% CI[-0.85, -0.19], but not between AHS and AMS, 0.10, 95% CI[-0.25, 0.45],  $p = .78$ . As to FOCUS-ON-FORM, Sweden differed strongly from AHS, 0.69, 95% CI[0.38, 1.00],  $p < .001$ , but not from AMS, 0.25, 95% CI[-0.10, 0.60],  $p = .22$ . AHS and AMS differed from each other significantly, too, -0.44, 95% CI[-0.82, -0.07],  $p = .02$ . These findings were confirmed by 5000-iterated bootstrapping.

In sum, participants from both Austrian school types showed significantly greater FOCUS-ON-FORMS than students from the Swedish sample. Contrarily, levels of agreement in terms of FOCUS-ON-FORM were higher in the Swedish data but yielding a significant difference only from AHS. The next section is dedicated to teacher reports on the type of instruction applied.

<sup>45</sup> Since the data were partly normally distributed, I indicated the mean or median depending on which value was lower, summing up the two values by means of “>”.

### **8.1.3 Teacher Reports**

#### *8.1.3.1 Teacher Questionnaire*

**The Four Factors.** In the present sample, teachers from both countries overall rather agreed with their classes being **IMPLICIT FLUENCY-BASED** (see Table 8.5). However, the Swedish sample agreed more strongly with it, especially Magnus and Emma, but also Sara and Eva. Likewise, teachers from both groups seemed to provide their students with grammar rules. In the case of Austria, teachers overall appeared to agree with their classes including **EXPLICIT INSTRUCTION**. In contrast, in Sweden the range was broader, reaching from disagreement to strong agreement: while Magnus—who also agreed strongly with **IMPLICIT FLUENCY-BASED** instruction—disagreed with providing **EXPLICIT INSTRUCTION**, Pia, Christine, Karin, Pernilla, and Eva agreed, and Sara and Emma agreed strongly.

As to the different forms of explicit instruction, **INDUCTIVE** vs. **DEDUCTIVE INSTRUCTION**, all Austrian teachers but Julia had a slight tendency towards deductive instruction. In Sweden, too, the teachers all found themselves more or less in the middle of the **INDUCTIVE** vs. **DEDUCTIVE** continuum, with the largest deviation being Karin, who agreed more strongly with providing **DEDUCTIVE INSTRUCTION**. Differences between the two Austrian school types in the four factors emerged only in terms of **INDUCTIVE** teaching. Teachers' agreement with adopting the latter construct seemed somewhat higher among the AHS (Julia, Elena, Andrea) than the AMS teachers.

When it comes to **INCIDENTAL** vs. **SYSTEMATIC INSTRUCTION**, Austrian participants overall indicated to rather teach grammar as predetermined by, for instance, the course book, although Andrea and Barbara can be located in the middle of the spectrum. Most teachers in Sweden, contrarily, leaned towards **INCIDENTAL INSTRUCTION**. The exceptions were Eva, who, with the answers she provided, found herself between **INCIDENTAL** and **SYSTEMATIC INSTRUCTION**, and Karin, who agreed more with the statements suggesting **SYSTEMATIC** grammar teaching.

*Table 8.5 The type of instruction according to four factors reported by teachers in the questionnaire and compared to lower secondary teachers in Schurz & Coumel (2020)*

	<b>Teacher</b>	<b>Implicit fluency-based</b>	<b>Explicit</b>	<b>Inductive (vs. deductive)</b>	<b>Incidental (vs. systematic)</b>
<b>Austria</b>	<b>Julia</b>	<i>M</i> = 3.75	<i>M</i> = 4.00	<i>M</i> = 3.60	<i>M</i> = 2.25
	<b>Elena</b>	<i>M</i> = 3.50	<i>M</i> = 4.00	<i>M</i> = 2.60	<i>M</i> = 2.25
	<b>Andrea</b>	<i>M</i> = 3.25	<i>M</i> = 3.50	<i>M</i> = 2.60	<i>M</i> = 3.00
	<b>Barbara</b>	<i>M</i> = 4.00	<i>M</i> = 4.00	<i>M</i> = 2.40	<i>M</i> = 3.00
	<b>Veronika</b>	<i>M</i> = 3.75	<i>M</i> = 3.75	<i>M</i> = 2.40	<i>M</i> = 1.75
	<b>Schurz &amp; Coumel, 2020</b>	<i>M</i> = 3.89 <i>Md</i> = 4.00 <i>SD</i> = 0.56	<i>M</i> = 3.80 <i>Md</i> = 4.00 <i>SD</i> = 0.78	<i>M</i> = 3.14 <i>Md</i> = 3.00 <i>SD</i> = 0.75	<i>M</i> = 2.58 <i>Md</i> = 2.25 <i>SD</i> = 1.15
	<b>Magnus</b>	<i>M</i> = 4.50	<i>M</i> = 2.25	<i>M</i> = 3.40	<i>M</i> = 4.50
	<b>Christine</b>	<i>M</i> = 4.00	<i>M</i> = 3.75	<i>M</i> = 2.80	<i>M</i> = 3.75
	<b>Pia</b>	<i>M</i> = 4.00	<i>M</i> = 3.50	<i>M</i> = 3.40	<i>M</i> = 4.00
	<b>Emma</b>	<i>M</i> = 4.50	<i>M</i> = 5.00	<i>M</i> = 2.60	<i>M</i> = 3.50
<b>Sweden</b>	<b>Sara</b>	<i>M</i> = 4.25	<i>M</i> = 4.50	<i>M</i> = 2.60	<i>M</i> = 4.00
	<b>Eva</b>	<i>M</i> = 4.25	<i>M</i> = 4.25	<i>M</i> = 3.00	<i>M</i> = 3.00
	<b>Karin</b>	<i>M</i> = 4.00	<i>M</i> = 3.75	<i>M</i> = 2.20	<i>M</i> = 2.33
	<b>Pernilla</b>	<i>M</i> = 4.00	<i>M</i> = 4.00	<i>M</i> = 3.00	<i>M</i> = 4.25
	<b>Schurz &amp; Coumel, 2020</b>	<i>M</i> = 4.29 <i>Md</i> = 4.25 <i>SD</i> = 0.46	<i>M</i> = 3.73 <i>Md</i> = 3.75 <i>SD</i> = 0.65	<i>M</i> = 3.00 <i>Md</i> = 3.00 <i>SD</i> = 0.61	<i>M</i> = 3.17 <i>Md</i> = 3.00 <i>SD</i> = 1.23

The present findings can be compared to a re-evaluation of relevant data collected in Schurz and Coumel (2020)<sup>46</sup>, on teachers in Austria and Sweden who taught grade 8 ( $N = 70$ ) and 7 respectively ( $N = 53$ ) at the time of participation. In total, the results from the present teacher survey can be described as neatly mirroring the larger dataset, according to which the type of instruction also was less IMPLICIT FLUENCY-BASED and INCIDENTAL in grammar teaching in Austria as compared to Sweden, but similarly DEDUCTIVE/INDUCTIVE. Agreement to provide EXPLICIT INSTRUCTION was only negligibly higher in the Austrian sample than the Swedish group of the larger dataset. This was not seen as such among teachers of the present study, who appeared heterogenous in the extent they apply EXPLICIT INSTRUCTION.

**The Level of Instruction.** The level of instruction in which the different target structures are introduced overall was lower in the case of the classrooms investigated in Austria. Table 8.6 represents the level of instruction according to target structure and teacher. It must be noted that the level of instruction is indicated based on the given school year. Mapping the

<sup>46</sup> For a summary of their findings of the entire dataset, see 7.1.1.

average level of instruction on the learners' corresponding age, the resulting age of instruction would be 11–12 years in the case of Austria. In Sweden, the mean level of instruction would translate into an estimated age of instruction of 13–14 years. However, it must not be forgotten that in the Swedish sample, teacher responses were rather heterogeneous, much more so than in the Austrian sample. For example, Magnus responded to four structures that he did not teach explicitly at all; Emma reported to teach four of the six structures already in year 6 when learners are 12–13 years old; and Sara indicated a range of three years for all structures.

*Table 8.6 The level of instruction of six structures and their mean*

	<b>Teacher</b>	<b>3rd Person -s</b>	<b>Regular Past</b>	<b>Adjective vs. Adverb</b>	<b>Simple vs. Continuous</b>	<b>Interrogative <i>did</i></b>	<b>Negated <i>did</i></b>	<b>Mean</b>
<b>Austria</b>	<b>Julia</b>	5	5	6	5	6	6	<b>5.5</b>
	<b>Elena</b>	5	5–6	6	5	6	6	<b>5.6</b>
	<b>Andrea</b>	5	5–6	6	5	5–6	5–6	<b>5.4</b>
	<b>Barbara</b>	5	5	6	6	6	6	<b>5.7</b>
	<b>Veronika</b>	5	6	6	5	6	6	<b>5.7</b>
<b>Sweden</b>	<b>Magnus</b>	7	-	-	-	7	-	<b>(7)</b>
	<b>Christine</b>	7	7	8	8	7	7	<b>7.3</b>
	<b>Pia</b>	7	7	8–9	8	7	7	<b>7.4</b>
	<b>Emma</b>	6	6	7–8	8	6	6	<b>6.6</b>
	<b>Sara</b>	7–9	7–9	7–9	7–9	7–9	7–9	<b>8</b>
	<b>Eva</b>	7	7	9	9	7	7	<b>7.7</b>
	<b>Karin</b>	7	7	7	7	7	7	<b>7</b>
	<b>Pernilla</b>	7	7	8	7	7	7	<b>7.2</b>

**Notes.** Grades 5 and 6 in Austria correspond to year 1 and 2 of lower secondary school (Academic High School or Middle School) and age 10–11 and 11–12 years respectively. Grades 6, 7, 8, and 9 in Sweden correspond to the same years in Comprehensive School and age 12–13, 13–14, 14–15, and 15–16 years respectively.

To sum up, according to questionnaire responses, the Swedish teachers agreed more strongly with IMPLICIT FLUENCY-BASED and INCIDENTAL INSTRUCTION than the Austrian teachers. In contrast, Austrian teachers more consistently agreed with statements representing EXPLICIT INSTRUCTION than the Swedish group. The age of instruction of different grammatical features seemed somewhat higher in the Swedish sample, although responses in this group were also rather heterogeneous. When it comes to the nature of explicit teaching, there was a tendency

toward DEDUCTIVE INSTRUCTION across teachers from the two countries. The next section serves the report of the findings on the type of instruction gained through the teacher interviews.

### 8.1.3.2 Teacher Interviews<sup>47</sup>

**The Focus in ELT.** Responses to the very broad question of the focus in the teachers' English classes overall mirrored general principles of CLT, and this was true for both samples. Nevertheless, a difference between teachers of Austrian Academic High School and one Middle School teacher surfaced in the data. As to AHS teachers, they reported focusing on speaking activities and encouraging learners to speak regardless of possible mistakes (Julia), and more generally the ability to communicate, e.g.,

Speaking and listening ... the most important thing for me is that they kind of leave the fourth grade and can just cope in the world (Andrea).

Following this initial response to the question, the same teachers in turn mentioned that grammatical accuracy was secondary, while vocabulary (Julia) and writing (Andrea, Julia) were important aspects, too. Barbara, one of the Middle School teachers, also noted that successful communication trumps the importance of grammatical accuracy. Conversely, Veronika, the other Middle School teacher, expressed the necessity but also the time-consuming aspect of teaching accuracy,

Sometimes I get the feeling, if I notice that their grammar isn't so solid, that you just have to ... invest too much time in grammar.

Yet, Veronika also said they have their students speak in class and exemplified this as role plays and "*learn[ing] dialogues off by heart to start off with*". She went on by explaining such activities were important to have learners use the newly learned structures. In the interview with Elena, the question of the overall focus in ELT did not come up.

In Sweden, the teachers clearly conveyed the idea of communication-first in ELT. Three teachers explicitly referred to either "*communication*" (Emma, Karin) or to "*communicative skills*" (Christine). Related to the latter term, the other teachers suggested trying to teach a balance of speaking, writing, listening and reading (Pia, Eva), which was also the case for Christine.

<sup>47</sup> The teacher interviews targeted (1) the general focus in ELT and incidental vs. systematic grammar teaching and (2) implicit vs. explicit, inductive vs. deductive instruction, fluency teaching, the learners' EE practices, and their apparent impact on learning and ELT. The analysis and discussion of these two aspects in the data previously appeared in Schurz and Coumel (2021) and Schurz et al. (2022) respectively.

Magnus conceded that reading dominates, but that he is trying to include a combination of productive and receptive activities in each lesson. Similar to Julia and Andrea in Austria, Emma and Karin emphasized the importance of a positive error culture and learner encouragement, e.g., "*We are here to learn. Make as many mistakes as you want because we help each other*" (Emma). Although Karin said she did teach grammar, she continued by illustrating the detrimental impact that a grammar focus can have on learner confidence:

If you settle for learning correct English ... I noticed that students don't dare. Because they are afraid of making mistakes. And so while letting them ... speak and then afterwards ... when they have reached a certain language level this is when grammar becomes interesting.

This seems to be in opposition to the grammar-first approach elucidated by Veronika in Austrian Middle School. Yet, Christine reported teaching so-called base groups<sup>48</sup> with low-performing students, who, according to her, need to practice grammar in isolation.

**Incidental vs. Planned Grammar Teaching.** The degree to which teachers teach grammar incidentally or systematically seems to differ strongly between the two contexts. To begin with, when asked which features teachers typically introduce in grade 8 (age 13-14), Julia, Elena, Andrea, and Barbara readily listed them, a quite clear expression of systematic grammar teaching. Further evidence of this approach was found through information on the use of course books as syllabus guidelines and the role attributed to student needs. Indeed, in the Austrian sample, classes were revealed as being largely based on the coursebook. The Austrian teachers highlighted the advantages of the coursebook as for instance providing "*an overview*" of the school year (Elena) and constituting "*a good foundation*" of classes (Julia). Yet, reasons for deviating from the course book were reported, too, such as discarding sections due to time constraints, topics considered as irrelevant, or to match circumstances, e.g., introducing past tense at the beginning rather than the end of a school year to talk about the holidays (Veronika). Moreover, Andrea emphasized the importance of using additional, authentic material, such as watching *We Feed the World* as part of the unit on food and hunger. However, only one teacher, Barbara, invoked current learner needs as a factor that determines course content, exemplifying reactive teaching, "*if I notice there's something ... that hasn't really stuck, well then I put something in*".

Contrary to Austria, the teachers in Sweden apparently only pick individual bits and pieces from coursebooks. It seems that for each topic being dealt with, teachers draw on different

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<sup>48</sup> These students were in a separate class and did not take part in the present study.

sources, including the internet, fiction books and partly the coursebook. For instance, Magnus explained,

I wanted to do a topic and then I would find ... from different sites and things like that and different maybe movies or TV series or ... some short video clip, and then ... I would maybe use a couple of texts that were fitting from a coursebook.

Opposed to the rather positive perception that Austrian teachers have of coursebooks, two Swedish teachers alluded to their downsides, them "*get[ting] old quite quickly*" (Karin), being "*too boring*", and including "*too many different things*" (Sara). Magnus explicitly mentioned that course content is not based on a predefined long-term plan but, for instance, topical issues. Even though four teachers (Emma, Sara, Eva, and Karin) explained that they have a plan for the school term or year, they immediately also stressed that the actual way of proceeding depends on student needs, e.g.,

I often do have a plan of how more or less I'm going to proceed, but it can depend a lot on what I notice that they need, and even on what they're interested in (Eva).

Likewise, and contrary to Austria, in Sweden only Emma attempted to itemize the grammar features targeted per year when being asked to do so, but she also reported the caveat of individualization. Such reactive grammar teaching, i.e., incidental instruction based on more immediate student needs (see 3.1.3 for the definition), was further illustrated for instance by Karin, who said she had recently noticed learner deficiency and hence was going to address these aspects in class. Also the learners' own interest in form, arising for instance when they encounter difficulties in fulfilling a communicative task, can trigger grammar teaching, as Christine and Karin affirmed. Whereas reactive grammar teaching invoked by Barbara in Austria seemed teacher-fronted, Magnus emphasized the importance of providing *individual* feedback and help based on students' strengths and weaknesses. In the same vein, given great proficiency diversity within classes, Emma has her students work on grammar at their own pace and level:

If you haven't understood at all, then you should practice on kids level but if you understood a lot, why practice grammar if you master it already?.

Besides reactive instruction, pre-emptive teaching, i.e. in preparation of an activity (see 3.1.3), was illustrated by Christine. She exemplified her way of proceeding as starting with the idea of an activity outcome, such as a piece of writing, and in turn thinking about the tools learners need in order to fulfill the task. As opposed to the Austrian context, Karin claimed the Swedish ELT curriculum is "*not specific at all*" as to teaching content to be worked on in a given school

year. Some teachers appreciate this leeway, as it gives them the freedom to teach what they themselves feel like (Christine) and/or what the learners are interested in (Eva). However, major proficiency disparities within a class—necessitating highly individualized teaching—naturally comes with its own difficulties. Emma for instance deplored the fact that her eighth graders' English proficiency ranged from total beginners to upper secondary levels: "*I get to do four lesson plans per class*".

**Implicit vs. Explicit Instruction.** The interview data reveal that in Austria, grammar is typically taught explicitly, with features being introduced either inductively or deductively. Julia illustrated applying an inductive approach, exposing students to a text and asking them to infer the rule underlying a given structure. Elena and Barbara explained that such an approach works with certain features, such as with regular past (Elena), indefinite articles, and nouns in plural on *-ies* (Barbara), whereas with other structures, deductive instruction is more appropriate. At least in the case of Elena, Andrea, Barbara, and Veronika, learners have an exercise (or grammar) book in which they write down all grammatical rules they learn, as well as examples and exceptions. Looking up and applying the rules, which these teachers encourage their students to do, reflects a deductive approach. Julia noted that writing down the rules is especially important for weaker students, since "*they need more structure*". Furthermore, Andrea elucidated how she makes use of a visual representation of the tenses (and aspect)—features typically revised in grade 8—all plotted on a line to allow students to easily find the right form to use in a particular context. Following the traditional presentation, practice, and production (henceforth PPP) sequence, students in turn practice the newly taught structure by filling in worksheets, "*I've collected a whole range of them over many years, and they practice them again and again*" (Barbara), or doing gap-fill exercises in the workbook (Veronika). What Andrea proposed appears to be rather meaningful practice given the aspect of personalization, with students themselves coming up with sentences that contain the new structure in writing and speaking. Veronika, too, mentioned practicing grammar repeatedly in conversation, but it was unclear to what extent the language produced would be rather predictable or personalized.

In Sweden, as further discussed in 8.2.4, all teachers believed in grammar being acquired implicitly and thus also through the use of EE. Especially Magnus clearly expressed he "*believe[s] more in implicit learning or input through- through listening and reading*" than in the benefits of explicit instruction. Students typically encounter the grammatical features first in EE rather than in class, and yet, the Swedish teachers still seem to include explicit instruction. As

previously pointed out, what often seems to trigger grammar instruction is the learners' curiosity in or incorrect use of a given feature. Magnus, Christine, and Pia revealed they use mistakes from the learners' texts in class, with Pia for example asking them to sit in groups and discuss what is incorrect and why. However, two of the Swedish teachers highlighted the benefits of teaching grammar 'later', after implicit encounters. For example, Sara explained that learning grammar extramurally "*can work to a certain level, and then one could start learning the rules*". In the same vein, Karin advocated an approach of

letting [learners] ... speak and ... when they have reached a certain language level this is when grammar becomes interesting. Because this is when they realize that there has to be a rule.

In general, though, the Swedish teachers seemingly do not attach great importance to learners actually knowing the rules. Eva underscored that while some students require a rule, others might have an intuitive understanding of how the wording should sound. Since structures being worked on in class are usually not new to the learners, introducing a feature inductively or deductively to the whole class at once may occur less frequently in Swedish classrooms all together.

Even if on a more individual basis, the tasks being worked on in the Swedish classrooms can be compared to the ones in Austria. In the Swedish sample, rather mechanical grammar practice did occur, but this seems to be frequently done on the internet, while it may also involve worksheets and the workbook. In the case of Magnus, at the time of data collection students for instance worked online on a unit about superheroes, which targeted the comparison of adjectives. Students first completed mechanic-meaningful exercises such as fill-the-gap texts, followed by a reading and a writing task. The last task involved high communicative demand, namely writing a text about one's own superhero. This represents the production stage in PPP, which Emma also exemplified as writing a text about time travel after addressing past tense. Clearly, also in Sweden, I could find traces of PPP, with the difference lying in the more individualized introduction and practice of grammatical features.

**Fluency Teaching.** When teachers were asked how they teach fluency, they always responded in terms of speaking, and fewer differences between the two countries emerged. In Austria, all teachers mentioned both monologic and interactive tasks. Examples that were given varied, but included summarizing a text, presenting a book, discussions, and simply talking about a given topic for a certain amount of time. At least in the case of Barbara and Veronika, the Middle School teachers, the speaking tasks are typically based on the course

book *More!*. Both of them indicated that they often let students prepare for the speaking tasks at home, be it for a discussion or a mini presentation, e.g.,

There are exercises, like stimuli [in the book]... I'm giving that as homework, take a look at it, now take a position, positive or negative, and then we always put them together in pairs to discuss it (Barbara)

This was linked to both Middle School teachers highlighting the difficulties students encounter in speaking tasks. Veronika for instance pointed out that even talking for just three minutes proves very difficult for learners. In class, she said, speaking activities do work out, but she finds she has to monitor them well throughout such activities. In contrast, learner difficulties in speaking were not addressed by the AHS teachers. Julia mentioned that the students are already very much used to speaking tasks that they do in pairs or groups. Despite this ostensible difference between the two Austrian school types in terms of learner difficulties, across school types, the preferred interaction format seems to be pair and group work—rather than having individuals speak while the rest of the class is listening. For example, Elena said that "*If it's something new, mostly it's in pairs first, and then ... we basically summarize it (as a whole class)*".

The same holds true for Sweden, where teachers Pia, Emma, and Eva explained that in pair and group work, more students are taking part. Likewise, both monologic and interactive tasks were mentioned by the Swedish participants. Magnus and Karin recently had students present the countries of Great Britain, and Pia and Karin mentioned book presentations, similar to Barbara in Austria. A dialogic activity that was mentioned twice by Swedish teachers (Magnus, Karin) was speed dating, talking about a given topic for a specific duration. Frequently, however, students are asked to just talk about a random everyday topic, or play games, as Emma for instance noted. Eva, too, said that "*some speak so much you can't stop them*", although "*others struggle a lot and find it hard*". Thus, in the Swedish setting, too, learner difficulties in speaking were reported, such as learners in general having low speaking skills (Karin), them switching back to Swedish (Sara), and feeling uncomfortable (Magnus, Christine, Sara). Magnus neatly illustrated the latter aspect in saying that he struggles to get students to "*speak during class and understand that they need to use English in order to practice it*".

Another interesting aspect mentioned by Magnus appears to be related to students being used to employ English extramurally: "*It is quite common for them to feel that [a speaking activity] is just another task and that it is just school, and that this is why they do it*". In response to motivational issues like this one, Swedish teachers elucidated certain remedies. Magnus

highlighted the importance of having learners engage in topics that are “*close to them and that they have thoughts about*”, while Eva mentioned board games encouraging learners to speak. Christine explained that she often sends students to a group room to talk about a given topic, or that she has them voice-record a performance at home. In her experience, this can work wonders:

You get to see something of which you didn’t know it existed ... So I have a student ... she maybe says one or two words in a row in the classroom, and one might think that she just isn’t capable, and then you get something back and you just think ‘oh wow that was just great’!

Giving students the chance to practice speaking in a safe environment also occurred in the Austrian (Middle School) sample, where, however, teachers did not have students voice-record their speech but simply prepare talking about a specific topic at home.

#### **8.1.4 Summary**

Synthesizing the findings gained through the student and teacher surveys, a rather clear picture of the type of instruction in Austria and Sweden can be drawn. To begin with, across countries, most teachers claimed in the interviews that the general focus of their classes would be allowing students to achieve communicative skills. In Austria, grammar was reported as secondary; an exception to this was an AMS teacher, who alluded to the dominance of grammar teaching in class. In the Swedish sample, a balance of the four skills was said to be aimed for, although Magnus admitted spending most time on reading. The student-reported frequency of READING, WRITING, and LISTENING was comparable in the three school types. In addition, two Swedish teachers emphasized the benefits of teaching grammar *later*, so that students would dare to express themselves without being afraid of making mistakes. When it comes to the age of instruction, I found that grammatical features indeed seemed to be introduced somewhat later in Sweden as compared to Austria (see further down). Moreover, despite the overall agreement of participants from both countries to first and foremost teach communication, the Swedish practitioners agreed more strongly with the IMPLICIT FLUENCY-BASED approach in the questionnaire than did the Austrian teachers. Indeed, also in the interviews, all Swedish teachers agreed that grammar can be learned implicitly. This confirmed **H<sub>1.1</sub>**, suggesting a more IMPLICIT FLUENCY-BASED approach in Sweden.

Despite the apparent more implicit fluency-based approach in AHS as compared to AMS and AHS, the student-reported frequency of SPEAKING activities in the classroom—one possible manifestation of IMPLICIT FLUENCY-BASED teaching—was higher in AHS than in both Sweden

and AMS. The apparent lower frequency of speaking in Sweden and AMS coincided with teacher reports on learner difficulties in speaking, which occurred only in interviews with AMS and Swedish teachers. Asking students to prepare speaking activities at home was mentioned by AMS teachers as a strategy to mitigate those learner difficulties. In Sweden, teachers referred to various strategies to curtail learner anxiety and increase motivation, such as by gamifying tasks, making them more relatable to students, and having students speak in a separate room attached to the classroom or record their speech at home.

Despite the apparently more **IMPLICIT FLUENCY-BASED** approach in Sweden, in particular if compared to AMS, all teachers across the two samples seem to provide *some* **EXPLICIT** instruction. In the case of the questionnaire data, answers given by the Swedish teachers varied widely, making a comparison with Austria rather difficult. Whereas Magnus stuck out with his limited approval of statements concerning **EXPLICIT** instruction, Sara and Emma agreed strongly with providing **EXPLICIT** instruction. Yet, according to the interview data, grammatical rules are attributed a greater role in Austria as compared to Sweden. In Sweden, it appeared, students *can* use them if it helps them learn. As opposed to that, Austrian teachers seem to attribute an important role to having students write down and looking up grammatical rules in exercise books. Moreover, as to the frequency of in-class activities, the largest cross-country deviations were indeed found for **GRAMMAR RULES** and **PRACTICE**, but also for **VOCABULARY**, occurring significantly more frequently in the Austrian setting according to student responses. In sum, there is support from both teacher and student data for **H<sub>1.2</sub>**, proposing more **EXPLICIT** instruction in Austria. Conversely, **WATCHING** audio-visuals seems more common in the Swedish classrooms, but the difference was significant only between Sweden and AMS.

The apparent stronger focus on intentional teaching of language systems (i.e., vocabulary and grammar) in the Austrian data coincides with both Austrian school types showing significantly greater **FOCUS-ON-FORMS** than Sweden. In contrast, levels of agreement in terms of **FOCUS-ON-FORM** were higher in the Swedish data, which, however, yielded a significant difference only from AHS. This finding of a similar level of **FOCUS-ON-FORM** being applied in Swedish and AMS classes was unexpected and is not supported by the interview data. Given that results found for **FOCUS-ON-FORM**—and thus incidental grammar teaching—remained somewhat unclear, it proved instrumental to look at teacher data collected on the age of instruction and **INCIDENTAL** vs. **SYSTEMATIC** instruction. To begin with, I found a somewhat higher estimated age of instruction in Sweden based on teachers' questionnaire responses, even if teacher responses were very heterogenous. For example, Emma apparently introduces

features at a similar age as Austrian teachers. Nonetheless, it emanated from the interviews that the Swedish teachers advocate teaching grammar *later*, in response to student interest or current needs, and typically after a student's prior implicit encounter with a given feature. It follows that grammar teaching seems rather INCIDENTAL in Swedish lower secondary ELT, which also became evident through the questionnaire data. Only the questionnaire responses given by Eva and Karin point to an approach in the middle of the INCIDENTAL-SYSTEMATIC continuum and a tendency towards SYSTEMATIC teaching respectively. In contrast, interview data from Austria revealed a widely SYSTEMATIC nature of instruction, which also holds true for questionnaire responses, except for Andrea and Barbara, who could be located in the middle of the INCIDENTAL-SYSTEMATIC continuum. With these results of a more INCIDENTAL vs. SYSTEMATIC nature of grammar teaching in Sweden and in Austria respectively, **H<sub>1.3</sub>** could be confirmed.

When it comes to the nature of explicit teaching, there was a tendency toward DEDUCTIVE instruction across teachers from the two countries in terms of questionnaire responses. A cross-sample difference became apparent only for AHS teachers, who perhaps apply slightly more INDUCTIVE instruction than the remainder of teachers. This finding could not fully support **H<sub>1.4</sub>** that suggested equally INDUCTIVE/DEDUCTIVE teaching in the two contexts. Importantly, however, looking at the qualitative data, the Swedish teachers oftentimes might not actually have to formally introduce grammar features, given the learners' previous extramural language encounters. In terms of grammar practice, as covered in the teacher interviews, the approach appears to be more individual in Sweden, with learners working at their own level and pace. However, in both contexts, ELT did feature form-focused tasks such as clozes, but also more personalized and/or productive activities. Two Swedish teachers illustrated productive grammar practice that seemed communicatively embedded. Nonetheless, the extent to which the teachers from the two countries consistently implement tasks of a more or less communicative demand cannot be inferred from the interviews and hence would require further investigation.

To conclude, general similarities between the two countries emerged in the teachers' indication of teaching communication, the student-reported frequency of reading, listening, and writing in class, and the types of explicit grammar practice teachers reported. However, major deviations in the degree of systematic grammar instruction, the frequency of grammar practice and vocabulary work, and the extent to which explicit instruction is based on immediate learner needs point to a much more form-focused approach in Austria as compared to Sweden. The next section is concerned with the other factor part of the learning environment, extramural English.

## 8.2 RQ2: Extramural English

### 8.2.1 *Student-Reported Frequency of EE Engagement*

**Descriptives by Country.** As to EE FREQUENCY, student responses overall mostly covered the full range of the five-point Likert scale, from (*almost*) never (1) to (*almost*) daily (5) (see Table 8.7). Histograms, which can be inspected in the online supplementary material (11.12), pointed to a consistent non-normal distribution of data. The activities showing the highest median<sup>49</sup> frequency, (*almost*) daily, were MUSIC and SINGING among Austrian<sup>50</sup> and MUSIC and WATCHING audio-visuals among Swedish participants. Students in Austria WATCHED audio-visuals once or a few times a week. This was also the level of frequency with which the Swedish learners engaged in READING, WRITING, SPEAKING, SINGING, and GAMING. Ranked third, Austrian participants performed SPEAKING and WRITING activities once or a few times a month. The same level of engagement was revealed for Swedish participants in terms of LISTENING, the least frequent activity in that sample. In Austria, GAMING and READING were performed only once or a few times a year, and LISTENING (*almost*) never. The Swedish learners carried out all individual activities on a more frequent basis than the Austrian participants. Exceptions to this were SINGING, and, if also considering the mean, WRITING. However, 95% confidence intervals of WRITING and SINGING visibly overlapped in the two countries (see Figure 8.6). Boxplots of the eight EE variables (Figure 11.3) and a correlation table including the C-TEST, HISEI, and AGE (Table 11.7) can be found in the appendix, section 11.11.3. Descriptive statistics of the EE variables by Austrian school types (Table 11.8) can be found in the same section.

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<sup>49</sup> In this section on extramural English, 8.2, the data description refers to median values if not indicated differently in the text.

<sup>50</sup> A likely reason for the high frequency of these activities in the Austrian context is that three out of six classes recruited in Austria were from schools with a musical-creative focus.

Table 8.7 Descriptive statistics of EE frequency across activities, by country

	<b>Read</b>	<b>Write</b>	<b>Listen</b>	<b>Speak</b>	<b>Sing</b>	<b>Watch</b>	<b>Game</b>	<b>Music</b>	
<b>Austria</b>	<b>Mean</b>	2.62	2.87	2.16	3.18	3.93	3.82	2.55	4.88
	<b>95% CI</b>	2.32, 2.91	2.59, 3.15	1.88, 2.44	2.95, 3.41	3.64, 4.21	3.57, 4.07	2.23, 2.88	4.78, 4.97
	<b>Median</b>	2.00	3.00	1.00	3.00	5.00	4.00	2.00	5.00
	<b>SD</b>	1.55	1.47	1.46	1.21	1.51	1.32	1.69	0.49
	<b>Min</b>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	<b>Max</b>	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
<b>Sweden</b>	<b>Mean</b>	3.59	3.34	2.80	3.78	3.59	4.76	3.42	4.65
	<b>95% CI</b>	3.25, 3.93	3.00, 3.68	2.48, 3.13	3.53, 4.03	3.26, 3.93	4.66, 4.85	3.07, 3.77	4.50, 4.80
	<b>Median</b>	4.00	4.00	3.00	4.00	4.00	5.00	4.00	5.00
	<b>SD</b>	1.59	1.58	1.51	1.17	1.57	0.46	1.62	0.72
	<b>Min</b>	1.00	1.00	1.00	1.00	1.00	3.00	1.00	1.00
	<b>Max</b>	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00

**Notes.** N was 107 for Austria and 87 for Sweden.

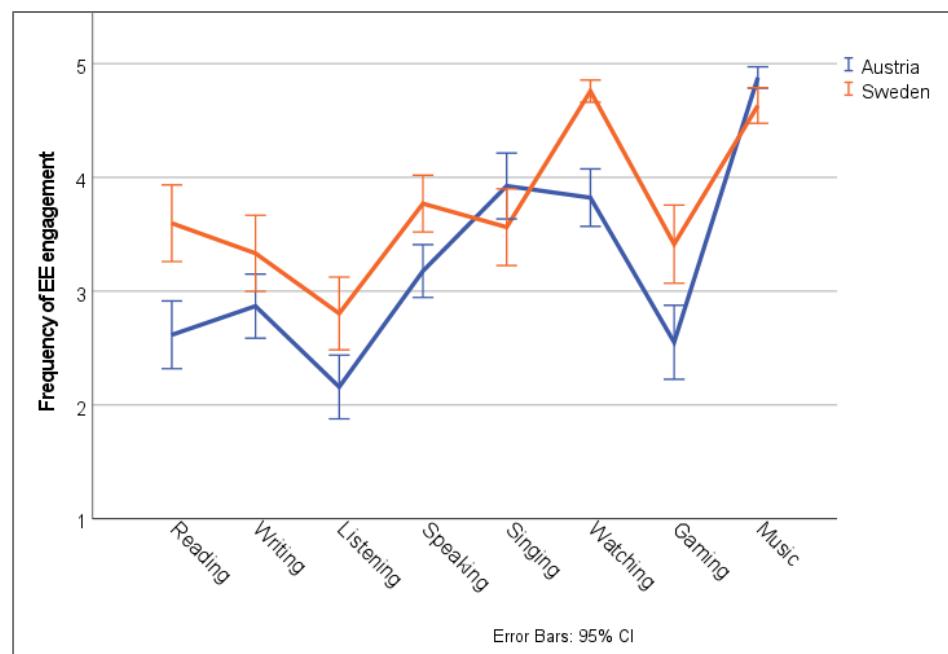


Figure 8.6 Mean EE frequency across activities and by country, with 95% CI error bars

A ranking of the activities according to the percentage of students engaging in them *once or a few times a week* or *(almost) daily* is given in Figure 8.7. This reflects the overall higher EE engagement of Swedish as compared to Austrian participants, except for LISTENING TO MUSIC and SINGING. It also became evident that MUSIC and WATCHING, as opposed to other activities, especially LISTENING, were among the most popular activities in both samples.

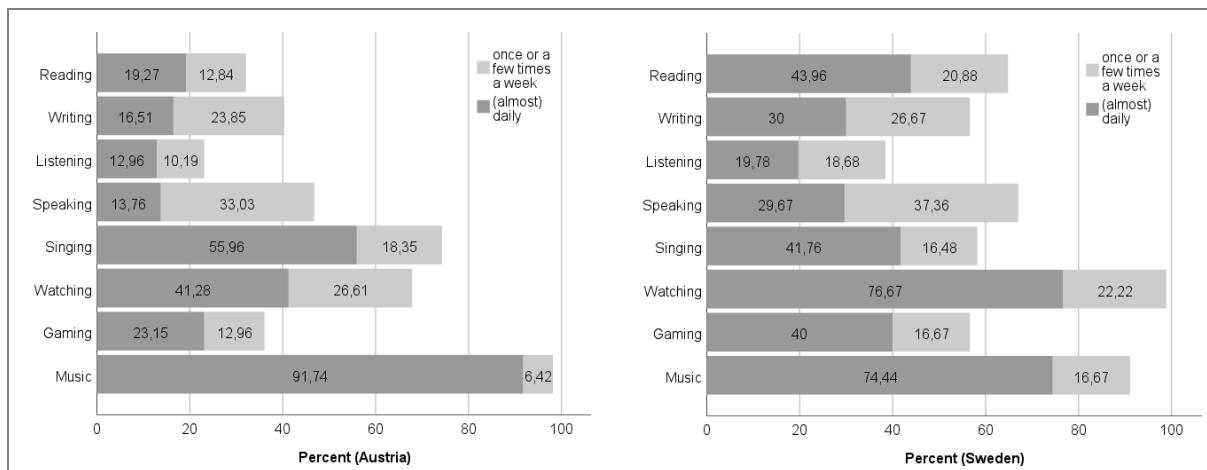


Figure 8.7 EE activities ranked according to highest frequency in Austria (left) and Sweden (right)

**Descriptives by Country and Gender.** The two countries diverged in their respective level of EE engagement also when distinguishing between GENDER (see Table 8.8 and Figure 8.8). More precisely, Swedish girls showed a higher median frequency of EE engagement than Austrian girls in all activities but SINGING and MUSIC, where the two groups were similar ((almost) daily). 95% confidence intervals of Austrian and Swedish girls did not intersect in the case of READING, WATCHING, and GAMING. This overall trend was also observed among boys. Swedish boys spent more time than Austrian boys on almost all activities. However, the groups converged in GAMING and MUSIC, typically performed (almost) daily, and Austrian boys showed a higher median for SINGING, once or a few times a month, compared to once or a few times a year among Swedish boys. In the case of SPEAKING and WATCHING, confidence intervals of Austrian and Swedish boys did not intersect. Histograms, which can be inspected in the online supplementary material (11.12), pointed to a consistent non-normal distribution of data. Boxplots of the eight EE variables by GENDER and COUNTRY (Figure 11.4 and Figure 11.5) and a correlation table including the C-TEST, HISEI, and AGE (Table 11.9) can be found in the appendix, section 11.11.3.

Table 8.8 Descriptive statistics of EE frequency across activities, by country and gender

	<b>Read</b>	<b>Write</b>	<b>Listen</b>	<b>Speak</b>	<b>Sing</b>	<b>Watch</b>	<b>Game</b>	<b>Music</b>	
<b>Girls (Austria)</b>	<b>Mean</b>	2.51	2.89	2.03	3.20	4.45	3.75	1.87	4.94
	<b>95% CI</b>	2.15, 2.87	2.54, 3.24	1.70, 2.36	2.90, 3.49	4.21, 4.69	3.43, 4.06	1.55, 2.20	4.89, 5.00
	<b>Median</b>	2.00	3.00	1.00	3.00	5.00	4.00	1.00	5.00
	<b>SD</b>	1.52	1.48	1.40	1.24	1.00	1.33	1.38	0.23
	<b>Min</b>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	4.00
	<b>Max</b>	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
<b>Girls (Sweden)</b>	<b>Mean</b>	3.51	3.43	2.69	3.65	4.29	4.71	2.65	4.80
	<b>95% CI</b>	3.08, 3.94	3.02, 3.84	2.28, 3.09	3.30, 3.99	3.97, 4.62	4.56, 4.85	2.22, 3.07	4.68, 4.93
	<b>Median</b>	4.00	4.00	2.00	4.00	5.00	5.00	3.00	5.00
	<b>SD</b>	1.51	1.45	1.44	1.23	1.15	0.50	1.51	0.45
	<b>Min</b>	1.00	1.00	1.00	1.00	1.00	3.00	1.00	3.00
	<b>Max</b>	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
<b>Boys (Austria)</b>	<b>Mean</b>	2.83	2.83	2.42	3.14	2.89	3.97	3.89	4.75
	<b>95% CI</b>	2.29, 3.38	2.34, 3.33	1.89, 2.94	2.74, 3.54	2.28, 3.50	3.53, 4.41	3.40, 4.38	4.49, 5.01
	<b>Median</b>	3.00	3.00	2.00	3.00	3.00	4.00	5.00	5.00
	<b>SD</b>	1.61	1.46	1.56	1.17	1.80	1.30	1.45	0.77
	<b>Min</b>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	<b>Max</b>	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
<b>Boys (Sweden)</b>	<b>Mean</b>	3.71	3.20	2.97	3.97	2.57	4.83	4.54	4.43
	<b>95% CI</b>	3.13, 4.30	2.59, 3.81	2.42, 3.53	3.60, 4.34	2.04, 3.10	4.70, 4.96	4.20, 4.89	4.10, 4.75
	<b>Median</b>	5.00	4.00	3.00	4.00	2.00	5.00	5.00	5.00
	<b>SD</b>	1.71	1.76	1.62	1.07	1.54	0.38	1.01	0.95
	<b>Min</b>	1.00	1.00	1.00	2.00	1.00	4.00	1.00	1.00
	<b>Max</b>	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00

**Notes.** N was 70 (girls) and 34 (boys) for Austria and 42 (girls) and 33 (boys) for Sweden.

<sup>1</sup>The variable of the weekly sum of EE hours was not included in the Mixed ANOVA.

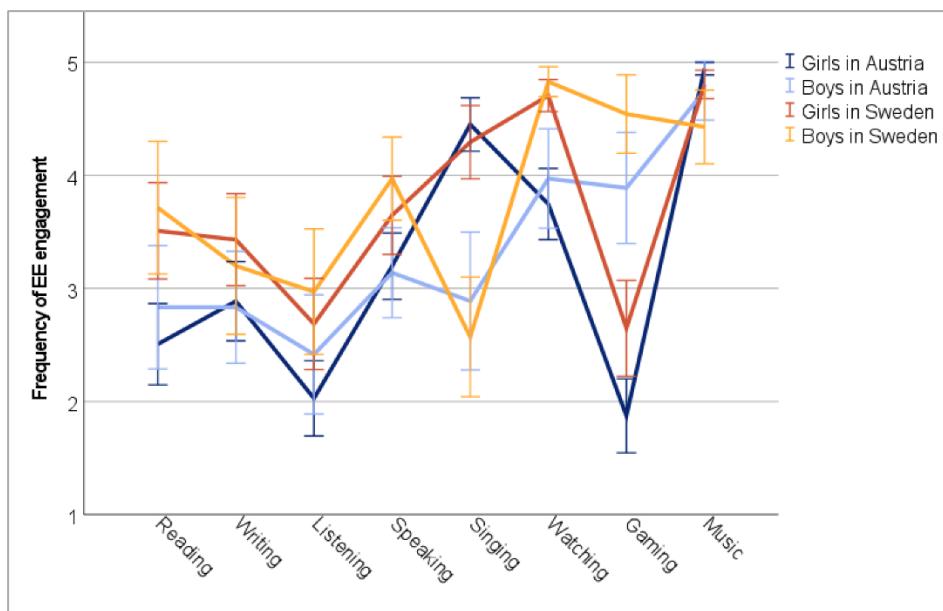


Figure 8.8 Mean EE frequency across activities and by country and gender, with 95% CI error bars

Despite these cross-country differences, the order of preference of EE activities was strikingly similar among students of the same GENDER in the two countries (see Table 8.11 & Figure 8.8). Again always as based on the median, among girls in both groups, MUSIC, SINGING, and WATCHING constituted the top three activities, and GAMING and LISTENING ranked last. The middle-ranked activities were SPEAKING/WRITING and READING, in that order, in Austria, while these activities seemed equally common in Sweden. The percentage of girls in each country having indicated frequent engagement in the activities is visualized in Figure 8.9.

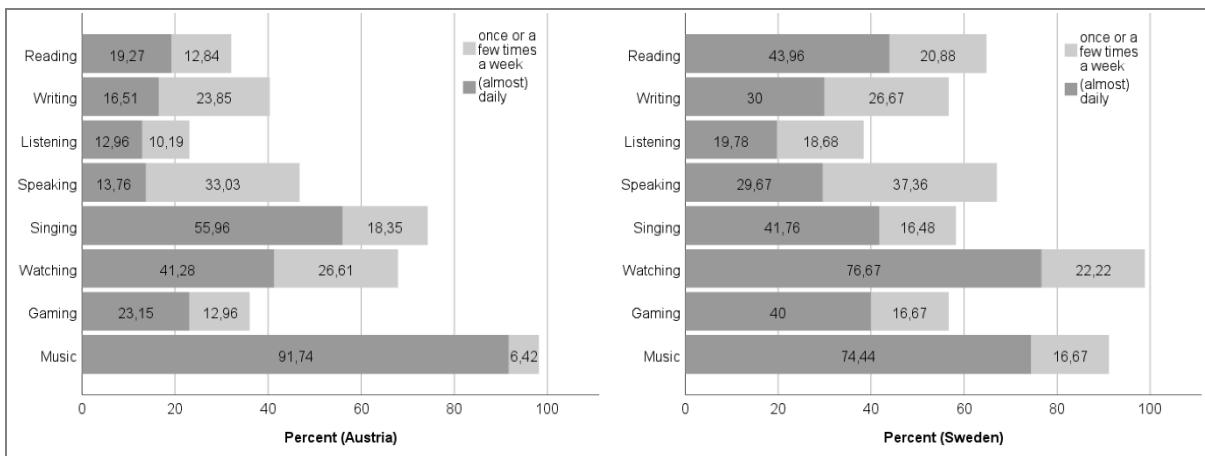


Figure 8.9 EE activities according to the high frequency of engagement among girls in Austria (left) and girls in Sweden (right)

Among boys, MUSIC, GAMING, and WATCHING were the most frequently performed activities in Austria, which held true for Sweden together with READING when considering the median (see Table 8.11 and Figure 8.8). This was followed by SINGING/SPEAKING/WRITING/READING

and LISTENING in Austria, and by WRITING/SPEAKING, LISTENING, and SINGING in Sweden. The percentage of boys in Austria and Sweden having indicated frequent engagement in the activities is visualized in Figure 8.10.

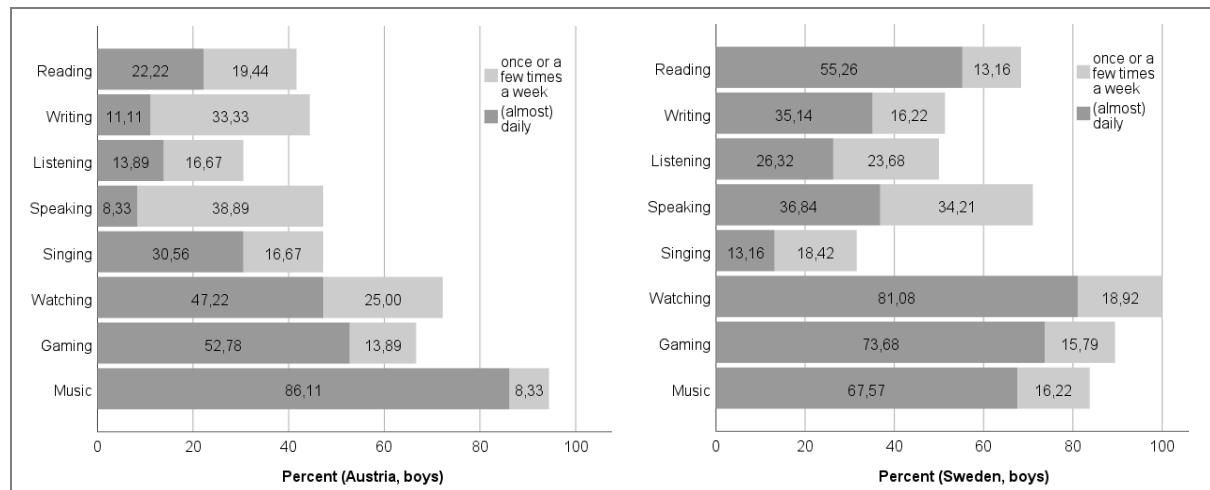


Figure 8.10 *EE activities according to high frequency of engagement among boys in Austria (left) and boys in Sweden (right)*

In sum, a higher frequency of EE engagement surfaced among Swedish participants, which holds true also when considering boys and girls separately. In the next section, the extent of students' EE use will be looked at more closely, in terms of weekly hours dedicated to such activities.

## 8.2.2 Student-Reported Weekly Amount of EE

### 8.2.2.1 Descriptive Statistics

**Descriptives by Country.** Regarding total WEEKLY EE, students in the Swedish sample appeared to engage in EE more extensively than the Austrian sample—even though 95% confidence intervals partly overlapped (see Table 8.9 and Figure 8.14). In sum, considering the median, Austrian participants spent 16.71 hours a week on EE. The median of the Swedish sample was also higher for the individual activities of READING, WRITING, LISTENING, SPEAKING, WATCHING audio-visuals, and GAMING. Conversely, the Austrian students seemed to engage (slightly) more in SINGING and LISTENING TO MUSIC<sup>51</sup>, as was also observed for EE FREQUENCY. Despite these marked cross-country differences, the 95% confidence intervals always overlapped, except for WATCHING and GAMING. Considering the median per activity in

<sup>51</sup> A likely reason for Austrian learners spending the most time on these activities is that three out of six classes recruited in Austria were from schools with a musical-creative focus.

the two countries separately, LISTENING TO MUSIC constituted the highest weekly exposure in Austria, followed by WATCHING and SINGING, as compared to WATCHING and READING/LISTENING TO MUSIC in Sweden. LISTENING/GAMING and WRITING were the least preferred activities among the Austrian students, and LISTENING, SINGING, and WRITING among the participants from Sweden. Histograms, which can be inspected in the online supplementary material (11.12), pointed to a consistent non-normal distribution of data. A correlation table of the eight EE variables by COUNTRY, including the C-TEST, HISEI, and AGE (Table 11.7), can be found in the appendix, section 11.11.4. Descriptive statistics of the EE variables by Austrian school types can be found in the same section (Table 11.11).

*Table 8.9 Descriptive statistics of weekly EE per activity and in total, by country*

	Read	Write	Listen	Speak	Sing	Watch	Game	Music	EE <sup>1</sup>
Austria	<b>Mean</b>	3.25	1.90	1.17	2.15	3.37	3.80	2.65	7.66 <b>25.94</b>
	<b>95% CI</b>	1.97, 4.54	1.18, 2.62	0.51, 1.82	1.25, 3.04	2.32, 4.42	2.86, 4.74	1.52, 3.77	5.74, 9.58 <b>20.79, 31.10</b>
	<b>Median</b>	1.00	0.50	0.00	0.88	1.21	2.50	0.00	5.00 <b>16.71</b>
	<b>SD</b>	6.61	3.70	3.36	4.60	5.40	4.84	5.77	9.87 <b>26.51</b>
	<b>Min</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 <b>0.00</b>
	<b>Max</b>	38.00	24.00	24.00	38.00	30.00	26.75	36.00	70.00 <b>122.50</b>
Sweden	<b>Mean</b>	5.73	2.50	2.14	3.68	2.67	8.12	6.35	4.80 <b>36.00</b>
	<b>95% CI</b>	3.76, 7.71	1.56, 3.45	0.91, 3.38	1.99, 5.38	1.51, 3.84	6.50, 9.74	4.13, 8.57	3.24, 6.35 <b>28.78, 43.22</b>
	<b>Median</b>	3.00	0.67	0.33	1.08	0.25	6.35	2.00	3.00 <b>26.50</b>
	<b>SD</b>	8.71	4.17	5.44	7.47	5.13	7.15	9.78	6.87 <b>31.82</b>
	<b>Min</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 <b>0.00</b>
	<b>Max</b>	52.00	20.00	40.00	55.00	20.18	35.97	50.00	42.00 <b>126.83</b>

**Notes.** N was 104 for Austria and 75 (77 for 'EE in sum') for Sweden.

<sup>1</sup>This variable of the weekly sum of EE hours was not included in the Mixed ANOVA reported below.

**Descriptives by Gender.** Despite the cross-country differences that became apparent at a first glance, GENDER also proved to be an important predictor. Comparing the two groups, boys showed higher levels of total EE usage as well as greater engagement in READING, LISTENING, SPEAKING, WATCHING, and GAMING—always based on the median. Girls in contrast seemed to spend more time WRITING, SINGING, and LISTENING TO MUSIC than boys. 95% confidence intervals of the two groups overlapped for all activities but SINGING and GAMING, where the groups thus differed greatly (see Table 8.7). As to the order of preference, girls spent most time LISTENING TO MUSIC, WATCHING audio-visuals, and SINGING, followed by

READING and SPEAKING, WRITING, and GAMING/LISTENING were the least common activities among girls. Boys seemingly invested most time in WATCHING, GAMING, and LISTENING TO MUSIC, followed by READING and SPEAKING. WRITING, LISTENING, and SINGING appeared as the least popular activities in this group. Histograms, which can be inspected in the online supplementary material (11.12), pointed to a consistent non-normal distribution of data. A correlation table of the eight EE variables by GENDER, including the C-TEST, HISEI, and AGE (Table 11.12), can be found in the appendix, section 11.11.4.

*Table 8.10 Descriptive statistics of weekly EE per activity and in total, by gender*

	Read	Write	Listen	Speak	Sing	Watch	Game	Music	EE <sup>1</sup>
Girls	<b>Mean</b>	3.60	2.41	1.27	2.55	4.26	5.34	1.46	7.62 <b>28.51</b>
	<b>95% CI</b>	2.42, 4.79	1.62, 3.19	0.47, 2.07	1.44, 3.67	3.14, 5.37	4.09, 6.60	0.79, 2.13	5.67, 9.56 <b>23.07, 33.96</b>
	<b>Median</b>	1.42	0.51	0.00	0.92	2.00	3.00	0.00	5.00 <b>17.83</b>
	<b>SD</b>	6.31	4.20	4.27	5.98	5.93	6.72	3.58	10.41 <b>29.09</b>
	<b>Min</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>0.00</b>
	<b>Max</b>	38.00	24.00	40.00	55.00	30.00	35.97	24.00	70.00 <b>125.85</b>
Boys	<b>Mean</b>	5.52	1.70	2.13	3.16	0.88	6.15	8.96	4.56 <b>33.06</b>
	<b>95% CI</b>	3.20, 7.84	0.88, 2.51	1.00, 3.25	1.66, 4.66	0.34, 1.43	4.78, 7.52	6.36, 11.56	3.38, 5.73 <b>25.79, 40.32</b>
	<b>Median</b>	2.33	0.50	0.17	1.00	0.02	5.00	4.83	3.00 <b>23.50</b>
	<b>SD</b>	9.49	3.35	4.61	6.15	2.25	5.63	10.66	4.82 <b>29.79</b>
	<b>Min</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	<b>2.00</b>
	<b>Max</b>	52.00	20.00	24.00	38.00	13.00	26.00	50.00	24.00 <b>126.83</b>

**Notes.** N was 112 for girls and 67 for boys.

<sup>1</sup>This variable of the weekly sum of EE hours was not included in the Mixed ANOVA reported below.

**Descriptives by Country and Gender.** The afore-mentioned greater total amount of time spent on EE by Swedish than Austrian learners held true also when looking at girls and boys separately (see Table 8.11). For the individual activities, Swedish girls showed a higher median than Austrian girls in all activities but SPEAKING, SINGING, and MUSIC; and Swedish boys showed a higher median than Austrian boys in all activities but WRITING, SINGING, and MUSIC. In each country, girls in sum spent less time on EE than boys. However, 95% confidence intervals intersected at least partly. The order of preference of EE activities was very similar among girls in the two countries and among boys as well. Always considering the median, among girls, MUSIC and WATCHING ranked in the top two, and WRITING, GAMING, and LISTENING, in that order, ranked last. The middle-ranked activities, SINGING, SPEAKING, and READING,

differed in their order. Among boys from both countries, MUSIC, GAMING, WATCHING, and READING were in the top four ranks, but showing a different order. The remainder of activities, SPEAKING, WRITING, and SINGING/LISTENING or LISTENING/SINGING showed almost the same sequence in the two male groups. Histograms, which can be inspected in the online supplementary material (11.12), clearly indicated a non-normal distribution of data. A correlation of the eight EE variables table by GENDER and COUNTRY, including the C-TEST, HISEI, and AGE (Table 11.12), can be found in the appendix, section 11.11.4.

*Table 8.11 Descriptive statistics of weekly EE per activity and in total, by country and gender*

	Read	Write	Listen	Speak	Sing	Watch	Game	Music	EE <sup>1</sup>
<b>Girls (Austria)</b>	<b>Mean</b>	3.24	2.25	0.65	1.85	4.41	3.52	0.81	9.07 <b>25.82</b>
	<b>95% CI, lower</b>	1.61, 4.88	1.23, 3.27	0.20, 1.11	1.16, 2.54	2.95, 5.88	2.41, 4.63	0.25, 1.37	6.30, 11.85 <b>19.46, 32.18</b>
	<b>Median</b>	0.63	0.50	0.00	0.92	2.00	2.50	0.00	5.38 <b>16.63</b>
	<b>SD</b>	6.87	4.29	1.92	2.89	6.14	4.65	2.34	11.62 <b>26.69</b>
	<b>Min</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 <b>0.00</b>
	<b>Max</b>	38.00	24.00	14.00	16.33	30.00	26.75	17.00	70.00 <b>122.50</b>
<b>Girls (Sweden)</b>	<b>Mean</b>	4.20	2.67	2.30	3.73	4.00	8.38	2.56	5.18 <b>33.00</b>
	<b>95% CI</b>	2.55, 5.85	1.39, 3.94	0.29, 4.30	0.93, 6.52	2.24, 5.75	5.76, 11.00	1.05, 4.07	2.85, 7.52 <b>22.86, 43.15</b>
	<b>Median</b>	2.00	0.75	0.33	0.88	1.75	6.17	0.67	3.00 <b>24.00</b>
	<b>SD</b>	5.29	4.08	6.43	8.97	5.63	8.41	4.84	7.51 <b>32.55</b>
	<b>Min</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 <b>0.00</b>
	<b>Max</b>	24.33	15.50	40.00	55.00	20.00	35.97	24.00	42.00 <b>125.85</b>
<b>Boys (Austria)</b>	<b>Mean</b>	3.27	1.19	2.22	2.76	1.22	4.38	6.43	4.74 <b>26.19</b>
	<b>95% CI</b>	1.13, 5.41	0.55, 1.83	0.44, 3.99	0.34, 5.18	0.44, 1.99	2.54, 6.21	3.49, 9.36	3.70, 5.79 <b>16.93, 35.45</b>
	<b>Median</b>	1.58	0.50	0.08	0.79	0.29	3.00	3.88	4.50 <b>17.46</b>
	<b>SD</b>	6.13	1.84	5.09	6.93	2.23	5.25	8.41	2.99 <b>704.25</b>
	<b>Min</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 <b>2.00</b>
	<b>Max</b>	34.00	8.00	24.00	38.00	10.00	22.83	36.00	12.00 <b>119.00</b>
<b>Boys (Sweden)</b>	<b>Mean</b>	7.84	2.22	2.04	3.57	0.54	7.97	11.57	4.37 <b>40.13</b>
	<b>95% CI</b>	3.70, 11.98	0.67, 3.77	0.57, 3.51	1.69, 5.45	-0.26, 1.34	6.03, 9.92	7.26, 15.88	2.17, 6.57 <b>28.90, 51.35</b>
	<b>Median</b>	4.00	0.33	0.50	1.17	0.00	7.50	7.00	2.50 <b>29.75</b>
	<b>SD</b>	11.67	4.37	4.14	5.30	2.26	5.48	12.15	6.21 <b>31.66</b>
	<b>Min</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00 <b>5.83</b>
	<b>Max</b>	52.00	20.00	20.00	25.45	13.00	26.00	50.00	24.00 <b>126.83</b>

**Notes.** N was 70 (girls) and 34 (boys) for Austria and 42 (girls) and 33 (boys) for Sweden.

<sup>1</sup>This variable of the weekly sum of EE hours was not included in the Mixed ANOVA reported below.

### 8.2.2.2 Add-On: Subtitling Practices and Co-Gaming

The subcategories of the eight types of extramural English (see 7.3.4.3) were not considered in any inferential evaluations. This would have exceeded the scope of the study and resulted in unreliable results, given the frequent response of zero minutes indicated by participants for different activity sub-types. It nonetheless seemed pertinent to examine what the nature of students' engagement in audio-visual input looked like, including WATCHING without subtitles, with English subtitles, or with subtitles in another language, and GAMING with others (i.e., multi-player online games) or by oneself. For simplicity, and because no further analyses were conducted, these data are presented in a line chart (Figure 8.11<sup>52</sup>).

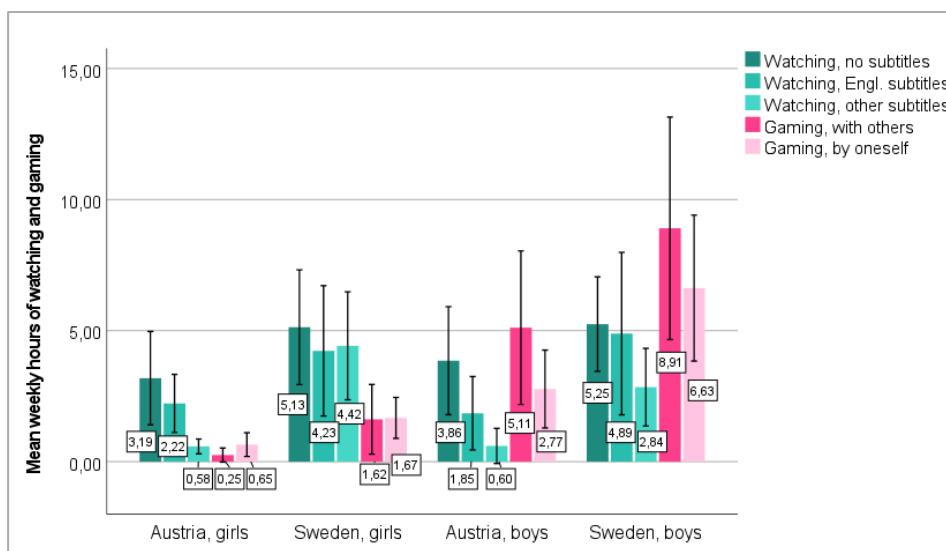


Figure 8.11 Mean weekly hours of different types of watching and gaming, with 95% CI

Considering students who reported regularly WATCHING audio-visuals in English, students from both groups mostly renounced the use of subtitles altogether. The second most popular choice among Austrian students and Swedish boys was the use of English subtitles. Swedish girls showed a nearly equal preference for subtitles in English or in another language. Subtitles in another language (e.g., in German or Swedish) were used much less in the other groups. This is also the category in which the clearest cross-country difference emerged—the use of subtitles in another language was much more widespread among Swedish than Austrian participants. As to GAMING, boys from both countries showed a clear preference for playing online with others, whereas among girls, the two types of gaming were comparably uncommon.

<sup>52</sup> N for Austrian girls was 43, 23, 59, 69, and 52; for Austrian boys 15, 9, 30, 29, 27; for Swedish boys 26, 19, 31, 35, and 30; and for Swedish girls 36, 32, 41, 44, and 38, for English subtitles, subtitles in another languages, no subtitles, gaming by oneself, and co-gaming, respectively.

### 8.2.2.3 Mixed ANOVA by Country and Gender

A mixed ANOVA was run on the eight EE activity variables using Huynh-Feldt adjustment. The sample size was  $N = 104$  for Austria (70 girls, 34 boys) and  $N = 75$  for Sweden (42 girls, 33 boys). The non-normal distribution of the data, as detected through visual inspection of histograms and Shapiro-Wilk test,  $p < .001$ , was disregarded. Despite numerous extreme outliers (see boxplots in Figure 11.6 to Figure 11.9 in 11.11.4), all inconspicuous cases below the cut-off values indicated in 7.5.7 were retained. Levene's test revealed that homogeneity of variances was not given in the case of SINGING, WATCHING, GAMING, and MUSIC,  $p < .005$ , implying that the respective  $p$ -values of the within-factors and between-factor could be marginally affected. Moreover, Box's test showed unequal covariances,  $p < .001$ , which could undermine the generalizability of the results.

Between-subject effects indicated a significant difference across COUNTRIES,  $F(1, 175) = 5.40$ ,  $p = .02$ , partial  $\eta^2 = .03$ , EE being significantly more dominant in Sweden ( $M = 4.52$ ,  $SD = 6.85$ ) than in Austria ( $M = 3.24$ ,  $SD = 5.52$ ). No significant difference was found in GENDER,  $F(1, 175) = 0.68$ ,  $p = .41$ , partial  $\eta^2 = .00$ , i.e., between boys ( $M = 4.13$ ,  $SD = 5.87$ ) and girls ( $M = 3.56$ ,  $SD = 5.92$ ) (see Figure 8.12). The interaction COUNTRY\*GENDER was not significant either,  $F(1, 175) = .55$ ,  $p = .46$ , partial  $\eta^2 = .00$ . It appeared that girls in Sweden ( $M = 4.13$ ,  $SD = 6.40$ ) did not spend significantly more time on EE than girls in Austria ( $M = 3.23$ ,  $SD = 4.86$ ), and the same held true for boys in Austria ( $M = 3.27$ ,  $SD = 4.86$ ) and in Sweden ( $M = 5.02$ ,  $SD = 6.45$ ) (see Figure 8.13). All effects were of a small size.

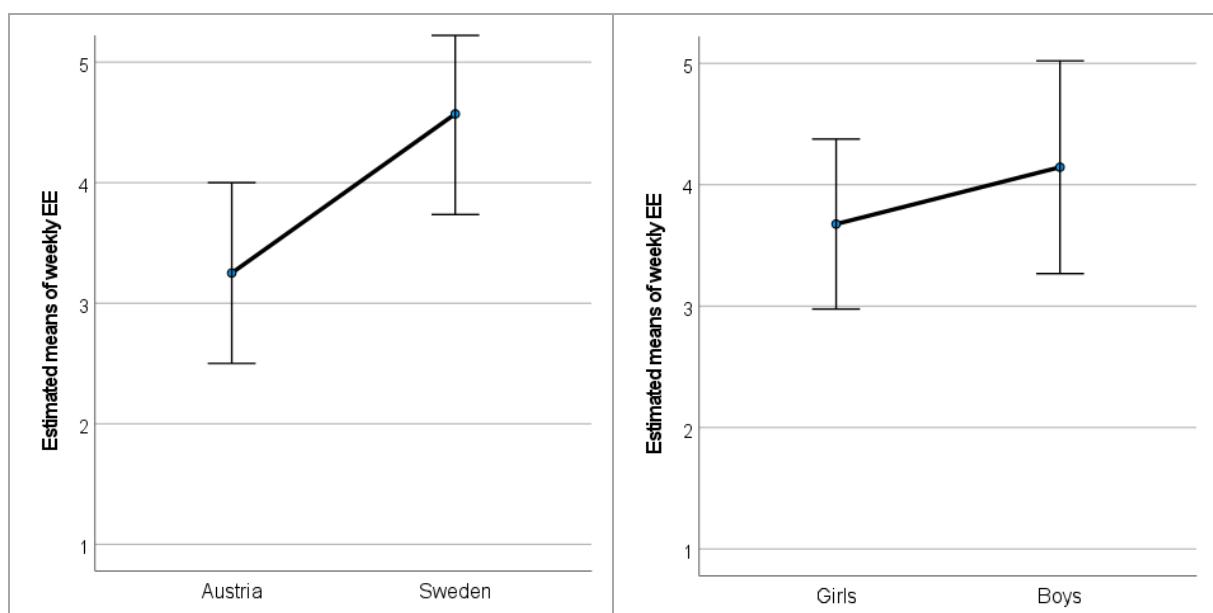
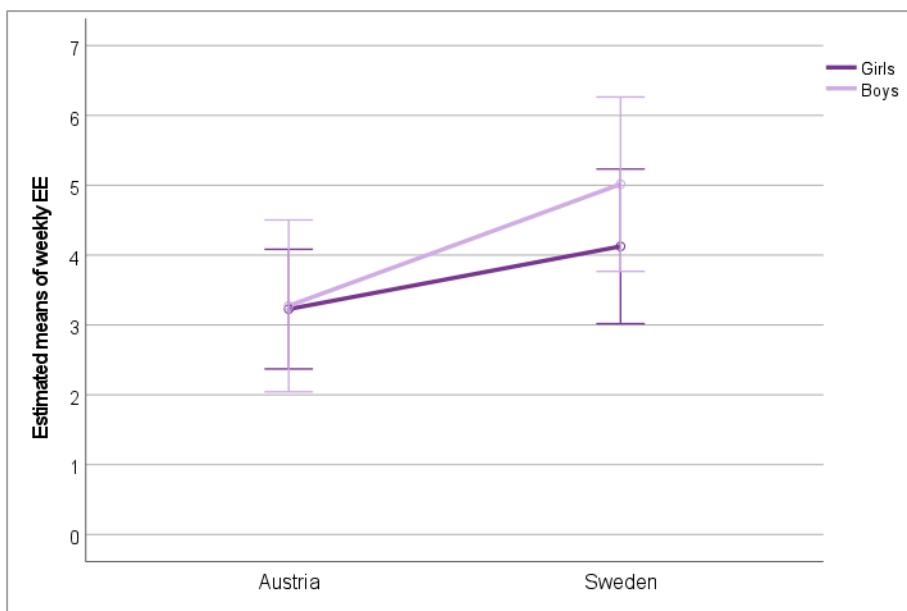
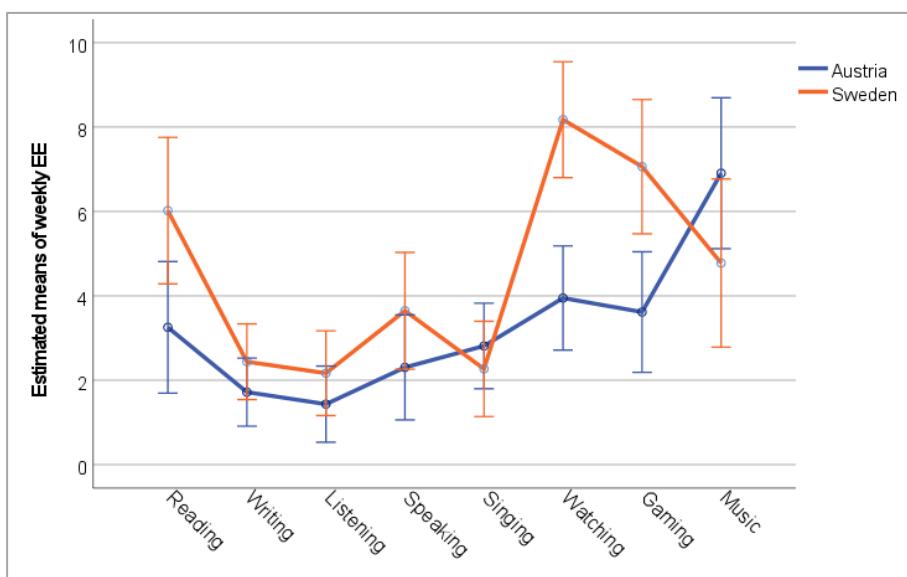


Figure 8.12 Estimated means of weekly hours of EE across countries (left) and gender (right), with 95% CI error bars



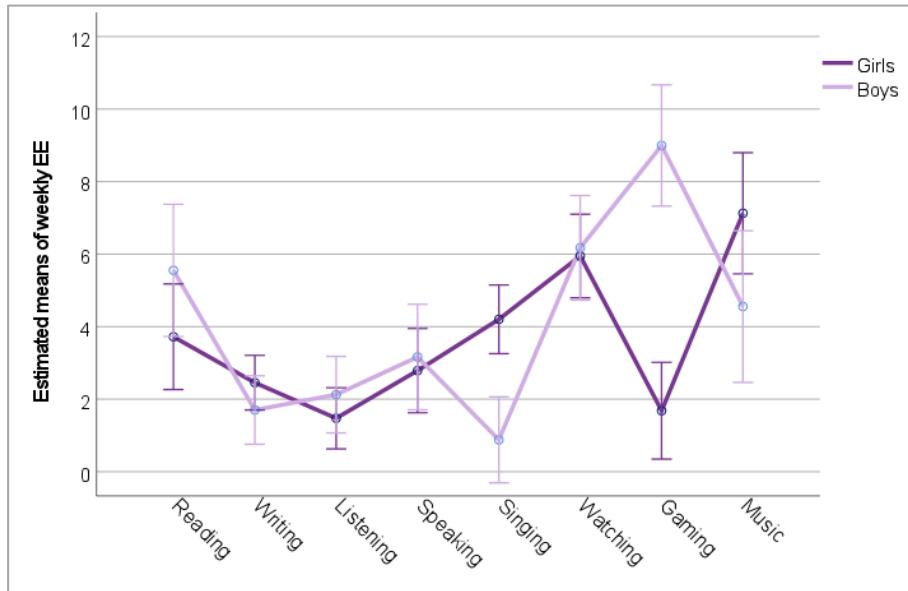
*Figure 8.13 Estimated means of weekly hours of EE across countries and gender, with 95% CI error bars*

There was a significant interaction of WEEKLY EE and COUNTRY,  $F(5.50, 963.27) = 6.20, p < .001$ , partial  $\eta^2 = .03$  (small effect), and of WEEKLY EE and GENDER,  $F(5.50, 963.27) = 14.72, p < .001$ , partial  $\eta^2 = .08$  (medium effect). Considering individual activities, significant differences between COUNTRIES emerged in the case of WATCHING (4.23, 95% CI[2.38, 6.07],  $p < .001$ ), GAMING (3.45, 95% CI[1.31, 5.58],  $p < .01$ ), and READING (2.77, 95% CI[0.43, 5.10],  $p = .02$ ), which students in the Swedish samples seem to engage in more intensively. No significant difference across Austria and Sweden emerged for the other activities,  $p \geq .12$  (see Figure 8.14 and Table 8.10).



*Figure 8.14 Estimated means of weekly hours of EE across activities and countries, with 95% CI error bars*

Secondly, with a medium effect size, significant differences ( $p < .001$ ) emerged between activities and GENDER in SINGING (3.32, 95% CI[1.81, 4.84]), performed more extensively by girls, and GAMING (7.32, 95% CI[5.18, 9.45]), spent more time on by boys. No significant difference across GENDER emerged for MUSIC ( $p = .06$ ) and the other activities ( $p \geq .12$ ) (see Figure 8.15 and Table 8.10).



*Figure 8.15 Estimated means of weekly hours of EE across activities and gender, with 95% CI error bars*

The three-way interaction of WEEKLY EE, COUNTRY, and GENDER did not reach significance,  $F(5.50, 963.27) = 1.88, p = .09$ , partial  $\eta^2 = .01$ , and the effect size was small. However, visual representations of estimated means per activity and COUNTRY separately by GENDER displayed non-intersecting or only marginally intersecting 95% confidence intervals in the case of WATCHING among girls in Austria vs. Sweden, and in the case of GAMING, READING, and WATCHING among boys in Austria vs. Sweden (see Table 8.11 and Figure 8.16).

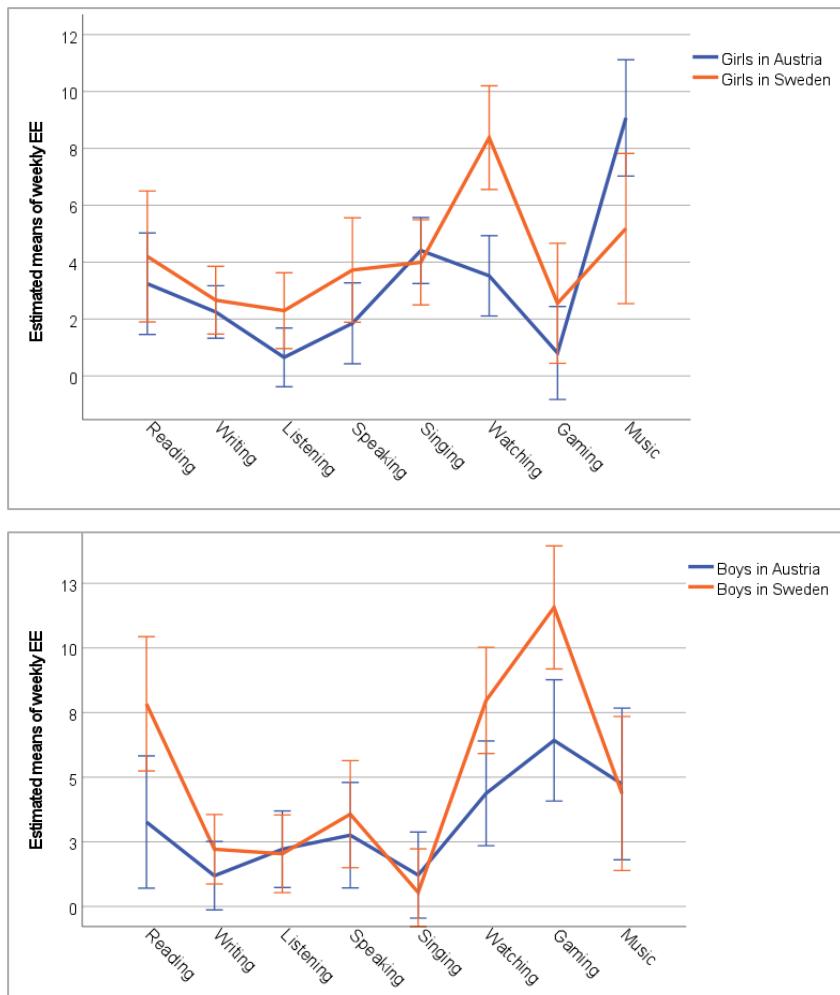


Figure 8.16 Estimated means of weekly hours of EE across activities and countries among girls (top) and boys (bottom), with 95% CI error bars

In sum, weekly extramural English use was overall found to be spent significantly more time on among the 13- to 14-year-olds in Sweden than in Austria, but the difference was not significant when considering girls and boys separately. To what extent the higher EE use among the Nordic participants extends to the starting age of engagement is subject of the next section.

### 8.2.3 Student-Reported Age of EE Onset

**Descriptive Statistics by Country.** The Swedish sample showed a lower median starting age than the Austrian sample in terms of all EE activities but SPEAKING and MUSIC, with which Austrian participants started slightly earlier according to their self-reports. The most salient cross-country gap could be detected for WATCHING audio-visuals in English, which Swedish participants typically started doing regularly at age 9–10 and Austrian learners around 12 years (see Table 8.12 and Figure 8.17). In addition to WATCHING, 95% confidence intervals of the two countries did not overlap for READING either. In both samples, the activity emerging first in a student's life seemed to be LISTENING TO MUSIC at age 6–7 years. This was followed by SINGING and GAMING in the Austrian group, and by WATCHING audio-visuals and SINGING among the Swedish learners. The activity started with most recently based on the median, was READING among Austrian learners at age 12, followed by WATCHING/LISTENING and WRITING. Swedish participants apparently started most recently to regularly LISTEN to things in English<sup>53</sup>, followed by SPEAKING and READING/WRITING. The fairly similar starting age across countries with the exceptions of READING and WATCHING must be regarded in light of the proportion of students excluded from this analysis. Those students were not considered because they had never started doing this activity regularly to the date of testing. This proportion of students in each case was considerably higher among Austrian students, with the exceptions of SINGING and LISTENING TO MUSIC (see Table 8.12), which were also the activities that in general seemed to be engaged in more among the Austrian than the Swedish learners. Histograms, which can be inspected in the online supplementary material (11.12), pointed to partly non-normally distributed data. A correlation table of the eight WEEKLY EE variables by COUNTRY, including the C-TEST, HISEI (Table 11.14), and a descriptive statistics table by Austrian school types (Table 11.16) can be found in the appendix, 11.11.5.

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<sup>53</sup> To remind the reader, listening excluded listening to music and any audio-visual input.

Table 8.12 Descriptive statistics of age of EE onset of students regularly engaging in the activities

	<b>Read</b>	<b>Write</b>	<b>Listen</b>	<b>Speak</b>	<b>Sing</b>	<b>Watch</b>	<b>Game</b>	<b>Music</b>
<b>Austria</b>	<b>Mean</b>	11.63	11.37	10.64	11.24	9.30	11.57	10.60
	<b>95% CI</b>	11.18, 12.09	10.95, 11.79	9.28, 12.00	10.83, 11.65	8.66, 9.95	11.15, 11.99	9.97, 11.22
	<b>Median</b>	12.25	11.46	12.17	11.17	9.92	12.17	10.71
	<b>SD</b>	1.62	1.65	4.02	1.76	2.83	1.99	2.10
	<b>Min</b>	6.33	7.33	0.17	6.33	3.58	3.75	6.67
	<b>Max</b>	13.92	14.33	14.17	14.08	13.50	14.83	14.08
	<b>N (%) excluded<sup>1</sup></b>	55 (50)	45 (40.9)	72 (65.5)	32 (29.1)	23 (20.9)	20 (18.2)	60 (54.5)
<b>Sweden</b>	<b>Mean</b>	10.44	10.84	11.04	10.79	9.88	9.03	10.28
	<b>95% CI</b>	9.91, 10.98	10.32, 11.36	10.24, 11.84	10.32, 11.26	9.19, 10.56	8.45, 9.60	9.70, 10.86
	<b>Median</b>	10.88	10.88	11.67	11.21	9.83	9.54	10.46
	<b>SD</b>	2.07	2.01	2.67	1.97	2.58	2.70	2.09
	<b>Min</b>	6.00	6.25	3.67	6.08	3.58	0.25	5.92
	<b>Max</b>	14.25	14.25	14.33	13.75	14.75	13.75	14.33
	<b>N (%) excluded<sup>1</sup></b>	25 (24.3)	30 (29.1)	46 (44.7)	16 (15.5)	30 (29.1)	3 (2.9)	28 (27.2)

**Notes.** N was 51/60 for reading, 62/60 for writing, 36/45 for listening, 73/70 for speaking, 76/57 for singing, 89/88 for watching, 46/52 for gaming, and 107/84 for music among Austrian/Swedish participants respectively.

<sup>1</sup>This row indicates the number and percentage of students who had never started engaging in a given activity. These students are not included in the remainder of the data in this table.

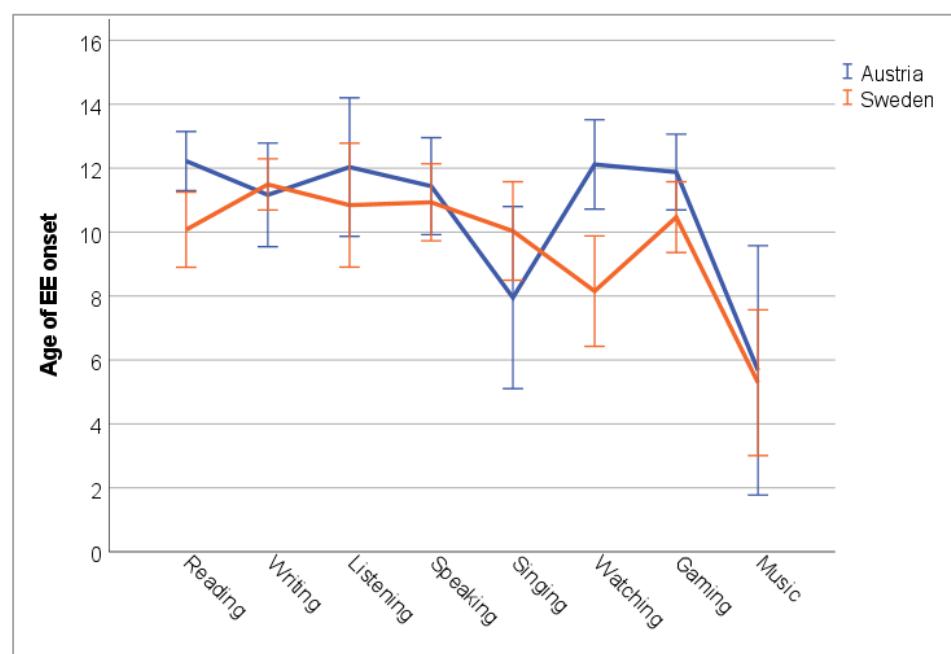


Figure 8.17 Mean age of EE onset across activities and by country, with 95% CI

**T-tests Comparing Countries.** Individual *t*-tests (for *N*s see Table 8.12) per activity confirmed observations made based on descriptive statistics. As to the verification of assumptions, no extreme outliers nor ceiling or floor effects were found in the data split by COUNTRY (see Figure 11.10 in 11.11.5). Although Shapiro-Wilk indicated an absence of normal distributions for LISTENING, WATCHING, and MUSIC in both samples, for READING and SINGING in Austria, and for SPEAKING in Sweden ( $p < .04$ ), visual inspection through histograms revealed data to be (close to) normally distributed. A significant difference in the age of onset between the two countries surfaced in terms of READING,  $t(108.26) = -3.39, p < .01$ , 95% of the mean difference CI[-1.88, -0.49], but with a small effect size,  $d = .02$ , and in terms of WATCHING,  $t(159.89) = -7.13, p < .001$ , 95% CI[-3.25, -1.84], with a strong effect size,  $d = 1.07$  (see Figure 8.17). No significant difference and a small effect size were found for WRITING,  $t(120) = -1.59, p = .11$ , 95% CI[-1.19, 0.13],  $d = .29$ , LISTENING,  $t(79) = 0.54, p = .59$ , 95% CI[-1.08, 1.88],  $d = .12$ , SPEAKING,  $t(141) = -1.43, p = .16$ , 95% CI[-1.06, 0.17],  $d = .24$ , SINGING,  $t(131) = 1.20, p = .23$ , 95% CI[-0.37, 1.52],  $d = .21$ , GAMING,  $t(96) = -0.75, p = .46$ , 95% CI[-1.16, 0.52],  $d = .15$ , and LISTENING TO MUSIC,  $t(187.25) = 1.08$ , 95% CI[-0.53, 1.80],  $d = .15$ . These results were confirmed by 5000-iterated bootstrapping.

**Descriptive Statistics by Country and Gender.** The samples split by COUNTRY and GENDER for the different EE activities were relatively small, in some cases  $n < 20$ . Therefore, detailed comparative descriptive and inferential analyses of these samples were not deemed worthwhile. Yet, line graphs provided some insight into cross-country differences among girls and boys (see Figure 8.18). Again, the countries showed large differences in the starting age of WATCHING, with 95% confidence intervals not intersecting in any of the two genders. Differences were less conspicuous in the case of the other activities, with confidence intervals of READING now also slightly overlapping. The caveat of this illustration again is that it could not capture the proportion of students never having started regularly engaging in a given activity. Histograms, which can be inspected, pointed to. A descriptive statistics table can be found in Table 8.10 in the appendix, section 11.11.5, and histograms—demonstrating a partly non-normally distributed data—are accessible in the online supplementary material (11.12).

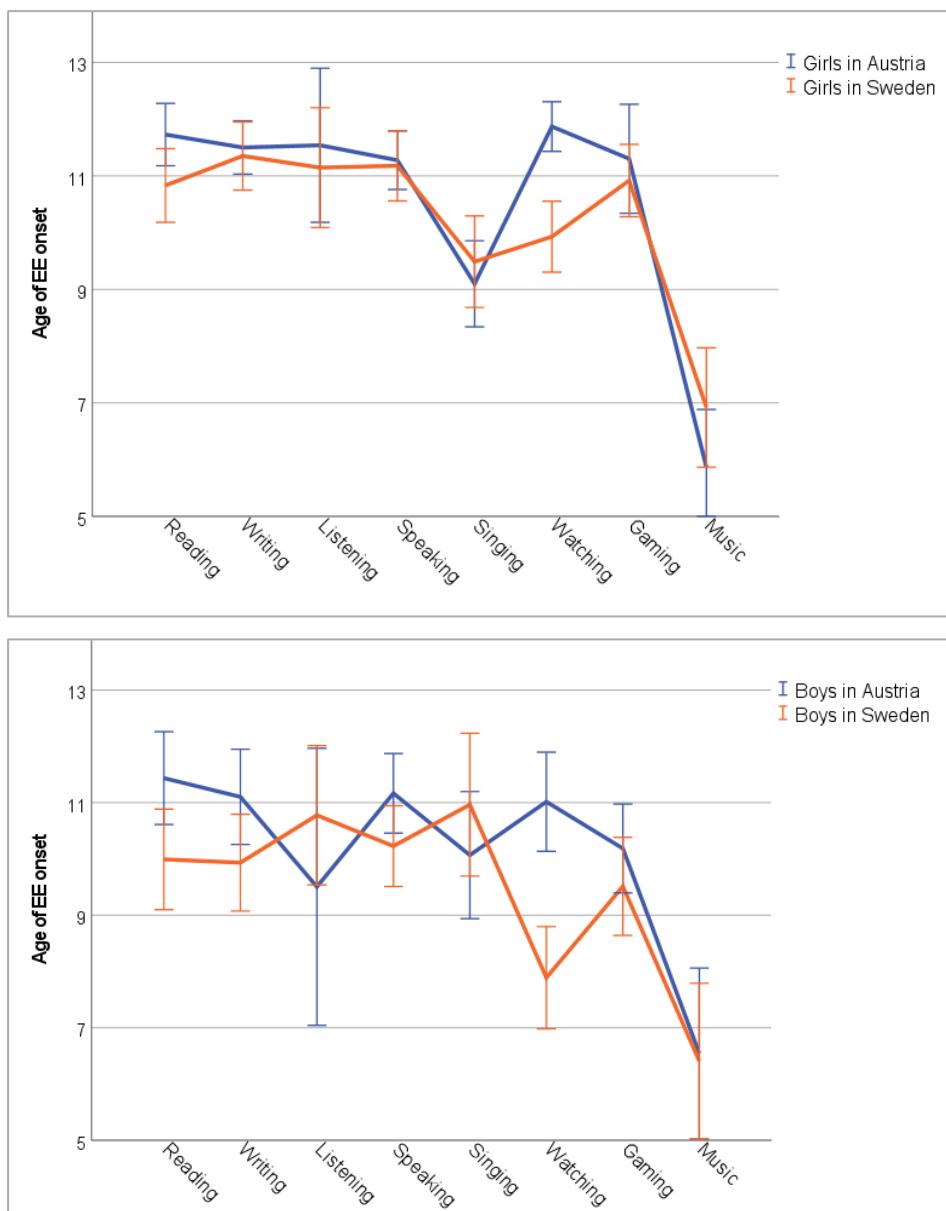


Figure 8.18 Mean age of EE onset among girls (top) and boys (bottom) across activities and by country, with 95% CI<sup>54</sup>

#### 8.2.4 Teacher Interview Reports<sup>55</sup>

To begin with, in Austria, teachers reported that only few individual students within a class engage in EE on a regular basis (Julia, Elena, Barbara). Gaming occurred in all recruited classes apart from Elena's student groups, and this activity seemed to be performed first and foremost by boys. In combination with gaming, the students often use English to communicate with other players online (Julia, Barbara, Veronika). Audio-visuals, like series, videos, and Tik-Tok, were watched regularly by some children only in the respective classes of Julia and

<sup>54</sup> N was 34/36/17/23 for reading, 41/34/21/24 for writing, 20/22/16/22 for listening, 48/37/25/31 for speaking, 60/42/16/14 for singing, 58/48/31/38 for watching, 17/25/29/26 for gaming, and 72/48/35/35 for music among Austrian girls/Swedish girls/Austrian boys/Swedish boys respectively.

<sup>55</sup> The analysis and discussion of the students' EE practice already appeared in Schurz et al. (2022).

Andrea. Only few students happened to sometimes read in English, as reported by Julia, Elena, Barbara, and Veronika.

In contrast, according to the Swedish teachers, the students “*have English around themselves everywhere*” (Christine), “*all the time*” (Pia), and already early on (Sara). Yet, Magnus substantiated that although all students use EE, the extent varies. Similar to Austria, gaming (Christine, Pia) and movies and series (Magnus, Pia, Karin) surfaced as the most common activities. Student gamers can invest many hours a day pursuing this activity, e.g., 4–5 hours as reported by Pia. Again, this typically includes speaking (Pia, Emma, Eva) and/or chatting (Karin) with co-players. However, the students from the Swedish sample also engage in other activities, such as blogging (Pia) and karaoke (Karin). Listening to music is, naturally, an activity that students in both countries engage in extensively.

In line with the teacher comments on the students’ immersion in English, it follows that EE in Sweden appears as a matter of course that the young learners can hardly opt out of due to the country’s subtitling practices. In Austria, students engage in EE either out of personal interest (Julia, Andrea) or to learn and prepare for tests (Elena). For instance, in the case of blogs (or perhaps vlogs), described by Julia as “*ultra trendy*”, the content is often provided in English, thus representing an enticement to use EE.

### **8.2.5 Summary**

To begin with, extramural English use was found to be overall more dominant in Sweden than in Austria. Based on the median, a prototypical Austrian participant spends 16.71 weekly hours on EE, compared to 26.50 hours for the typical Swedish participant. Descriptively, Swedish participants in general appeared to perform all activities but SINGING and LISTENING TO MUSIC more frequently and for a longer weekly duration than Austrian students. The Swedish participants’ higher frequency of engagement was particularly clear in READING, LISTENING, SPEAKING, WATCHING, and GAMING, because 95% confidence intervals did not overlap. The mixed ANOVA showed that the cross-country difference in WEEKLY EE was significant overall, as well as in the case of READING, WATCHING, and GAMING. Even though the effect size of these findings was small, the strong tendency of higher EE use in the Swedish sample overlaps with the interview data. In Austria, only a few individuals per class were reported to regularly engage in activities other than LISTENING TO MUSIC. Austrian teachers explained that if students engage in EE, they do so out of personal interest in English-language content or to intentionally learn and prepare for tests. In Sweden, all learners are naturally exposed to English in their spare time, at least to some extent.

When comparing girls and boys across countries, Swedish students descriptively again showed higher median values of EE FREQUENCY and WEEKLY EE in most activities. In EE FREQUENCY, cross-national differences among girls were most salient in READING, WATCHING, and GAMING, and among boys in SPEAKING and WATCHING, where confidence intervals did not meet. However, in terms of WEEKLY EE, the mixed ANOVA could not solidify that the 13- to 14-year-old girls in Sweden spend more time on EE overall than girls of the same age group in Austria; nor that boys in Sweden devote more time to EE than boys in Austria. Moreover, there was no significant interaction of GENDER, COUNTRY, and EE activities. However, the line graph with estimated means showed non-overlapping confidence intervals for WATCHING among girls (from Austria vs. Sweden) and for GAMING among boys (from Austria vs. Sweden). Additionally, among boys, confidence intervals only marginally intersected in READING and WATCHING. Despite the absence of a significant difference between the countries if considering GENDER, descriptive data and teacher-reports clearly suggested higher EE engagement in Sweden. This allowed me to confirm **H<sub>2.1</sub>**, that proposed that EE engagement at age 13–14 would be higher in the Swedish as compared to the Austrian sample.

Secondly, in terms of the age of EE ONSET, the median was lower among Swedish students in the case of all activities but SPEAKING and LISTENING TO MUSIC, which Austrian students ostensibly started doing regularly somewhat earlier. However, a significant difference between countries surfaced only in WATCHING and, albeit only with a small effect, READING. When considering girls and boys separately, this seemed to hold true only for WATCHING, where 95% confidence intervals did not intersect. Those negligible cross-country differences were at least partly linked to the relatively high percentage of students in Austria never even having started with a given EE activity, and thus not appearing in the reported values. Taking into account this supplementary descriptive data, **H<sub>2.2</sub>**, suggesting a lower starting age of EE engagement among Swedish students, arguably can be confirmed.

Thirdly, similarities between the countries occurred in the type of activities learners seemed to prefer or use the least. LISTENING TO MUSIC and WATCHING audio-visuals in English were among the top three activities in terms of EE FREQUENCY and WEEKLY EE in both countries. The other top activity in Austria was SINGING, and in Sweden a range of activities (for EE FREQUENCY) and READING (for WEEKLY EE) occupied the top positions. LISTENING was the least frequently occurring activity in both samples, and, together with WRITING, it featured among the three least popular activities in WEEKLY EE. The interviews, too, unraveled that the types of activities performed are comparable across countries, with audio-visuals being among the students' favorites. Considering only girls, in both countries, MUSIC, SINGING, and WATCHING

constituted the top three activities in EE FREQUENCY, and MUSIC and WATCHING were the top two activities in WEEKLY EE. GAMING and LISTENING were the least frequent and least time-consuming activities. Among boys in Austria, MUSIC, GAMING, and WATCHING were the most frequently performed activities, which held true for Sweden together with READING. These activities were the top four in WEEKLY EE, albeit showing a different order in the two countries. LISTENING was spent the least time on among boys in both countries, and it was also the least and second least frequent activity in Austria and Sweden respectively. The least frequent activity among boys in Sweden was SINGING. It is fair to conclude that in both countries, and also when controlling for GENDER, the most popular activities revolve around MUSIC and WATCHING audio-visuals. These results partly corroborated **H<sub>2.3</sub>**, which predicted that activities requiring receptive language use would be more common than productive EE use. The hypothesis can be confirmed with the caveat of SINGING and GAMING, very popular activities among girls and boys respectively that (typically) involve language production.

Fourthly, considering gender-based differences, boys reported higher levels of total EE use than girls, but this did not reach significance. Based on descriptive statistics, boys spent more time on EE than girls in terms of a range of individual activities. Conversely, girls invested more hours a week on WRITING, SINGING, and LISTENING TO MUSIC. The differences between the gender groups were significant in terms of SINGING and GAMING. Gaming being a popular activity among boys also emerged from the interview data. Since overall EE use and GAMING were more common among boys, with a descriptive and statistically significant difference respectively, **H<sub>2.4</sub>** could be substantiated.

Finally, the additional analysis exploring sub-categories of WATCHING and GAMING further demonstrated that non-subtitled audio-visuals were preferred in all four gender/country groups, followed by English subtitles in most cases. The clearest cross-country difference emerged in the use of WATCHING with subtitles in another language (e.g., German or Swedish), much more widespread among Swedish than Austrian participants. As to GAMING, boys from both countries showed a clear preference for playing online with others, whereas among girls, the two types of gaming were similarly uncommon. The next section looks at the effect of EE and instruction on grammar acquisition as perceived by learners and teachers.

### 8.3 RQ3: The Reported Effect of EE and Instruction on Learning

#### 8.3.1 Student Reports

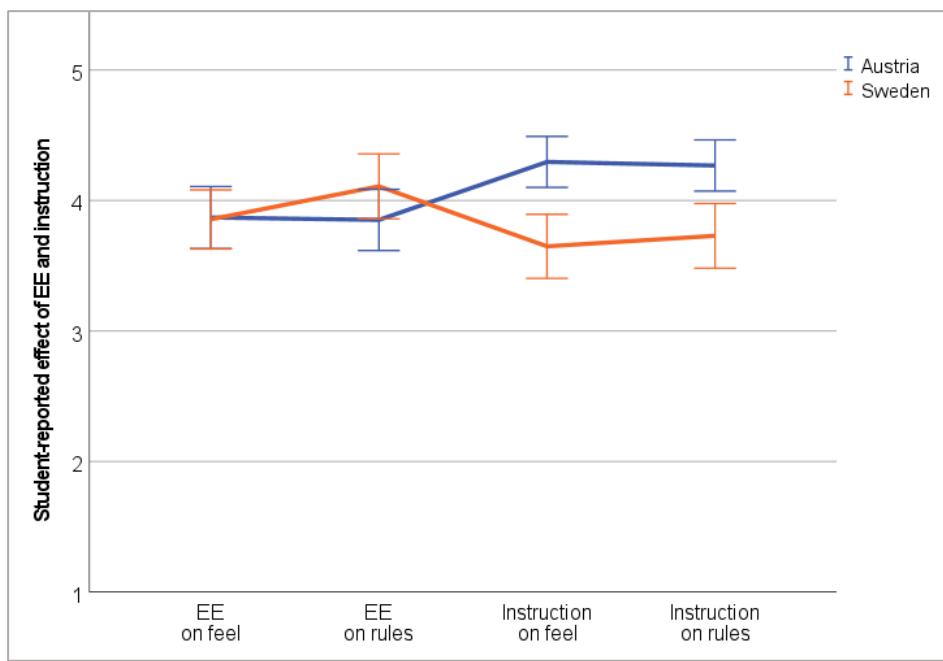
**Descriptive Statistics.** Student responses were distributed across the entire five-point Likert scale, which ranged from *don't agree at all* (point 1) to *fully agree* (point 5) (see Table 8.13). Histograms, which can be inspected in the online supplementary material (see 11.12), pointed to a widely non-normal data distribution. To begin with, it is noteworthy that students from both countries saw the EFFECT OF EE and INSTRUCTION on grammar learning as rather positive, with median values above three<sup>56</sup>. However, Austrian students thought more positively of the EFFECT OF INSTRUCTION than the EFFECT OF EE, while the opposite held true for Swedish students (see Figure 8.19). 95% confidence intervals of the EFFECT OF EE as estimated by students in the two samples overlapped, and almost entirely so for the EFFECT OF EE ON FEEL. This was not the case for the EFFECT OF INSTRUCTION, on both rule-based and intuitive knowledge, in which Austrian participants clearly believed more strongly. A correlation table of the respective items can be found in the appendix, section 11.11.6 (Table 11.18).

Table 8.13 Descriptive statistics of student-reported effect of EE and instruction

	Effect of EE		Effect of instruction	
	on 'feel'	on rules	on 'feel'	on rules
Austria	<b>Mean</b>	3.87	3.85	4.30
	<b>95% CI</b>	3.63, 4.11	3.62, 4.09	4.10, 4.49
	<b>Median</b>	4.00	4.00	5.00
	<b>SD</b>	1.25	1.23	1.03
	<b>Minimum</b>	1.00	1.00	1.00
	<b>Maximum</b>	5.00	5.00	5.00
Sweden	<b>Mean</b>	3.87	4.11	3.65
	<b>95% CI</b>	3.64, 4.09	3.86, 4.36	3.41, 3.89
	<b>Median</b>	4.00	4.00	4.00
	<b>SD</b>	1.06	1.17	1.14
	<b>Minimum</b>	1.00	1.00	1.00
	<b>Maximum</b>	5.00	5.00	5.00

**Note.** N was 108 for Austria and 87-89 for Sweden.

<sup>56</sup> In this section, 8.3, the descriptive reports of data are based on median values if not indicated differently in the text.

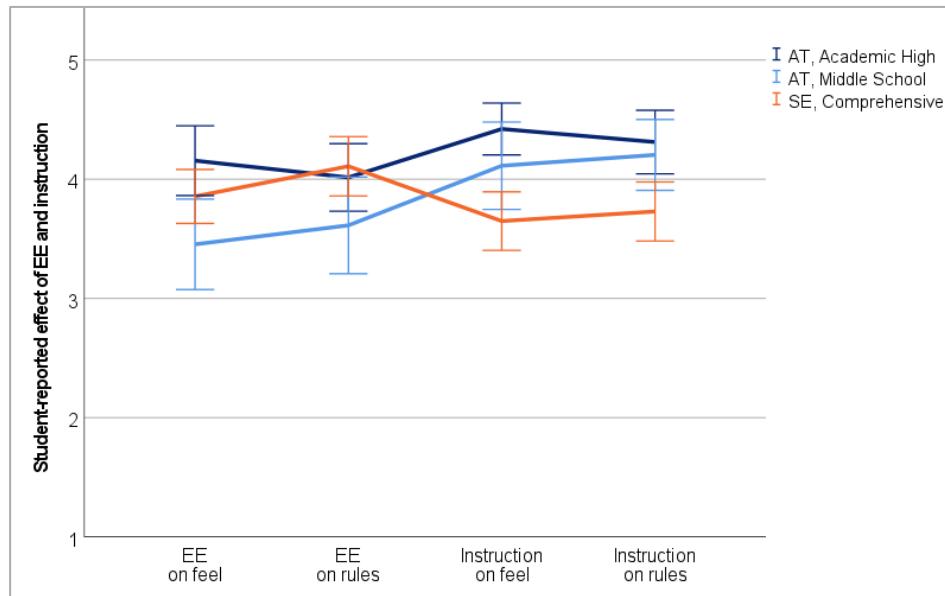


*Figure 8.19 Student-reported effect of EE and instruction on intuition and rule-based knowledge, by country, with 95% CI*

**T-tests.** The non-normal distribution of the data as based on Shapiro-Wilks ( $p < .01$ ) and visual inspection was observed but disregarded (see 7.6). No univariate outliers were found but there was a ceiling effect in the case of the EFFECT OF EE ON RULES in Sweden, and the two types of EFFECT OF INSTRUCTION in Austria (see Figure 11.11 in 11.11.6). A statistically significant difference between countries, with a medium effect, was found for EFFECT OF INSTRUCTION ON FEEL,  $t(193) = -4.14, p < .001$ , 95% CI of the mean difference [-0.95, -0.34],  $d = .60$ , and for EFFECT OF INSTRUCTION ON RULES,  $t(193) = -3.43, p < .01$ , 95% CI[-0.85, -0.23],  $d = .49$ . No significant cross-country difference and a small effect were found for EFFECT OF EE ON FEEL,  $t(193) = -.08, p = .93$ , 95% CI[-0.35, 0.32],  $d = .01$ , and for EFFECT OF EE ON RULES,  $t(193) = 1.49, p = .14$ , 95% CI[-0.08, 0.60],  $d = .21$  (see Figure 8.19). These results were confirmed by bootstrapping using 5000 iterations.

Looking at AHS ( $N = 64$ ) and AMS ( $N = 44$ ) separately (see Figure 8.20), they both showed significantly higher approval than Swedish participants in the EFFECT OF INSTRUCTION ON FEEL, AHS ( $M = 4.42, SD = 0.87$ ),  $t(148.89) = -4.70, p < .001$ , 95% CI[-1.10, -0.45],  $d = .74$  (medium effect), and AMS ( $M = 4.11, SD = 1.20$ ),  $t(129) = -2.15, p = .03$ , 95% CI[0.22, -0.89],  $d = .40$  (small effect); and in the EFFECT OF INSTRUCTION ON RULES, AHS ( $M = 4.31, SD = 1.07$ ),  $t(149) = -3.15, p < .01$ , 95% CI[-0.95, -0.22],  $d = 1.12$  (large effect), and AMS ( $M = 4.21, SD = 0.98$ ),  $t(129) = -2.33, p = .02$ , 95% CI[-0.88, -0.07],  $d = .43$  (small effect). However, in addition, AMS students thought significantly less positively than Swedish participants of the EFFECT OF EE ON FEEL ( $M = 3.46, SD = 3.46$ ),  $t(129) = 2.19, p = .03$ , 95% CI[0.05, 0.94],  $d = .40$  (small

effect), and—to an almost significant degree—of the EFFECT OF EE ON RULES ( $M = 3.61$ ,  $SD = 1.33$ ),  $t(129) = 1.93$ , 95% CI[-0.01, 0.81],  $p = .06$ ,  $d = .36$  (small effect). The descriptive statistics by SCHOOL TYPE are provided in the appendix, section 11.11.6 (see Table 11.17, Table 11.18, and Figure 11.11). Histograms—suggesting a non-normal distribution of data—can be found online (see 11.12).



*Figure 8.20 Student-reported effect of EE and instruction on intuition and rule-based knowledge, by school types, with 95% CI*

To summarize, the countries did not differ significantly in the students' rather strong belief in the EFFECT OF EE ON RULES and ON FEEL. In contrast, the Austrian students attributed a significantly greater role to INSTRUCTION in the development of both rule-based knowledge and intuition than the Swedish participants.

### 8.3.2 Teacher Interview Reports<sup>57</sup>

We can also look at the estimated effect of EE on learning from the teachers' perspective as explored in the interviews. In both groups, the teachers' perception of the effect of EE on learning was primarily positive. Differences between the countries were unraveled in the perceived impact on grammar acquisition. In Austria, naturally, only the few students per class regularly engaging in EE activities can possibly benefit from them. In Sweden, where EE seems more pervasive, the entire student population appears positively impacted: “*almost no-one doesn't succeed in English today*” (Karin).

<sup>57</sup> The analysis and discussion of the effect of EE on learning and the link between EE and ELT were previously published in Schurz et al. (2022).

Considering the different areas of language learning, in Austria, benefits were reported primarily in terms of vocabulary learning (Julia, Elena, Barbara, Veronika). For instance, Elena hinted at the benefits of gaming in that respect, saying the students "*partly built up their vocabulary through gaming*". Vocabulary learning was also mentioned by Swedish teachers (Magnus, Christine). Speaking, too, was addressed as being positively affected, by Julia in Austria, and by all Swedish teachers, with Magnus and Pia covering it when mentioning fluency development in speaking. When it comes to receptive skills, "*listening*" (Julia, Andrea) and "*comprehension*" (Karin) were said to benefit from EE as well, by teachers from both samples. Notably, according to Karin, children develop aural comprehension in English very early on in Sweden. In addition, in Austria, language competence was said to be indirectly enhanced by EE in that high-EE users typically show higher levels of self-confidence, e.g., "*They dare to use English much more*" (Barbara). Somewhat similarly, Pia in Sweden agreed that learners make gains in language competence through EE and thereby also in their motivation to learn, making English "*a more popular subject than the other modern languages*" for many students.

In terms of the influence of EE on grammar, a difference between AMS and the other school types, AHS and Swedish Comprehensive School, became apparent. The AHS teachers Julia, Elena and Andrea generally supported the idea that grammar is acquired through spare time English. Julia, referring to a learner much involved in EE, described that

She writes in such English, you know, structures that we haven't learned ... It's just so native-like.

Yet, Andrea, another AHS teacher, mentioned on a sidenote that for example in series, conditionals and passive voice are sometimes used "*incorrectly*". The otherwise rather positive attitude toward the effect of EE on grammar among AHS teachers diverged from AMS teacher reports. For instance, Barbara asserted that the fast pace of fluent speech in gaming did not allow students to accurately employ language. Contrarily, the Swedish teachers all affirmed that grammar acquisition happens extramurally, at least to some extent and under certain conditions. Sara exemplified that EE is beneficial for acquiring irregulars and for developing an intuition of how, for instance, the present perfect should sound, whilst it is less conducive to learners' productive knowledge of this feature. According to Eva, the degree to which EE promotes grammar acquisition "*depends on interests and on one's talent in languages and how much time is invested*". Magnus and Emma, finally, gave the impression that in their view, grammar is less affected by EE than other areas of learning.

Lastly, the impact of EE on knowledge of different registers and writing skills was only addressed by the Swedish participants. Christine was convinced that students do not acquire language of more formal registers extramurally, in line with Pia saying that what students learn outside school is informal language use. Pia, Eva and Karin substantiated that learners' competence in writing and/or spelling does not benefit from EE use, with autocorrect having a detrimental effect on writing skills (Eva). Still, Magnus and Emma suggested that students also learn writing through EE, but perhaps they referred to writing in an informal style, as Magnus continued by pointing out the occurrence of "*chat spellings ... like you say through and they write T-H-R-U*" in student writing.

### **8.3.3 Summary**

To conclude, from a student perspective, the estimated EFFECT OF EE and INSTRUCTION on intuitive and rule-based knowledge overall was a very positive one. The countries did not differ significantly in the students' rather strong belief in the EFFECT OF EE on rule-based knowledge and intuition. Given the missing cross-country difference, I could not solidify **H<sub>3.1</sub>**. Yet, AMS students perceived EE as significantly less beneficial—notably for the development of intuitive knowledge—than Swedish students, but this showed merely a small effect size.

Considering teacher data, participants from both samples perceived EE as a positive contribution to learning, but differences were discerned when looking at specific areas of language learning. While vocabulary learning was assumed to be very positively impacted also among Austrian teachers, the issue of acquiring grammar knowledge through EE was more controversial, with the AMS teachers apparently believing less in it than the AHS and Swedish teachers. This partial cross-country difference could not fully consolidate **H<sub>3.2</sub>**, proposing Swedish teachers would believe more in the potential of EE on different areas of language development.

Lastly, the Austrian students attributed a significantly greater role to the EFFECT OF INSTRUCTION on the development of both rule-based knowledge and feel than the Swedish participants. Considering these findings, **H<sub>3.3</sub>**—arguing that students in the low-EE context of Austria, where English is learned primarily in the classroom, might attribute a greater role to instruction than learners in Sweden—could straightforwardly be confirmed. The next section is dedicated to students' achievement on the six grammar tests and their loading in factor analyses.

## 8.4 RQ4: Tapping into Automatized-Implicit and Explicit Knowledge

### 8.4.1 Descriptive Statistics of the Students' Test Performance

A very broad range of scores was attained by students from both countries on the EIT, WTGJT, and UGJT (see Table 8.14). The range of scores was smaller in the case of the ATGJT and especially the ONT and MKT. Data distribution approximated normality in the case of most variables and groups, as can be seen in the histograms provided online (see 11.12). Overall, considering 95% confidence intervals, student performance on measures of automatized-implicit knowledge was very similar across countries, but clearly diverged for tests of explicit knowledge (see Figure 8.21). Regarding the mean and median<sup>58</sup> scores per test and country, however, Sweden outscored Austrian participants on the EIT and the ATGJT, and Austria outperformed the Swedish sample in terms of the WTGJT, UGJT, and MKT.

Looking at the range of scores attained by the two Austrian school types, the range of ATGJT and WTGJT scores and the minimum scores of EIT and UGJT were larger in AHS than in AMS. AHS showed a higher mean than AMS in all tests, and a higher median in all tests but the ATGJT, where the value of the two groups was identical. Nevertheless, confidence intervals of the two Austrian school types overlapped clearly in the case of the ONT, ATGJT, and WTGJT but not the EIT, UGJT, and MKT. In terms of the cross-country comparison, the same pattern as described above was found, but the EIT showed a higher mean and median in AHS than in Sweden, and the ONT showed higher values in Sweden than in AMS. Yet, the confidence intervals of these tests and groups widely overlapped (see Figure 8.22).

Across grammar tests, a single extreme outlier could be identified, a case in the Swedish sample with an MKT score of 0.91 (see Figure 11.12 in 11.11.7). Because no irregularities appeared in the sociodemographic and family information provided, this score was retained in the dataset.

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<sup>58</sup> In this section, 8.4, descriptive reports refer to both mean and median values, because the data mostly (but not always) showed an approximate normal distribution.

*Table 8.14 Descriptive statistics of the six grammar tests across countries and school type (list-wise exclusion)*

	ONT	EIT	ATGJT	WTGJT	UGJT	MKT
Austria	Mean	0.82	0.60	0.49	0.38	0.68
	95% CI	0.77, 0.86	0.53, 0.66	0.42, 0.56	0.32, 0.44	0.62, 0.74
	Median	0.83	0.57	0.47	0.34	0.70
	SD	0.13	0.19	0.21	0.18	0.17
	Minimum	0.43	0.26	0.16	0.00	0.32
	Maximum	1.00	1.00	0.93	0.83	0.98
AMS	Mean	0.79	0.47	0.45	0.34	0.56
	95% CI	0.74, 0.85	0.41, 0.54	0.39, 0.51	0.27, 0.41	0.48, 0.64
	Median	0.82	0.45	0.47	0.32	0.55
	SD	0.15	0.18	0.16	0.19	0.21
	Minimum	0.42	0.15	0.16	0.00	0.13
	Maximum	1.00	0.89	0.79	0.69	0.91
Total	Mean	0.79	0.54	0.47	0.36	0.63
	95% CI	0.74, 0.85	0.49, 0.59	0.43, 0.52	0.32, 0.41	0.58, 0.67
	Median	0.85	0.53	0.47	0.32	0.63
	SD	0.18	0.19	0.19	0.19	0.20
	Minimum	0.29	0.15	0.16	0.00	0.13
	Maximum	1.00	1.00	0.93	0.83	0.94
Sweden	Mean	0.81	0.57	0.53	0.30	0.40
	95% CI	0.77, 0.84	0.51, 0.63	0.48, 0.59	0.24, 0.35	0.33, 0.48
	Median	0.83	0.55	0.52	0.29	0.40
	SD	0.14	0.21	0.19	0.20	0.26
	Minimum	0.42	0.15	0.24	0.00	0.00
	Maximum	1.00	1.00	0.93	0.90	0.88

**Notes.** N was 66 for Austria (36 for AHS, 30 for AMS) and 49 for Sweden.

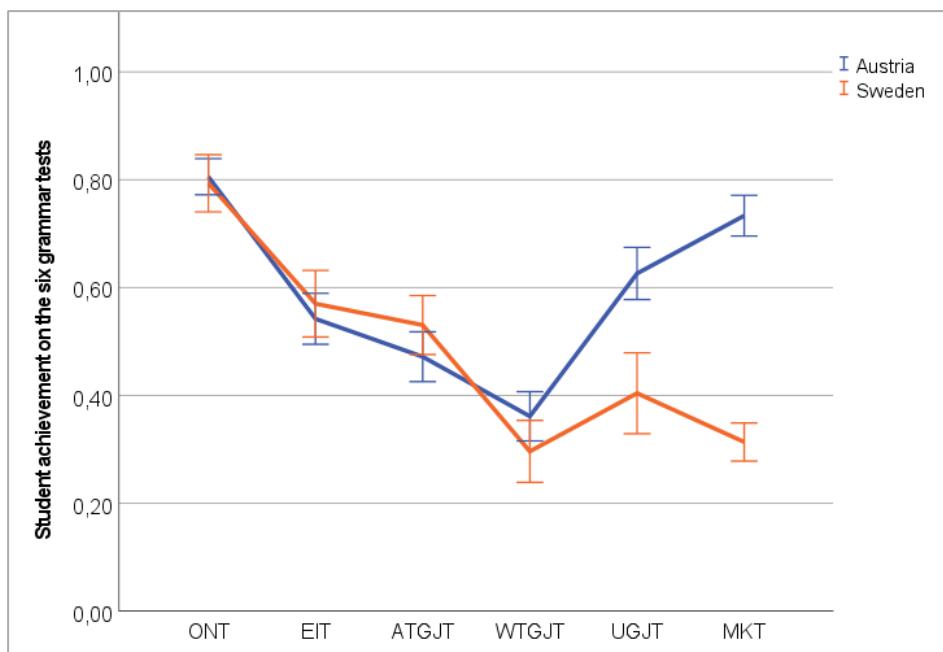


Figure 8.21 Student scores on the six grammar tests per country, with 95% CI

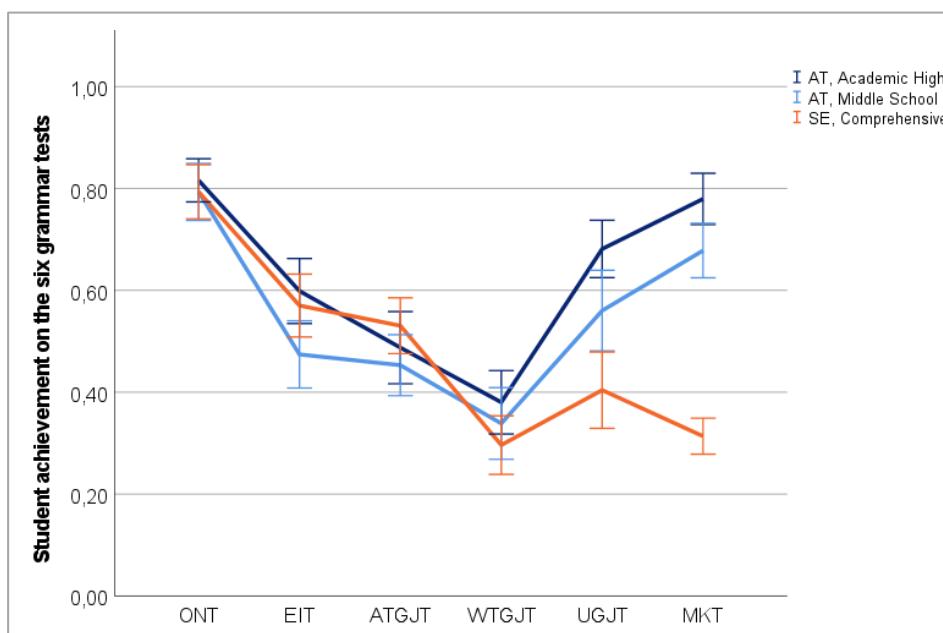


Figure 8.22 Student scores on the six grammar tests per school type, with 95% CI

Regarding the relationship between the different grammar tests in the Austrian and Swedish samples, all of them showed a positive correlation with one another (see Table 8.15). Overall and across countries, the relationship was mostly significant and moderate. Exceptions to this in Austria were weak correlations between the ONT and the WTGJT, the UGJT and the TGJTs, and the MKT with all tests but the UGJT, with which it showed a strong significant correlation. In Sweden, a strong significant correlation was found between the ATGJT and the EIT, and the UGJT and the ONT, EIT, and ATGJT. The relationship between the WTGJT and the ONT and EIT,

and between the MKT and the ONT, WTGJT, and UGJT was (very) weak. Considering Austrian school types separately, grammar tests were found to correlate weakly to moderately with one another, with some exceptions: In AHS, the EIT and ONT showed a strong correlation and the MKT and TGJTs a very weak relationships. In AMS, the ATGJT and EIT and the MKT and UGJT were strongly correlated, and the WTGJT and the EIT/UGJT/MKT only very weakly.

*Table 8.15 Pearson correlation of the six grammar tests.*

		ONT	EIT	ATGJT	WTGJT	UGJT
Austria	EIT	.63**				
	ATGJT	.47**	.49**			
	WTGJT	.37*	.54**	.57**		
	UGJT	.44**	.46**	.39**	.39**	
	MKT	.21	.29*	.00	.06	.44**
AMS	EIT	.46**				
	ATGJT	.46*	.60**			
	WTGJT	.35	.19	.57**		
	UGJT	.42*	.54**	.21	.01	
	MKT	.18	.34*	.26	-.09	.61**
Total	EIT	.54**				
	ATGJT	.46**	.56**			
	WTGJT	.37**	.41**	.58**		
	UGJT	.43**	.52**	.36**	.25*	
	MKT	.22	.37**	.17	.04	.55**
Sweden	EIT	.57**				
	ATGJT	.57**	.62**			
	WTGJT	.33*	.20	.48**		
	UGJT	.67**	.64**	.78**	.48**	
	MKT	.37**	.49**	.38**	.19	.37**

**Notes.** \* Correlation is significant at the .05 level, \*\* Correlation is significant at the .001 level (2-tailed). N in Austria/Sweden was 67-71 for Austria and 51-55 for Sweden.

## 8.4.2 Factor Analysis

### 8.4.2.1 Factor Analysis by Country

The Confirmatory Factor Analysis (CFA) was performed on the six grammar tests separately for Austria ( $N = 66$ ) and Sweden ( $N = 49$ ). Only students who completed all six tests could be considered. In the case of Austria, goodness of fit indices showed the superiority of a two-

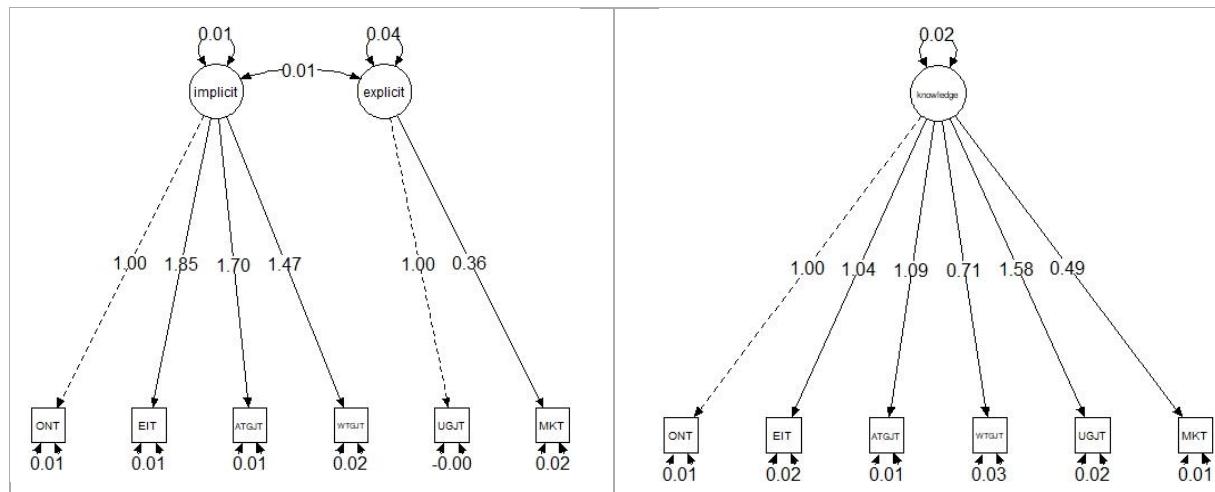
factor model, whereas in the case of Sweden, a one-factor model proved to be the better solution (see Table 8.16). The respective best factor solution was supported by AIC indices that were lower than AIC values of the rejected model (see 7.6.4 for an explanation).

*Table 8.16 Goodness of fit indices of factor analyses per country*

		- Chi-square -			- RMSEA -		SRMR	CFI	- AIC -	
		value	df	p	lower CI	p			value	weight
<b>Austria</b>	<b>1-factor</b>	18.714	9	.028	.041	.064	.069	.926	-364.70	7%
	<b>2 factor</b>	10.389	8	.239	< .001	.350	.047	.982	-369.91	93%
<b>Sweden</b>	<b>1-factor</b>	9.547	9	.388	< .001	.485	.049	.995	-228.06	82%
	<b>2-factor</b>	8.894	8	.351	< .001	.440	.048	.992	-224.98	18%

**Notes.** N was 66 in Austria and 49 in Sweden. The factor solution opted for in each country and the values supporting this choice are shaded in grey.

Hence, in the Austrian sample, the two-factor solution was opted for. Factor one comprised the EIT, ATGJT, WTGJT, and ONT, in order of decreasing factor loadings. Factor two comprised the UGJT and MKT. In Sweden, the one-factor solution was adopted. The order of tests according to decreasing factor loadings was UGJT, ATGJT, EIT, ONT, WTGJT, and MKT. For a visual representation of factor loadings and error variances, see Figure 8.23. For factor loadings (parameter estimates as weighted edges), standard errors, and the z- and p-values, see Table 8.17.



*Figure 8.23 Path diagrams of the best-fit factor solutions for Austria (left) and Sweden (right)*

Table 8.17 Factor loadings of the six grammar tests in the two countries

	Esti- mate	Std. Error	z- value	p-value	Esti- mate	Std. Error	z- value	p- value
<b>Austria: 2 factors</b>	ONT	1.00			1.00			
	EIT	1.85	0.37	4.99 < .001	1.04	0.22	4.72 < .001	
	ATGJT	1.70	0.35	4.83 < .001	1.09	0.19	5.65 < .001	
	WTGJT	1.47	0.33	4.40 < .001	0.71	0.21	3.35 < .01	
	UGJT	1.00			1.58	0.27	5.92 < .001	
	MKT	0.36	0.14	2.60 < .01	0.49	0.13	3.82 < .001	

#### 8.4.2.2 Factor Analysis for Austrian School Types

For the additional analysis by Austrian school types, principal Axes Factor Analysis using Pro-max rotation was run on the six grammar tests. In doing so, cases were excluded pairwise instead of listwise, because of the otherwise too small sample sizes of 30–36 cases. The Kaiser-Meyer-Olkin measure of sampling adequacy was above the recommended value of .5 (Field, 2018) (AHS: 0.75, AMS: 0.58) and Bartlett's test of sphericity was significant  $p < .001$  (AHS:  $\chi^2(15) = 66.79$ , AMS:  $\chi^2(15) = 60.39$ ). In both cases, the eigenvalue  $\geq 1$  criterion was indicative of two factors, and especially in the case of AMS, this was supported by the screeplot (see Figure 8.24).

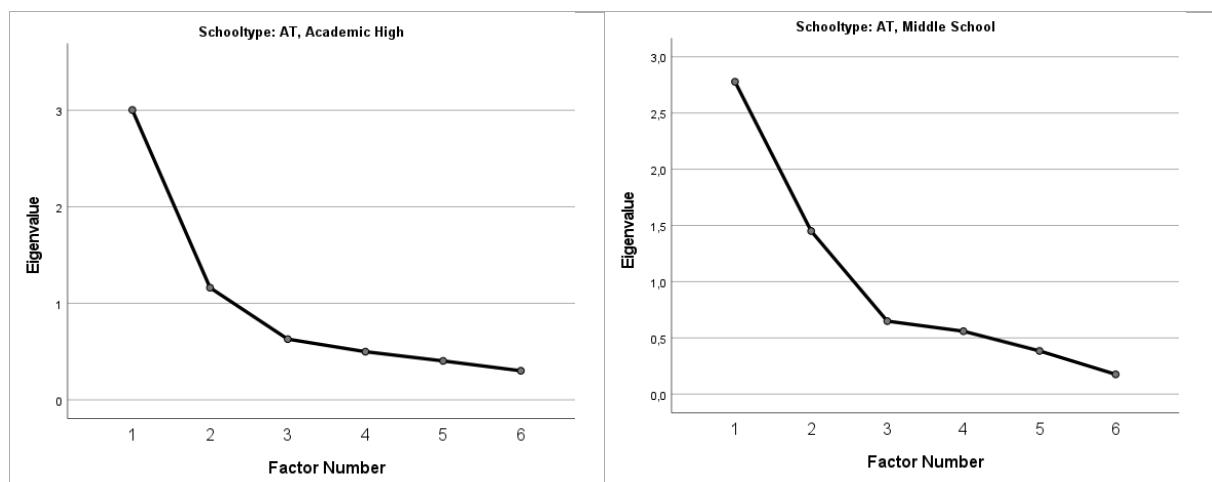


Figure 8.24 Screeplots of eigenvalues per number of factors extracted in AHS (left) and AMS (right)

In AHS, factor 1 was constituted of the ATGJT, WTGJT, EIT, ONT, and the UGJT, explaining for 42.48% of the variance. Factor 2 contained only the MKT, explaining for 13.11% of the variance. It is noteworthy that the UGJT loaded on factor 2 to the almost same degree (see Table

8.18). In AMS, factor 1 was constituted of the UGJT, MKT, and EIT, explaining for 40.04% of the variance, and factor 2 of the ATGJT, WTGJT, and ONT, explaining for 17.76% of the variance. Here, the EIT loaded similarly strongly on factor 2.

*Table 8.18 Pattern matrix and factor loading matrix of the six grammar tests in the Austrian school types*

AT, Academic High		AT, Middle School			
Factor 1	Factor 2	Factor 1	Factor 2		
<b>ATGJT</b>	0.82	-0.20	<b>UGJT</b>	0.98	-0.10
<b>WTGJT</b>	0.75	-0.12	<b>MKT</b>	0.66	-0.09
<b>EIT</b>	0.71	0.18	<b>EIT</b>	0.462	0.422
<b>ONT</b>	0.62	0.14	<b>ATGJT</b>	0.03	0.89
<b>UGJT</b>	0.417	0.413	<b>WTGJT</b>	-0.27	0.73
<b>MKT</b>	-0.15	0.87	<b>ONT</b>	0.25	0.47

**Notes.** N was 41-65 for AHS and 30-44 for AMS.

### 8.4.3 Summary

In sum, based on descriptive analyses, the Austrian students fared better than the Swedish participants in the WTGJT, UGJT, and the MKT. The opposite was true for the EIT and the ATGJT. Considering school types separately, AHS students generally attained higher EIT scores than Swedish students, who achieved higher results on the ONT than AMS students. AHS outperformed AMS in all tests except the ATGJT.

In the Confirmatory Factor Analysis for Austria, the TGJTs, the ONT, and the EIT loaded on one factor, and the UGJT and MKT on another. Such loadings for the factors of automatized-implicit (**H<sub>4.1</sub>**) and explicit knowledge (**H<sub>4.2</sub>**) were expected and the given hypotheses could be confirmed for the Austrian sample. In the Swedish context, expected findings formulated in **H<sub>4.1</sub>** and **H<sub>4.2</sub>** could not be verified, since a single factor for all six measures seemed most fitting. The subsequent Exploratory Factor Analysis by Austrian school types showed that the UGJT in AHS and the EIT in AMS loaded slightly more heavily on the factor named automatized-implicit and explicit knowledge respectively. Given the different best factor-solutions in the two countries and Austrian school types as well as small sample sizes, factor scores for the different types of knowledge were not computed for subsequent analyses (RQ5) (also see footnote in 7.6.4). The next section is concerned with the measured effect of EE on learners' performance on the six grammar tests.

## 8.5 RQ5-RQ7: Automatized-Implicit and Explicit Knowledge and Influencing Factors

To explore RQ5 to RQ7, this section first presents the descriptive statistics of dependent and independent variables as pertinent to the Linear Mixed Models (i.e., based on a pairwise exclusion of missing data and with WEEKLY EE *excluding* LISTENING MUSIC<sup>59</sup>) (8.5.1). This is followed by a characterization of the data in terms of various assumptions to be met for those models (8.5.2), and the results of the Total EE Models (8.5.3) and the Individual Activities Models (8.5.4). For a reminder of what the individual steps in these models were, see Table 7.39 in section 7.6.5.2. A correlation table of the grammar tests, i.e., the dependent variables in the Linear Mixed Models, and the independent variables of WEEKLY EE and control variables is given in the appendix, Table 11.19 (for total EE and activities, by country) and Table 11.20 (for total EE, by school type) in 11.11.5.

### 8.5.1 Descriptive Statistics

#### 8.5.1.1 Students' Test Performance<sup>60</sup>

In total, participants from both countries attained a broad range of scores on the EIT, WTGJT, and the UGJT, whereas in the case of the ONT, MKT, and the ATGJT, the range of scores was smaller (see Table 8.19). As found in section 8.4.1, based on 95% confidence intervals, student performance on measures of automatized-implicit knowledge was very similar across countries but clearly diverged in the UGJT and MKT. Only in the latter two tests, clear-cut cross-country differences became evident when regarding the mean and median scores<sup>61</sup>. Among measures of automatized-implicit knowledge, the largest cross-country difference appeared for the ATGJT, in which Swedish students fared better. However, the two Austrian school types showed (quasi) non-intersecting confidence intervals in the case of the EIT, ATGJT, and MKT, and arguably the UGJT. AHS students fared better on these measures, whereas the two groups scored somewhat similarly on the ONT and WTGJT. It follows that when distinguishing between school types, there was a stark cross-country difference in the EIT and ATGJT. Here,

<sup>59</sup> In accordance with RQ5-RQ7 and its hypotheses, LISTENING TO MUSIC was assumed to be less effective than other EE activities, which is why in the Linear Mixed Models, total WEEKLY EE was computed *excluding* LISTENING TO MUSIC (see 7.1.5).

<sup>60</sup> Given minor differences between the descriptive statistics of the six grammar tests *excluding cases listwise* (as looked at for RQ4) and *excluding cases pairwise* (as applied here), a narrative description is provided again here.

<sup>61</sup> In this section, descriptive reports refer to both mean and median values, because the data mostly (but not always) showed an approximate normal distribution.

confidence intervals of AMS and Swedish students did not overlap, with Swedish students faring better.

*Table 8.19 Descriptive statistics of the six grammar tests across countries and school type (pairwise exclusion)*

		ONT	EIT	ATGJT	WTGJT	UGJT	MKT	
Austria	AHS	Mean	0.82	0.58	0.50	0.36	0.63	0.77
	AHS	95% CI	0.78, 0.86	0.53, 0.63	0.45, 0.55	0.32, 0.41	0.56, 0.69	0.73, 0.81
	AMS	Median	0.83	0.58	0.48	0.32	0.66	0.80
	AMS	SD	0.12	0.19	0.19	0.18	0.26	0.17
	AMS	Minimum	0.43	0.00	0.16	0.00	0.00	0.33
	AMS	Maximum	1.00	1.00	0.93	0.83	1.00	1.00
Total	AHS	Mean	0.79	0.46	0.41	0.32	0.53	0.66
	AHS	95% CI	0.74, 0.85	0.40, 0.52	0.36, 0.46	0.27, 0.38	0.46, 0.60	0.62, 0.70
	AMS	Median	0.82	0.43	0.38	0.29	0.53	0.70
	AMS	SD	0.15	0.19	0.16	0.18	0.24	0.14
	AMS	Minimum	0.42	0.11	0.16	0.00	0.00	0.34
	AMS	Maximum	1.00	0.89	0.79	0.69	0.91	0.97
Sweden	AHS	Mean	0.81	0.53	0.46	0.35	0.59	0.69
	AHS	95% CI	0.78, 0.84	0.49, 0.57	0.43, 0.50	0.31, 0.38	0.54, 0.63	0.69, 0.76
	AMS	Median	0.83	0.54	0.46	0.32	0.60	0.75
	AMS	SD	0.13	0.20	0.18	0.18	0.25	0.23
	AMS	Minimum	0.42	0.00	0.16	0.00	0.00	0.00
	AMS	Maximum	1.00	1.00	0.93	0.83	1.00	1.00
Sweden	AHS	Mean	0.81	0.56	0.55	0.34	0.44	0.31
	AHS	95% CI	0.76, 0.85	0.51, 0.61	0.51, 0.59	0.30, 0.39	0.37, 0.50	0.28, 0.35
	AMS	Median	0.85	0.53	0.55	0.31	0.42	0.30
	AMS	SD	0.17	0.21	0.20	0.21	0.29	0.16
	AMS	Minimum	0.29	0.15	0.21	0.00	0.00	0.00
	AMS	Maximum	1.00	1.00	0.93	0.90	1.00	0.91

**Notes.** N was 41/30/63 for the ONT, 65/44/79 for the EIT, 58/43/85 for the ATGJT, 61/43/85 for the WTGJT, 65/44/78 for the UGJT, and 61/43/81 for the MKT, for AHS/AMS/Sweden respectively.

### 8.5.1.2 Weekly Extramural English<sup>62</sup>

In terms of the individual extramural English activities, the median<sup>63</sup> hours invested were higher among Swedish as compared to Austrian students in most activities, except SINGING, in which groups seemed similar, and LISTENING TO MUSIC, on which Austrian children typically spent more time. 95% confidence intervals did not overlap in READING, WATCHING, and GAMING, where the cross-country difference thus was most salient. Considering the median per activity in the two countries separately, LISTENING TO MUSIC constituted the highest weekly exposure in Austria, followed by WATCHING and SINGING, and READING, as compared to WATCHING and READING, LISTENING TO MUSIC, and GAMING in Sweden. The least preferred activities were GAMING/LISTENING in Austria and SINGING and LISTENING in Sweden—followed by WRITING and SPEAKING in the case of both countries (see Table 8.20).

*Table 8.20 Descriptive statistics of the EE variables used in the linear mixed effects models*

	Read	Write	Listen	Speak	Sing	Watch	Game	Music	EE <sup>1</sup>
Austria	Mean	3.25	2.03	1.15	2.47	3.63	4.25	2.64	7.78
	95% CI	1.97, 4.54	1.28, 2.79	0.51, 1.80	1.38, 3.57	2.47, 4.79	2.96, 5.53	1.52, 3.75	5.86, 9.70
	Median	1.00	0.50	0.00	0.92	1.25	2.50	0.00	5.00
	SD	6.61	3.92	3.35	5.66	6.00	6.65	5.75	9.91
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Max	38.00	24.00	24.00	38.00	30.83	50.67	36.00	70.00
Sweden	Mean	7.01	4.48	2.17	4.18	4.05	10.10	6.31	31.20
	95% CI	4.58, 9.45	2.38, 6.57	1.06, 3.28	2.39, 5.97	2.30, 5.80	7.88, 12.32	4.30, 8.32	4.50, 8.93
	Median	3.75	0.83	0.38	1.17	0.33	7.50	2.00	3.00
	SD	11.41	9.95	5.19	8.14	8.22	10.30	9.44	10.33
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Max	60.00	60.00	40.00	55.00	50.00	48.78	50.00	65.00

**Notes.** N in Austria was 104, and in Sweden 77 for total weekly EE and 82-89 for individual activities.

<sup>1</sup>Total weekly EE is indicated in hours and it excludes listening to music.

Total WEEKLY EE excluding music added up to a median of roughly 11 hours in Austria, compared to 22 hours in Sweden. 95% Confidence intervals did not overlap (see Table 8.20). The weekly use of spare time English was somewhat comparable in the two Austrian school types

<sup>62</sup> Given minor differences between the descriptive statistics of the EE variables for RQ2 (excluding cases listwise) and included here (excluding cases pairwise, and with total EE excluding listening to music), they are narratively described again here.

<sup>63</sup> In this section, the data description refers to median values since data was widely non-normally distributed.

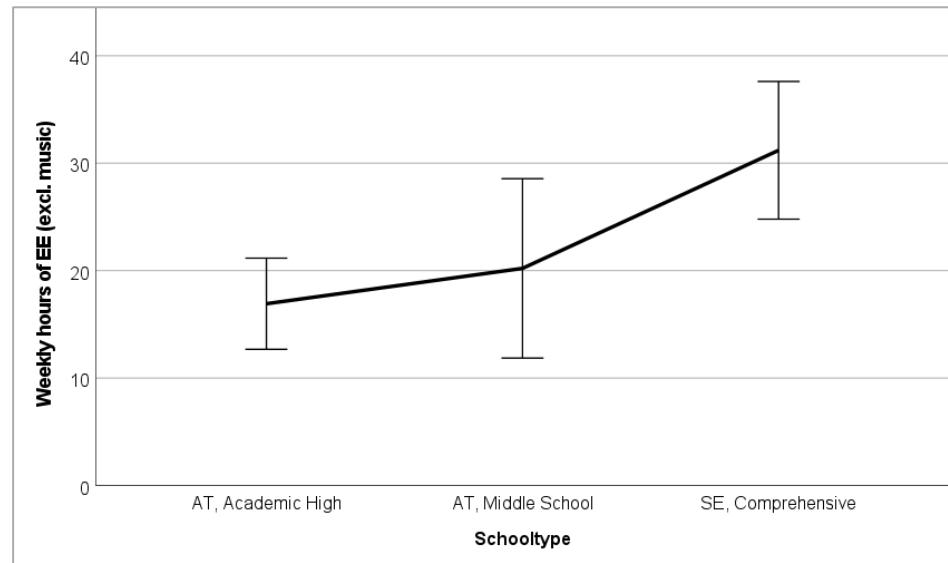
(see Table 8.21). The median amounted to 11 and 10 hours in AHS and AMS respectively. However, AMS student scores showed wider confidence intervals than AHS performance, and intervals of AMS and Swedish students partly overlapped (see Figure 8.25).

*Table 8.21 Descriptive statistics of total weekly EE by Austrian school types*

		Total EE <sup>1</sup>
Austria	Mean	16.92
	95% CI	12.68, 21.17
	Median	11.33
	SD	16.57
	Minimum	0.50
	Maximum	101.50
AMS	Mean	20.21
	95% CI	11.86, 28.56
	Median	10.00
	SD	27.13
	Minimum	0.00
	Maximum	107.00

**Notes.** N was 61/43 for total weekly EE in the case of AHS/AMS respectively.

<sup>1</sup>Total weekly EE is indicated in hours and it excludes listening to music.



*Figure 8.25 Weekly hours of EE (excl. music) across school types, with 95% CI*

### 8.5.2 Linear Mixed Models Assumptions

The assumptions of the linear mixed effects models were met in most cases. Histograms of the residuals with a normal distribution curve overall were suggestive of normality, except for the ONT, where data were negatively skewed due to high test facility. Multicollinearity was

not detected given variance inflation factors (VIF) at or below 2.9 for the different models, and given low correlations between independent variables featuring in the same models. The highest correlations were found in AMS,  $r = .5$  for AGE\*GAMING, AGE\*WRITING, and  $r = .6$  for HISEI\*C-TEST (see Table 11.19 and Table 11.20 in 11.11.8.1). The residuals vs. fits plots also showed no clearly recognizable structure, which suggested homoscedasticity. Moreover, dependent variables mostly displayed a linear relationship with the independent variables.

However, in residuals vs. fits plots of two tests, the pattern was slightly funnel-shaped. In the ONT scatter plots, the variance of residuals was greater on the left-hand side. This can be indicative of heteroscedasticity, which can result in false-positive or false-negative results for models run on this test. In the MKT, scatter plots also did not show an equally broad dispersion at all points, which might be due to very low scores among Swedish students. Additionally, the relationship between the ONT and the C-TEST and EE variables appeared somewhat logarithmic. To further examine this relationship, additional mixed models were computed, in which WEEKLY EE variables and the C-TEST score were logarithmized. This way it was verified whether a logarithmic rather than linear relationship better describes the data (Field, 2018). Results obtained from the models including the logarithmized variables in most cases did not differ considerably from the models including the non-logarithmized variables. In the few cases where they did (i.e., in some of the Individual Activities Models), this was indicated in the report of the results. For the histograms and scatterplots assessing the different assumptions, see 11.11.8.2 in the appendix.

### **8.5.3 Total EE Models**

Total weekly hours of EE had a rather consistent effect on test performance in the Swedish groups, whereas in the Austrian sample, no test seemed to be significantly positively impacted by it ( $p < .1$ ). Table 8.22 provides an overview of significant and non-significant predictors of the different grammar tests, as revealed by the Total EE Models. This includes the overall effect of EE, COUNTRY, and control variables (step 2), the impact of EE in Austria (step 2, computed on Austrian sample), its impact in Sweden and the interaction of COUNTRY and EE (step 3), the effect of SCHOOL TYPE (step 5), and the interaction of SCHOOL TYPE and EE (step 6). The complete tables including estimates, standard errors, and the level of significance of the different independent variables for each grammar test are given in 11.11.8.3 in the appendix.

Table 8.22 Overview of results yielded by the Total EE Models

	EE (total)	Country	Control variables	EE (AT)	EE (SE)	Country * EE	School type	School type * EE
ONT	~	x	C-Test	x	✓	✓	xx	x✓
EIT	x	x	C-Test, HISEI	x	✓	✓	xx	✓~
ATGJT	~	✓	C-Test, (Age)	x	✓	~	✓✓	x~
WTGJT	x	~	C-Test, Gender, Age	x	x	x	~x	xx
UGJT	x	x	C-Test, L1	✓n	✓	✓	xx	✓✓
MKT	x	✓	C-Test	✓n	x	✓	✓✓	✓✓

**Notes.** The symbols x, ~, and ✓ denote the level of significance of given findings,  $p > .1$ ,  $p < .1$ ,  $p < .05$  respectively. The symbol ✓n denotes a significant negative effect. The two signs used in each line of the last two columns denote Austrian AHS and AMS respectively. (Near) significant positive findings are shaded in grey. For the simple (steps 1, 4) and more complex models (steps 2–3, 5–6) respectively, N was 113 and 85 for ONT, 162 and 119 for eit, 163 and 120 for ATGJT, 166 and 121 for WTGJT, 170 and 121 for UGJT, and 163 and 118 for MKT.

**The ONT.** Considering the models computed on the ONT by COUNTRY, WEEKLY EE had a nearly significant impact overall,  $t(64) = 1.82$ ,  $p = .07$  (step 2). Moreover, WEEKLY EE showed a significant effect in Sweden,  $t(63) = 3.38$ ,  $p < .01$ , and a significantly weaker effect in Austria,  $t(63) = -2.74$ ,  $p < .01$  (step 3) (see Figure 8.26). By running the step 2 model on the Austrian sample alone, I detected no significant impact of EE on the ONT,  $t(41) = -0.39$ ,  $p = .70$  ( $N = 54$ ). Returning to the models including both samples, no overall cross-country difference in the ONT became apparent,  $t(5) = -0.12$ ,  $p = .91$ , but the C-TEST emerged as a significant predictor of performance,  $t(64) = 2.85$ ,  $p < .01$  (step 2). In the analysis per SCHOOL TYPE, EE was a significantly weaker predictor than in Sweden only in AMS,  $t(62) = -2.89$ ,  $p < .01$ , but not in AHS,  $t(62) = -1.10$ ,  $p = .28$  (step 6) (see Figure 8.26). None of the two school types differed significantly from Sweden, neither AHS,  $t(4) = 0.20$ ,  $p = .85$ , nor AMS,  $t(4) = 0.00$ ,  $p = 1.00$  (step 5).

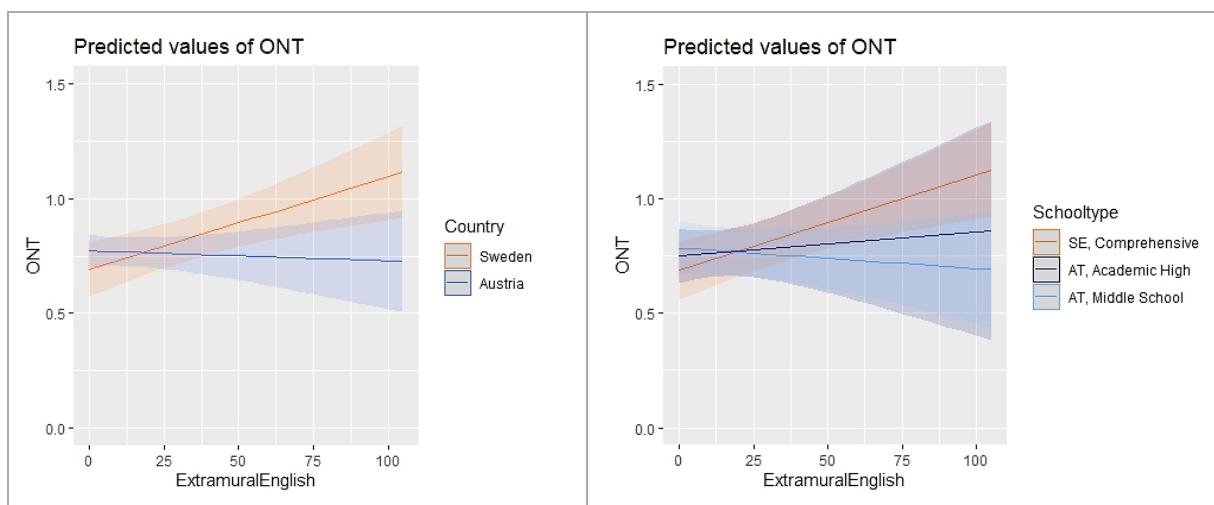


Figure 8.26 Predicted values of total EE as a predictor of ONT by country (left) and school type (right)

**The EIT.** Upon inspection of the EIT models by COUNTRY, I found that WEEKLY EE had a significant effect overall only in step 1,  $t(147) = 2.64, p < .01$ , but not when including control variables in step 2,  $t(98) = 0.90, p < .37$ . Yet, the effect of EE reached significance for Sweden,  $t(97) = 2.57, p = .01$ , and was significantly weaker in Austria,  $t(97) = -2.55, p = .01$  (step 3) (see Figure 8.27). Running the step 2 model on the Austrian sample alone, I could not find a significant impact of EE on the EIT,  $t(68) = -0.81, p = .42$  ( $N = 81$ ). In the models including both samples, no overall cross-country significant difference in achievement became apparent,  $t(5) = -0.40, p = .71$ . The C-TEST,  $t(98) = 3.72, p < .001$ , and HISEI,  $t(98) = 2.61, p = .01$ , were significant predictors of EIT performance (step 2). According to the models run by SCHOOL TYPE, WEEKLY EE played a significantly weaker role in AHS,  $t(96) = -2.52, p = .01$ , and a near-significantly weaker role in AMS,  $t(96) = -1.84, p = .07$ , as compared to Sweden (step 6) (see Figure 8.27). None of the two school types differed significantly from Sweden in EIT scores, neither AHS  $t(4) = -0.02, p = .99$ , nor AMS,  $t(4) = -0.78, p = .48$  (step 5).

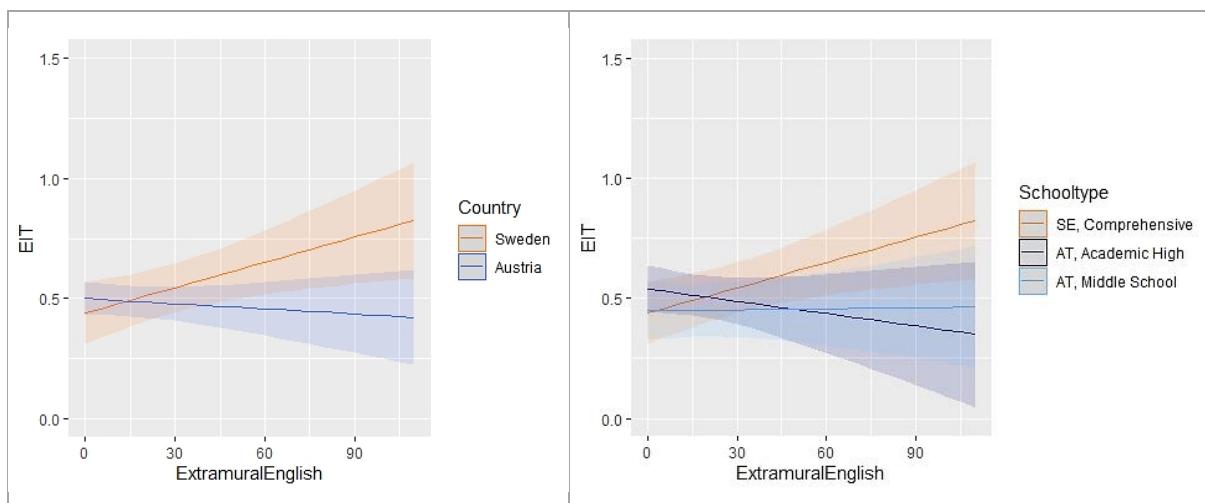


Figure 8.27 Predicted values of EE as a predictor of EIT by country (left) and school type (right)

**The ATGJT.** Regarding ATGJT models by COUNTRY, WEEKLY EE was overall found to be a nearly significant predictor of performance on the ATGJT,  $t(97) = 1.86, p = .07$  (step 2). A statistical significance of the EE impact was only found in step 1, excluding control variables,  $t(146) = 3.58, p < .001$ . However, WEEKLY EE was identified as a significant predictor for achievement among Swedish learners,  $t(96) = 2.57, p = .01$ , and as a nearly significantly weaker predictor for performance among Austrian students,  $t(96) = -1.79, p = .08$  (step 3) (see Figure 8.28). When running the step 2 model on the Austrian sample alone, I detected no significant impact of EE on the ATGJT,  $t(41) = 0.82, p = .42$  ( $N = 80$ ). In terms of the cross-country differences in test achievement, Austrian students scored significantly lower than Swedish participants,  $t(6) = -3.88, p < .01$ . Regarding the control variables, the C-TEST was a highly significant predictor of ATGJT performance,  $t(97) = 4.64, p < .001$ , and AGE was approaching significance,  $t(97) = 1.70, p = .09$  (see step 2). As to the ATGJT models run by SCHOOL TYPE, the close to significant interaction of EE and COUNTRY was borne out for AMS,  $t(95) = -1.77, p = .08$ , but not for AHS,  $t(95) = -1.09, p = .28$  (step 6) (see Figure 8.28). Participants from both Austrian school types, AHS,  $t(5) = -3.44, p = .02$ , and AMS,  $t(5) = -3.74, p = .01$ , were found to score significantly weaker on the ATGJT than Swedish students (step 5).

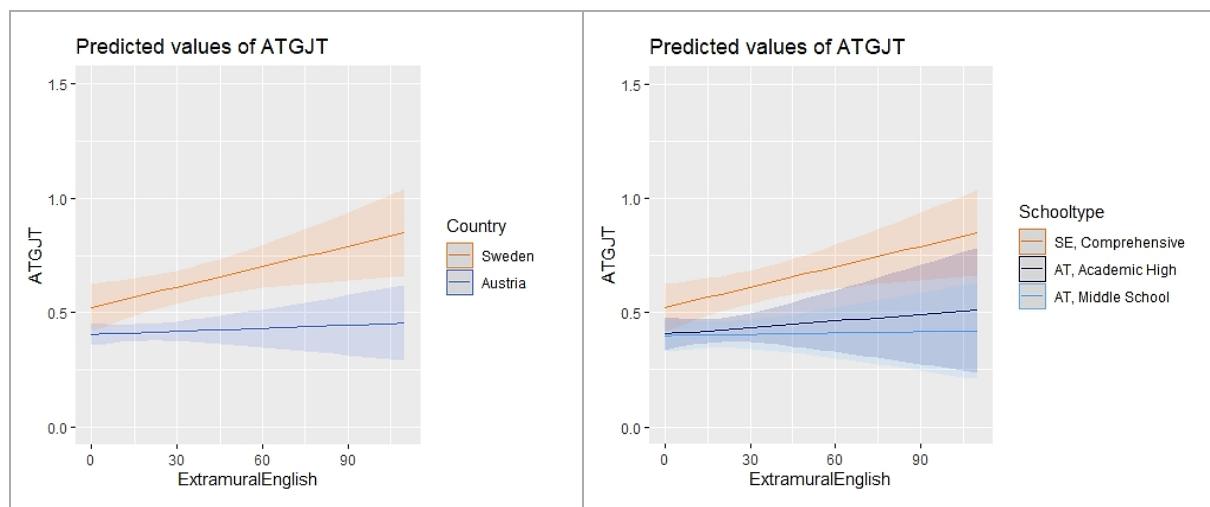


Figure 8.28 Predicted values of EE as a predictor of ATGJT by country (left) and school type (right)

**The WTGJT.** Considering the WTGJT models by COUNTRY, WEEKLY EE was non-significant,  $t(98) = 0.59, p = .56$  (step 2). WEEKLY EE was significant only in the model excluding control variables,  $t(149) = 2.15, p = .03$  (step 1). There was also no interaction between EE and COUNTRY,  $t(94) = 1.18, p = .24$  (step 3). When running the step 2 model on the Austrian sample alone, EE demonstrated no significant effect on the WTGJT,  $t(68) = 1.66, p = 0.10 (N = 81)$ . Returning to the models including both samples, I found a tendency for Austrian students scoring higher on the WTGJT,  $t(6) = -2.35, p = .06$ , which reached significance in step 3,  $t(6) = -2.76, p = .03$ . The C-TEST, AGE, and GENDER were significant predictors, with higher C-TEST scores,  $t(98) = 3.44, p < .001$ , and AGE,  $t(98) = 2.08, p = .04$ , resulting in higher scores, and boys displaying lower performance,  $t(98) = -2.72, p = .01$  (step 2). Regarding the two Austrian school types, again no significant interaction with EE was detected, neither for AHS,  $t(96) = 0.68, p = .50$ , nor for AMS,  $t(96) = 1.61, p = .11$  (step 6). AHS students,  $t(5) = -2.32, p = .07$  showed near-significantly lower scores than Swedish participants, which almost also applied to AMS,  $t(5) = -1.96, p = .11$  (step 5).

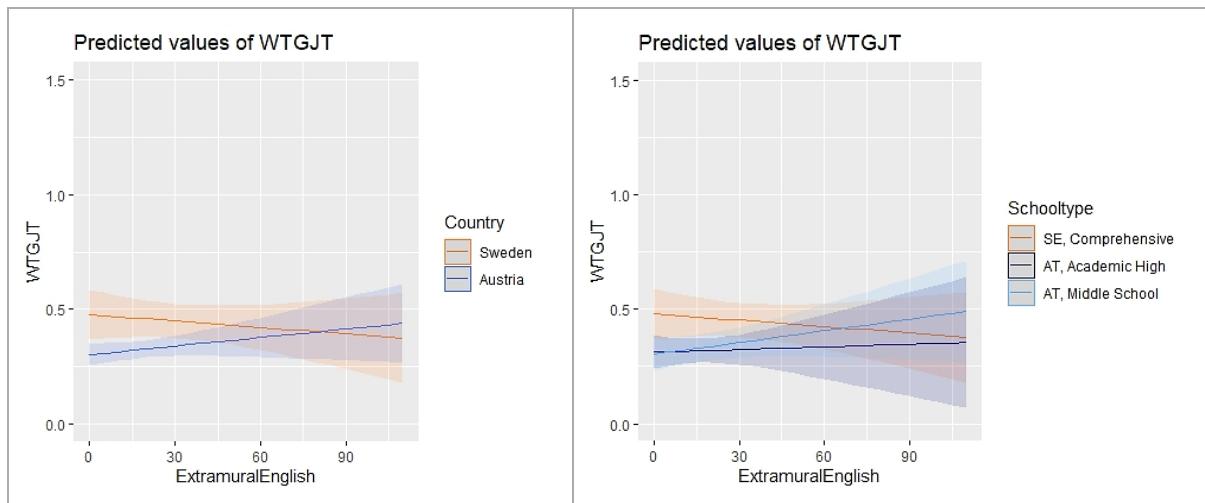


Figure 8.29 Predicted values of EE as a predictor of WTGJT by country (left) and school type (right)

**The UGJT.** The effect of WEEKLY EE on the UGJT did not reach significance overall,  $t(98) = -0.71, p = .48$  (step 2), but among Swedish participants,  $t(97) = 3.74, p < .001$ . This effect was considerably weaker in Austria,  $t(97) = -4.93, p < .001$  (step 3) (see Figure 8.30). In running the step 2 model on the Austrian sample alone, EE showed a significant effect on the UGJT,  $t(68) = -3.11, p < .01$  ( $N = 81$ ). Returning to the models including both samples, neither of the countries significantly outperformed the other,  $t(6) = 0.47, p = .66$  (step 2). As to control variables, the C-TEST,  $t(98) = 4.01, p < .001$ , and the learners' L1 not being the country's majority language,  $t(98) = 2.39, p = .02$ , were significant predictors of performance (step 2). In additional steps, gender nearly reached significance, with boys scoring better on the UGJT,  $t(97) = 1.84, p = .07$ , and the socioeconomic status had a similarly positive impact,  $t(96) = 1.70, p = .09$ . In the models integrating SCHOOL TYPE, the significantly weaker effect of WEEKLY EE in Austria than in Sweden was borne out ( $p < 0.001$ ) for both AHS,  $t(96) = -4.99$ , and AMS,  $t(96) = -3.69$  (step 6) (see Figure 8.30). None of the Austrian school types, AHS,  $t(5) = 0.53, p = .62$ , nor AMS,  $t(5) = 0.06, p = .95$ , significantly differed from the Swedish participants' performance (step 5).

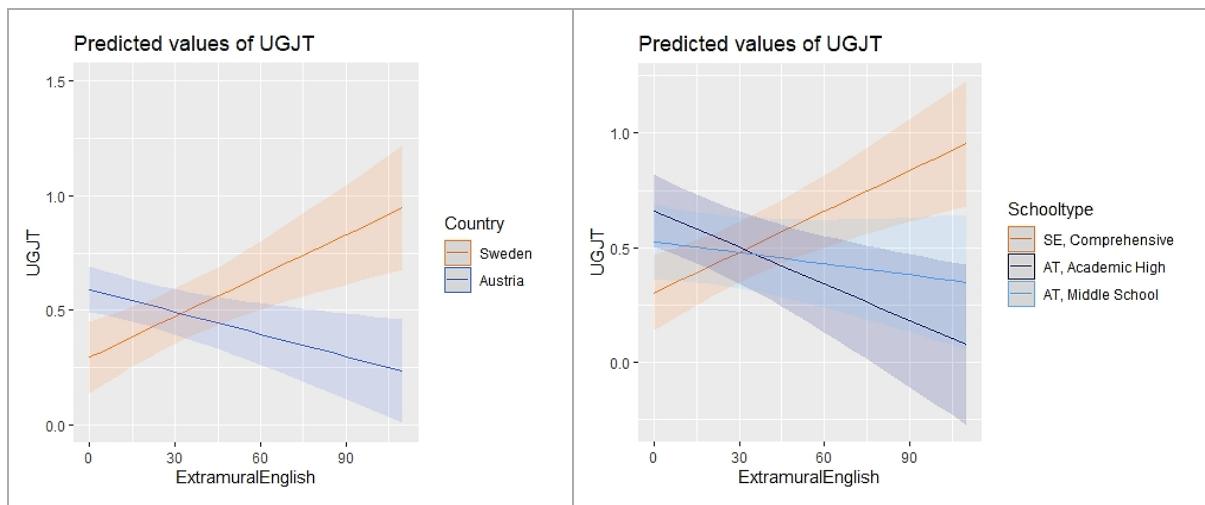


Figure 8.30 Predicted values of EE as a predictor of UGJT by country (left) and school type (right)

**Note.** Even though the minimum score of the UGJT is 0, the estimates of the Austrian school types depicted in the right graph go below this value. Therefore, the y-axis here ranges from -0.5 to 1.5, compared to 0 to 1.5 for the remainder of graphs in this section.

**The MKT.** In the Linear Mixed Models of MKT, the overall effect of WEEKLY EE on performance was negative but not significant,  $t(95) = -1.23, p = .22$  (step 2). In Sweden, EE was positive but also did not reach significance,  $t(94) = 1.54, p = .13$ , and this effect was significantly weaker in Austria,  $t(94) = -2.97, p < .01$  (step 3) (see Figure 8.31). Running the step 2 model on the Austrian sample alone revealed a significant negative impact of WEEKLY EE on the MKT,  $t(65) = -2.32, p = .02$  ( $N = 78$ ). Considering the models including both samples, COUNTRY was a

significant predictor in that Austrian students scored higher,  $t(6) = 6.43, p < .001$ . As to control variables, only the C-TEST considerably predicted performance on the MKT,  $t(95) = 3.85, p < .001$  (step 2). In the models considering SCHOOL TYPE, WEEKLY EE now showed a statistical tendency to predict performance of the Swedish sample,  $t(93) = 1.84, p = .07$  (step 6). The significantly weaker impact of EE on performance among Austrian learners held true for both school types, AHS,  $t(93) = -2.26, p = .03$ , and AMS,  $t(93) = -2.87, p < .01$  (step 6) (see Figure 8.31). Both AHS students,  $t(5) = 9.96, p < .001$ , and AMS students,  $t(5) = 6.49, p < .01$ , scored significantly higher than Swedish participants (step 5).

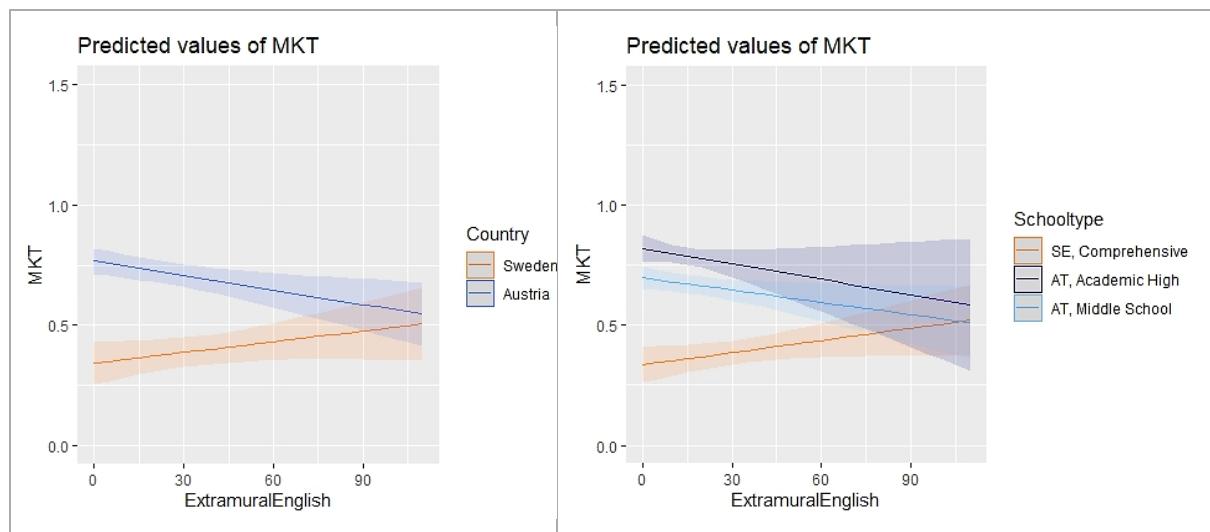


Figure 8.31 Estimates of the impact of independent variables on the MKT, by country (left) and school type (right)

To summarize, total weekly EE surfaced as a significant contributing factor in performance on tests of automatized-implicit knowledge only in the Swedish sample, except for the WTGJT, which was not significantly affected in either of the samples. Tests of explicit knowledge seemed to be significantly negatively impacted by weekly EE use in terms of the UGJT and MKT in Austria and the UGJT in Sweden. The next section is concerned with the impact of individual EE activities on test performance.

#### 8.5.4 Individual Activities Models

Across the different EE activities, GAMING had the most consistent positive effect on test performance overall, followed by WATCHING audio-visuals. Both of them showed a rather consistent effect in the Swedish group. In the Austrian sample, no test was significantly and positively impacted by any of the EE activities ( $p > .1$ ), except for the effect of extramural WRITING on the WTGJT. The table below provides an overview of significant and non-significant predictors of performance on the different grammar tests, as revealed by the Individual Activities

Models (see Table 8.23<sup>64</sup>). To provide a better overview of findings in this section, they are ordered according to EE activities rather than grammar tests, and detailed numbers ( $t$ ,  $df$ ,  $p$ -values) are given only for (near) significant findings. Graphs are provided for all relationships<sup>65</sup>. The effect of COUNTRY and control variables is not discussed below, but overall the same pattern was found as in the Total EE Models: I detected (near) significant cross-country differences in the ATGJT, the WTGJT, and the MKT, and the C-TEST emerged as a significant predictor of test performance across models. The tables including estimates, standard errors, and the level of significance of the different independent variables for each grammar test (steps 2–3) are available in 11.11.8.4 in the appendix.

*Table 8.23 Overview of results yielded by the Individual Activities Models*

	Reading				Writing				Listening				Speaking			
<b>ONT</b>	✓	x	✓	x	x	x	x	x	x	x	x	x	x	x	x	x
<b>EIT</b>	x	x	~	x	x	x	x	x	x	x	x	x	x	x	x	x
<b>ATGJT</b>	x	x	x	x	~	x	x	x	x	x	x	x	x	~	x	x
<b>WTGJT</b>	x	x	x	x	✓	✓	x	x	x	x	x	x	x	x	x	x
<b>UGJT</b>	x	✓n	✓	✓	x	x	✓	x	x	✓n	✓	✓	x	✓n	x	✓
<b>MKT</b>	x	x	x	x	x	x	x	x	x	x	✓n	✓	✓	✓n	x	x
	Singing				Watching				Gaming				Music			
<b>ONT</b>	x	✓n	x	✓	x	x	✓	~	~	x	✓	x	x	x	x	x
<b>EIT</b>	x	x	x	x	x	x	✓	✓	✓	x	✓	✓	✓	x	x	x
<b>ATGJT</b>	x	x	x	x	x	x	~	x	✓	x	✓	✓	x	x	x	x
<b>WTGJT</b>	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
<b>UGJT</b>	x	✓n	x	x	x	✓n	✓	✓	~	x	✓	✓	x	x	✓	x
<b>MKT</b>	x	x	x	x	x	✓n	x	✓	x	✓n	✓	✓	x	x	x	x

**Notes.** The symbols x, ~, and ✓ denote the level of significance of given findings,  $p > .1$ ,  $p < .1$ ,  $p < .05$  respectively. The symbol ✓n points to a significant negative effect. The four columns per EE activity in this table refer to (1) the overall effect of EE (step 2), (2) the impact of EE in Austria (step 2, run on Austria), (3) its impact in Sweden, and (4) the interaction of COUNTRY and EE (step 3). (Near) significant positive findings are shaded in grey. N was 86–88 for ONT models, 120–123 for EIT models, 121–124 for ATGJT models, 122–125 for WTGJT models, 122–125 for UGJT models, and 119–122 for MKT models.

<sup>64</sup> Upon using the log() function for metric independent variables in the ONT models, some results differed in their level of significance from the main model results presented in the table. Such log-models were computed because of a seemingly logarithmic relationship between the ONT and independent variables in the scatterplots (see appendix). In the log-models excluding the interaction, WRITING and GAMING reached significance ( $p < .05$ ) and SPEAKING and WATCHING did so almost ( $p < .1$ ). In the log-models including the interaction, LISTENING, MUSIC, and MUSIC\*COUNTRY turned significant ( $p < .05$ ) for Sweden, whereas SINGING\*COUNTRY decreased in its level of significance ( $p < .1$ ). This information is also provided directly in the respective passage reporting the results.

<sup>65</sup> Please note that the range of the y-axis differs across sections. It was -0.5 to 1.5 for reading and writing, -0.25 to 1.5 for listening and speaking, -0.25 to 1.25 for singing and watching, and 0 to 1.5 for gaming and music. The scale of the y-axis had to be adapted especially if the error variance was large and reached beyond the minimum score of 0 and/or the maximum score of 1.

**Reading.** Extramural English READING had a significant effect on ONT performance overall,  $t(67) = 2.07, p = .04$ , and in Sweden,  $t(66) = 2.36, p = .02$ . In Sweden, it also nearly showed a significant impact on performance on the EIT,  $t(101) = 1.95, p = .05$ . Its effect on the UGJT was significant in Sweden,  $t(101) = 2.48, p = .02$ , and this effect was significantly weaker in Austria,  $t(101) = -2.89, p < .01$ . By running the step 2 model on the Austrian sample alone, I detected a significant negative impact of READING on the UGJT,  $t(68) = -2.49, p = .02 (N = 81)$  (see Figure 8.32).

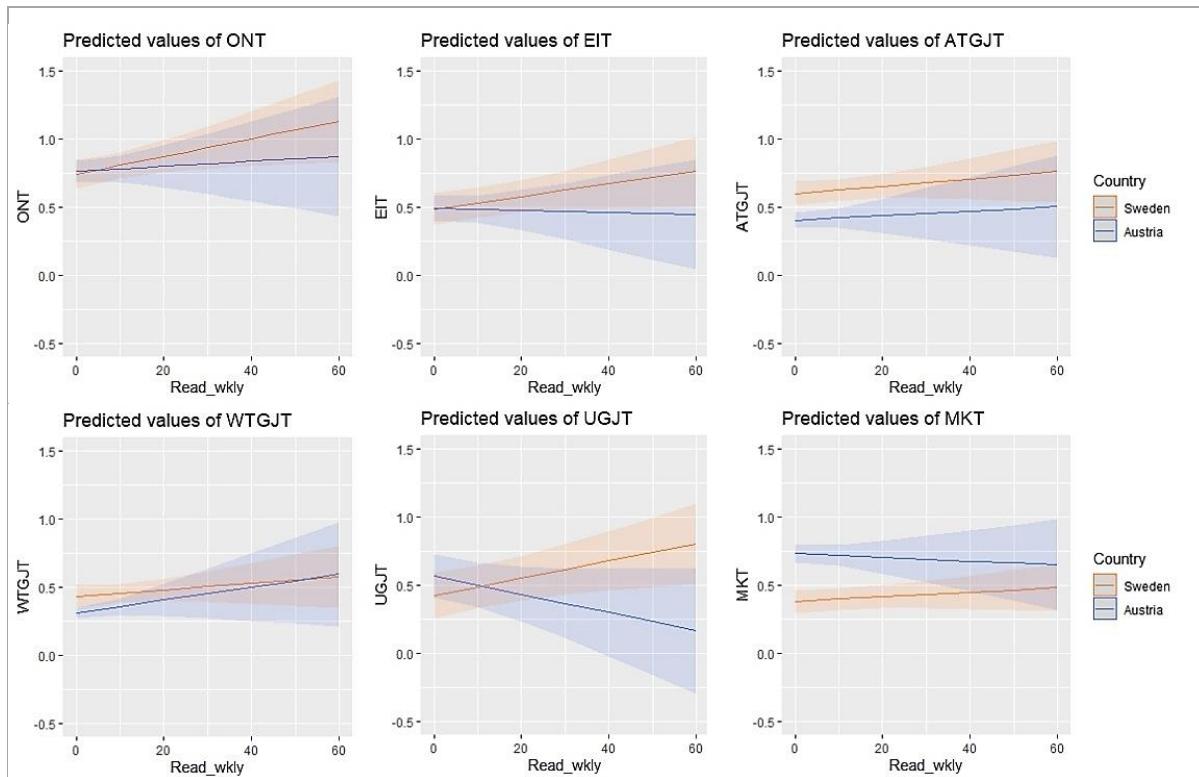


Figure 8.32 Estimates of the impact of reading on the six grammar tests by country

**Writing.** EE WRITING overall demonstrated a nearly significant impact on ATGJT performance,  $t(101) = 1.80, p = .08$ , and a significant effect on the WTGJT,  $t(102) = 2.02, p < .05$ . It also showed a significant impact on the UGJT in Sweden,  $t(101) = 1.99, p < .05$ . Running the step 2 model on the Austrian sample alone, I found a significant positive impact of WRITING on the WTGJT,  $t(68) = 2.38, p = .02$  ( $N = 81$ ) (see Figure 8.33). If logarithmized (see 7.6.5.2), the overall effect of WRITING on the ONT reached significance ( $p < .05$ ).

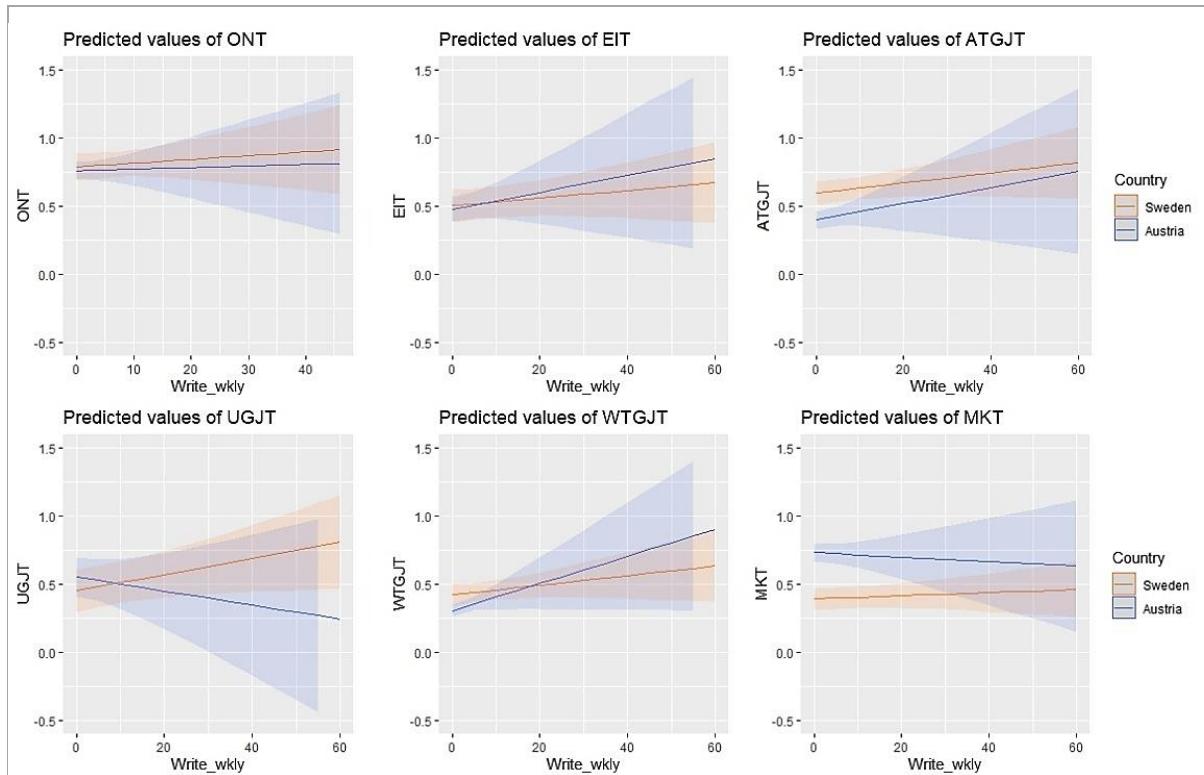


Figure 8.33 Estimates of the impact of writing on the six grammar tests by country

**Listening.** EE LISTENING significantly promoted UGJT achievement only in Sweden,  $t(100) = 2.65, p < .01$ , and this effect was significantly weaker in Austria,  $t(100) = -3.36, p < .01$ . The same was true for the MKT, positively influenced by LISTENING in Sweden,  $t(97) = 2.21, p = .03$ , an effect which was much weaker in Austria,  $t(97) = -2.55, p = .01$ . However, it must be recalled that the MKT showed low reliability in Sweden. Running the step 2 model on the Austrian sample alone, I found a significant negative impact of LISTENING on the UGJT,  $t(68) = -2.80, p < .01 (N = 81)$  (see Figure 8.34). If logarithmized (see 7.6.5.2), the effect of LISTENING on the ONT reached significance ( $p < .05$ ) for Sweden.

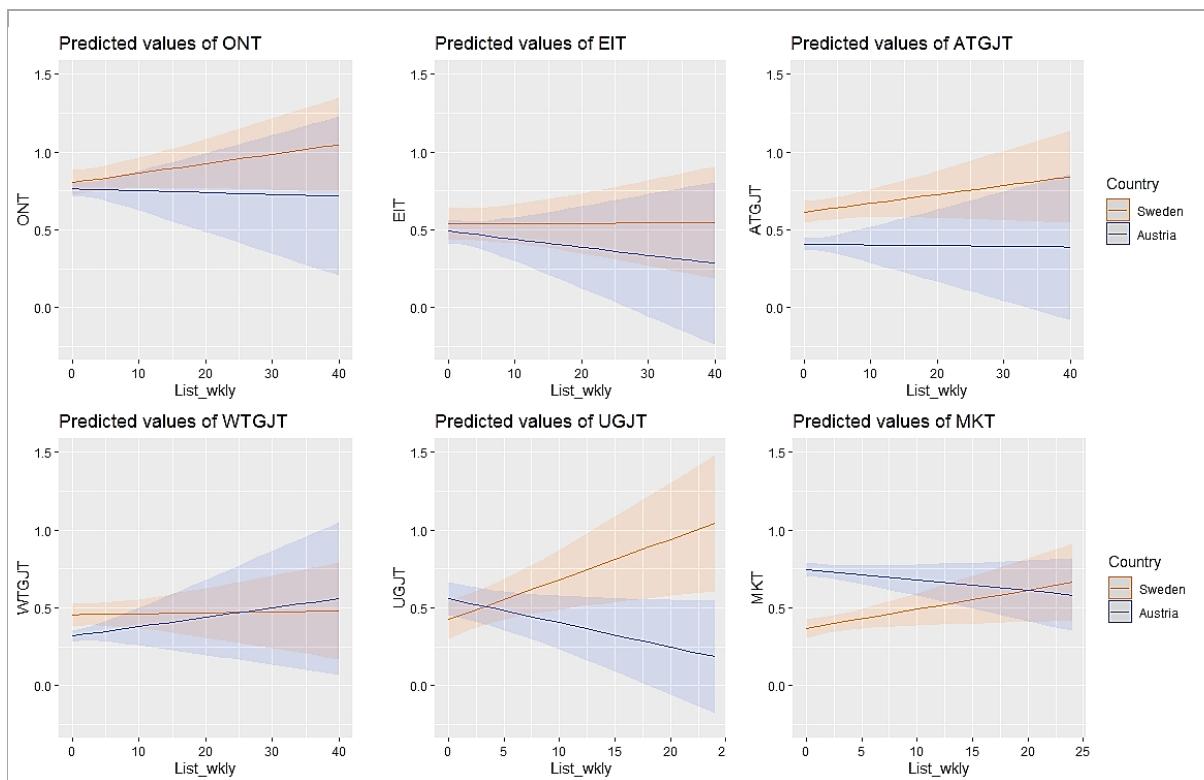


Figure 8.34 Estimates of the impact of listening on the six grammar tests by country

**Speaking.** Recreational speaking appeared to boost ATGJT performance to a near significant degree,  $t(98) = 1.69, p = .09$ . It did not show a significant effect on the UGJT, neither overall nor in Sweden. The effect was negative in Austria and positive in Sweden, with the two differing significantly from one another,  $t(98) = -2.49, p = .01$ . In terms of the MKT, SPEAKING had a significant negative impact overall,  $t(96) = -1.99, p < .05$ . When computing the step 2 model on the Austrian sample by itself, I detected a significant negative impact of SPEAKING on the UGJT,  $t(68) = -2.19, p = .03 (N = 81)$ , and almost the MKT,  $t(65) = -1.74, p = .09 (N = 81)$  (Figure 8.35). If logarithmized (see 7.6.5.2), the overall effect of SPEAKING on the ONT almost reached significance ( $p = .06$ ).

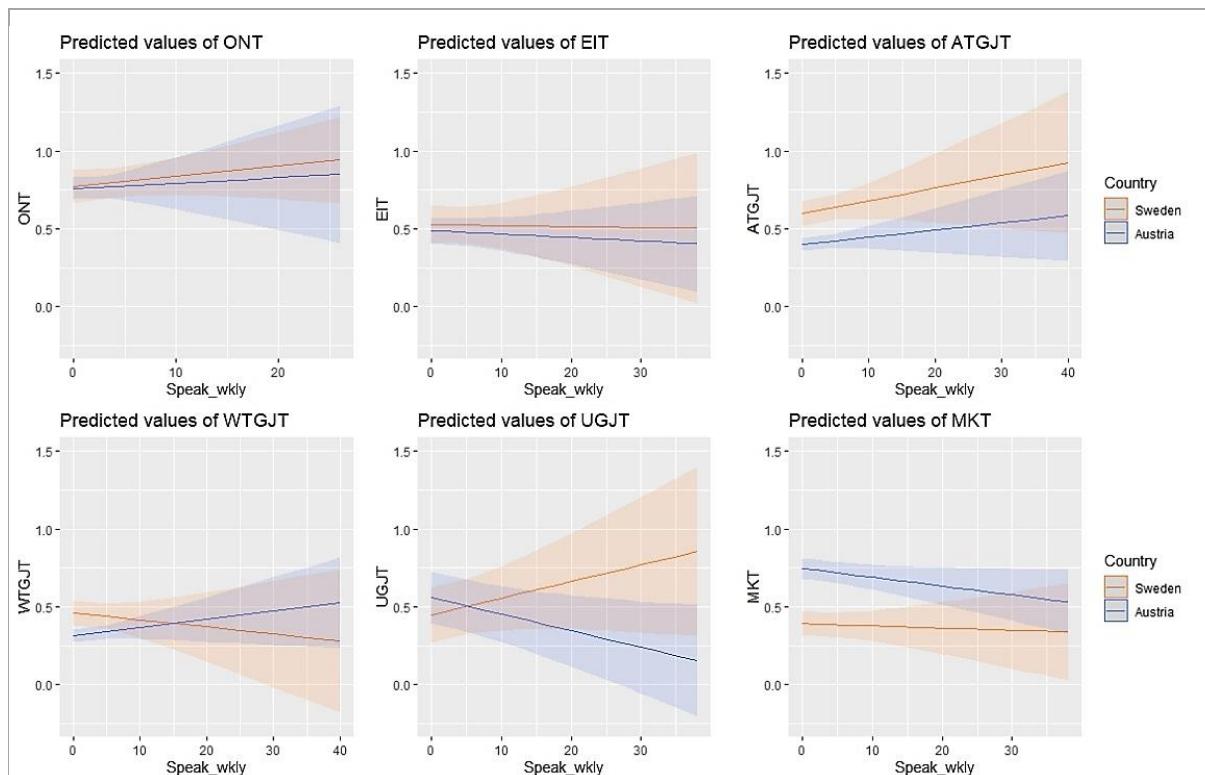
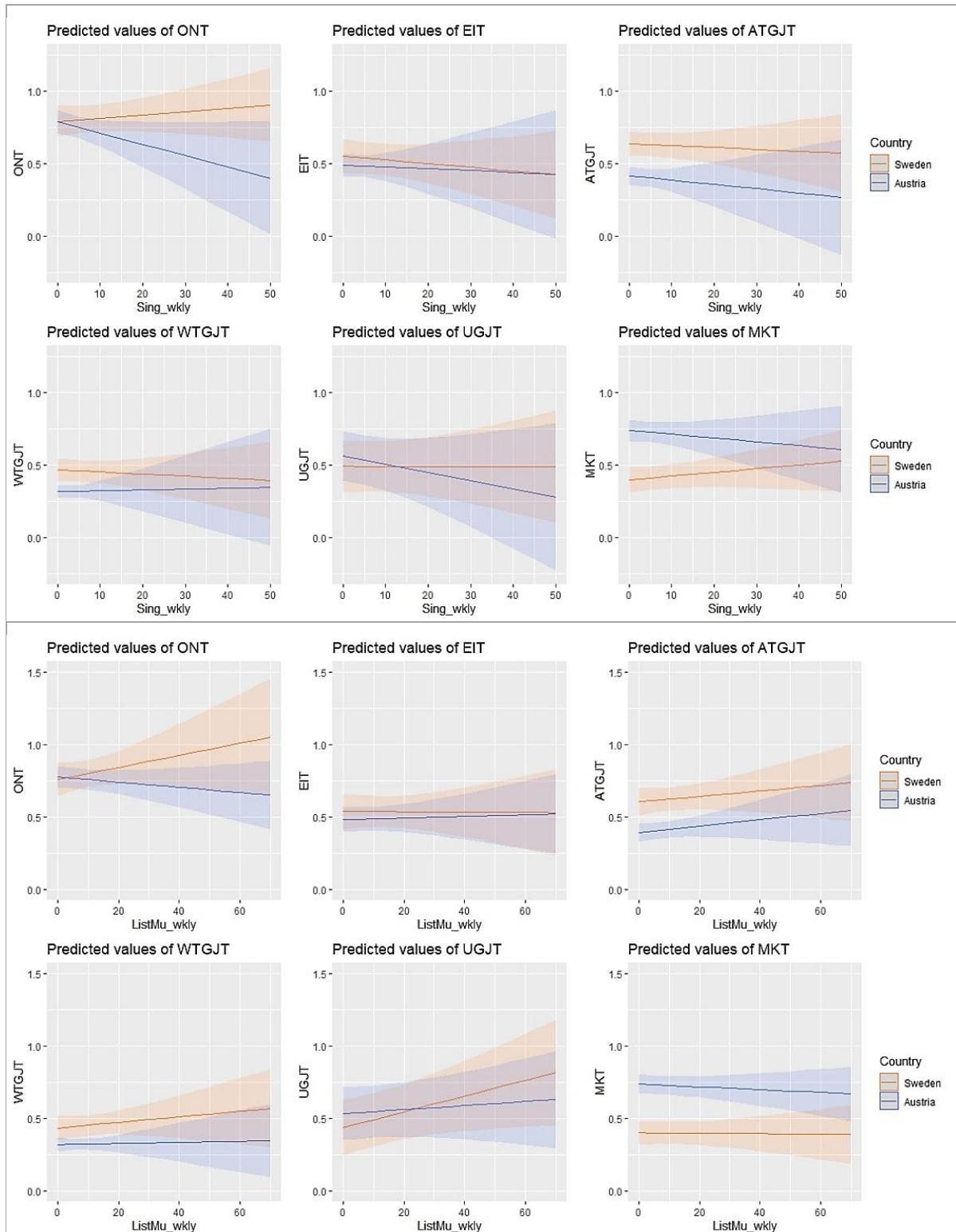


Figure 8.35 Estimates of the impact of speaking on the six grammar tests by country

**Singing and Listening to Music.** As to SINGING, the only significant finding in the models was an interaction with COUNTRY, suggesting SINGING had a significantly weaker impact on ONT achievement in Austria than in Sweden,  $t(66) = -2.05, p = .04$ . The effect was overall minimally positive in Sweden and strongly negative in Austria. When computing the step 2 model on the Austrian sample by itself, I detected a significant negative impact of SINGING on the ONT,  $t(41) = -2.32, p = .03 (N = 54)$ , and nearly the UGJT,  $t(68) = -1.96, p = .05 (N = 81)$ . When it comes to LISTENING TO MUSIC, Swedish students seemed positively affected by it as seen in the UGJT,  $t(101) = 2.01, p < .05$  (see Figure 8.36). If logarithmized (see 7.6.5.2), the interaction of

SINGING and COUNTRY in the ONT model decreased in its level of significance ( $p = .08$ ), whereas MUSIC in Sweden and its interaction with COUNTRY now reached significance ( $p < .05$ ).



*Figure 8.36 Estimates of the impact of singing (top) and listening to music (bottom) on the six grammar tests by country*

**Watching.** Regarding the EE types that seemed to most positively influence test performance, WATCHING significantly impacted ONT scores in Sweden,  $t(65) = 2.28, p = .03$ , and this effect was almost significantly greater than in Austria,  $t(65) = -1.87, p = .07$ . Likewise, WATCHING apparently significantly improved EIT performance in Sweden,  $t(99) = 2.28, p = .02$ , and this effect was considerably greater than in Austria,  $t(99) = -2.34, p = .02$ . In the same vein, the UGJT was significantly impacted in Sweden,  $t(99) = 2.20, p = .03$ , an effect much smaller in Austria,  $t(99) = -3.55, p < .001$ . Importantly, the UGJT was a test that seemed to tap into automatized-implicit knowledge in Sweden. Finally, according to the models, WATCHING affected ATGJT performance almost significantly in Sweden,  $t(98) = 1.84, p = .07$ , and its bearing on the MKT proved to be significantly weaker in Austria than in Sweden,  $t(96) = -3.26, p < .01$ . In running the step 2 model separately on the Austrian sample, I found a significant negative impact of WATCHING on the UGJT,  $t(68) = -2.12, p = .04$  ( $N = 81$ ), and on the MKT,  $t(68) = -2.61, p = .01$  ( $N = 78$ ) (see Figure 8.37). If logarithmized (see 7.6.5.2), the overall effect of WATCHING on the ONT reached near significance ( $p = .08$ ).

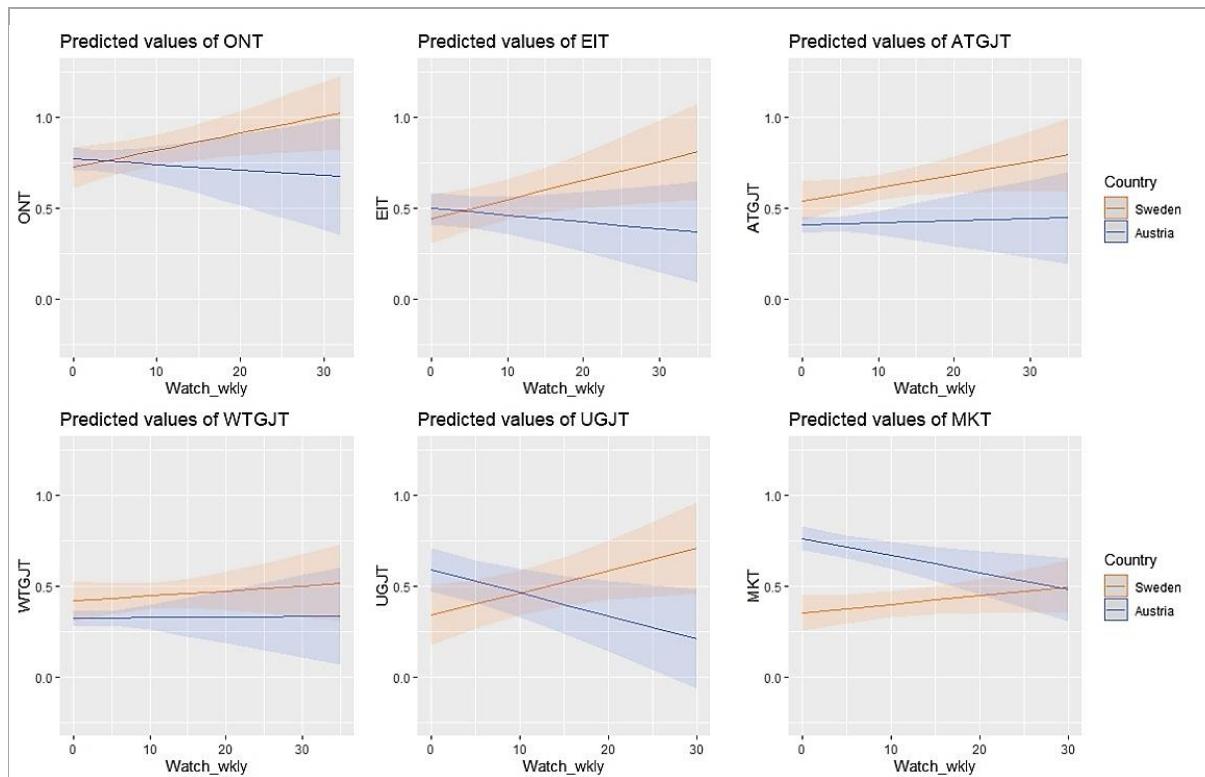


Figure 8.37 Estimates of the impact of watching audio-visuals on the six grammar tests by country

**Gaming.** The effect of GAMING on the ONT approached significance overall,  $t(67) = 1.90, p = .06$ , and reached significance in the Swedish sample,  $t(66) = 2.03, p < .05$ . The EIT seemed to be greatly affected by EE overall,  $t(102) = 2.30, p = .02$ , and in the Swedish sample,  $t(101) = 3.87, p < .001$ , an effect that was much smaller in Austria,  $t(101) = -3.14, p < .01$ . GAMING

apparently also boosted ATGJT scores overall,  $t(101) = 2.12, p = .04$ , and in Sweden,  $t(100) = 3.18, p < .01$ , an effect that again was significantly smaller in Austria,  $t(100) = -2.38, p = .02$ . Achievement on the UGJT was impacted almost significantly overall,  $t(102) = 1.81, p = .07$ , and significantly in Sweden,  $t(101) = 3.76, p < .001$ , again an effect that was clearly less pronounced in Austria,  $t(101) = -3.22, p < .01$ . Lastly, in Sweden, the MKT was significantly impacted by GAMING,  $t(98) = 2.31, p = .02$ , and this was much less the case in Austria,  $t(98) = -3.80, p < .001$ . However, one should not forget that the MKT may not have been a reliable measure in Sweden. Looking at Austria by itself, GAMING appeared to impact MKT performance strongly negatively,  $t(65) = -2.13, p = .04$  ( $N = 78$ ) (see Figure 8.38). If logarithmized (see 7.6.5.2), the overall effect of GAMING on the ONT reached significance ( $p = .04$ ).

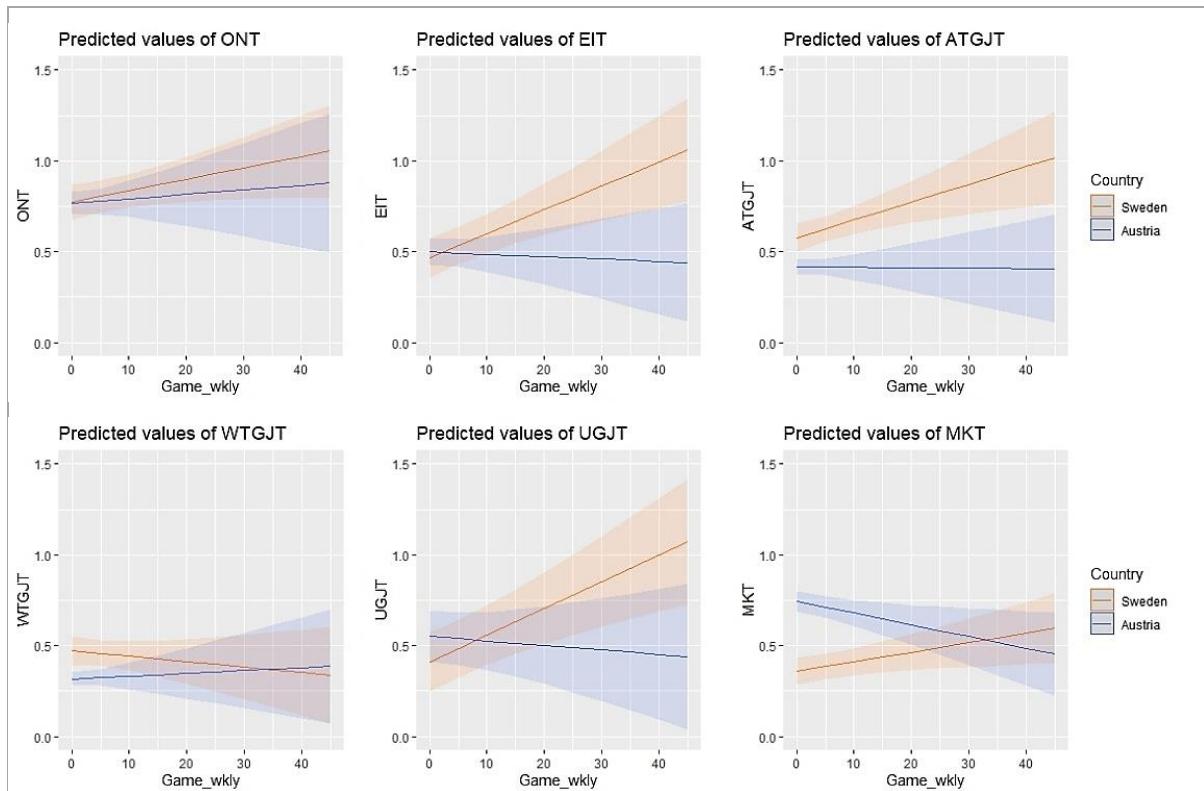


Figure 8.38 Estimates of the impact of gaming on the six grammar tests by country

To conclude, strong positive effects of EE activities on automatized-implicit knowledge became apparent only in the Swedish data. While WATCHING and GAMING surfaced as the most beneficial activities in this respect, SINGING and LISTENING TO MUSIC seemed the least conducive to automatized-implicit knowledge. READING, WRITING, LISTENING, and SPEAKING only showed a very inconsistent positive effect. Considering measures of explicit knowledge (i.e., the UGJT and MKT among Austrian learners and the MKT among Swedish learners), they proved to be little or even negatively impacted by EE activities.

### 8.5.5 Summary

#### 8.5.5.1 Total EE and Automatized-Implicit and Explicit Knowledge (RQ5-RQ6)

**RQ5: Total EE and the ONT, EIT, and TGJTs.** Since instruction variables were not included in the Linear Mixed Models due to their assumed low reliability and construct validity (see 7.6.5.1 for an explanation), the impact of the type of instruction on learning could not be explored and **H<sub>5.1</sub>** and **H<sub>5.2</sub>** not directly verified. These hypotheses suggested that a combination of explicit instruction and communicative practice would be conducive to the development of automatized-implicit knowledge, and that the type of instruction would have a greater impact on learning outcomes in Austria than in Sweden. However, since WEEKLY EE overall and its individual activities were significantly less influential in the Austrian than the Swedish sample, the type of instruction *might* indeed have a greater bearing on knowledge construction in this context.

**H<sub>5.3</sub>**, suggesting an overall positive effect of young learners' EE use on performance on measures of automatized-implicit knowledge, could not be fully corroborated. EE only reached a near-significant main effect in the models run on the ATGJT and the ONT, and manifested itself as a significant predictor of EIT and WTGJT upon *excluding* control variables (step 1). However, perhaps the Austrian sample was not suitable to test this hypothesis, given regular EE use started rather recently in this group and arguably was not extensive enough. In contrast, **H<sub>5.4</sub>**, hypothesizing that EE would be a stronger influencing factor among Swedish than Austrian learners, can be solidified for all measures of automatized-implicit knowledge but the WTGJT. Whereas WEEKLY EE only showed a rather weak positive effect on the TGJTs and even a slightly negative effect on the ONT and EIT among Austria learners, it appeared as a significant predictor of ATGJT, ONT, and EIT scores among Swedish students. Thus, EE apparently had a significantly weaker impact on the ONT, EIT, and nearly the ATGJT among Austrian as compared to Swedish learners. These (near) significant interactions extended to a comparison of Swedish scores separately with the two Austrian school types—except for the ONT and ATGJT in AHS, where the effect of EE was only descriptively weaker than in Sweden. In the Austrian sample, none of these tests seemed to be significantly impacted by total WEEKLY EE, but extramural WRITING apparently fostered WTGJT performance (see further down).

Considering cross-country differences in test performance, **H<sub>5.5</sub>**, tentatively predicting higher scores on measures of automatized-implicit knowledge among Swedish learners, could be confirmed for the TGJTs. It could however not be consolidated in terms of the ONT and EIT, where no (near-)significant cross-country difference was found as a main effect. Austrian

learners scored (1) significantly lower than Swedish students on the ATGJT, which was confirmed for both AMS and AHS learners, and (2) close to significantly lower on the WTGJT, which applied to AHS but not to AMS students. These findings of course need to be interpreted under consideration of the small sample sizes, which do not allow for generalizations to be made.

The C-TEST was a significant predictor of performance on all tests. Additionally, the socioeconomic status as measured by the HISEI significantly predicted performance on the EIT, AGE influenced performance on the ATGJT and WTGJT (nearly) significantly, and boys scored significantly higher on the WTGJT than girls.

**RQ6: Total EE and the UGJT and MKT.** The hypothesis suggesting EE not to impact performance on measures originally conceptualized as tapping into explicit knowledge, **H<sub>6.1</sub>**, converged primarily with findings of the MKT models. EE had no (nearly) significant main effect on MKT achievement, nor among Swedish learners in particular. However, the interaction with COUNTRY was significant, so that among Austrian students, the impact of EE was significantly weaker than among Swedish students, where the effect generally was positive. In the Austrian sample by itself, MKT performance indeed seemed to be significantly negatively (!) influenced through EE. Only in the models run by SCHOOL TYPE, the Swedish sample showed a statistical tendency of EE positively impacting achievement on the MKT. In terms of the UGJT, there was no significant main effect of EE overall but among Swedish learners. Importantly, it must be noted that in the Swedish sample, the UGJT emerged as a measure of automatized-implicit rather than explicit knowledge (see 8.4.2.1). The ostensible impact of EE on the UGJT was significantly weaker among Austrian participants, which held true for both Austrian school types. Very much in contrast to Sweden, in Austria, EE showed a significant negative effect on this test.

Since variables gauging the type of instruction were not integrated in the models (see 7.6.5.1 for an explanation), this aspect could not be explored and **H<sub>6.2</sub>** not verified by means of the Linear Mixed Models. This hypothesis predicted explicit instruction to positively influence learners' explicit knowledge. However, Austrians scored significantly higher on the MKT than Swedish students, borne out by both school types, which is highly likely to be due to the more explicit type of instruction in the Austrian setting. The finding of higher MKT scores among the Austrian participants arguably corroborates **H<sub>6.3</sub>**. In this hypothesis, I further expected Austrian students to outscore the Swedish group on the UGJT, but this was not borne out in my data. Yet, this finding again needs to be interpreted in combination with the idea of the UGJT

apparently having tapped into automatized-implicit knowledge in the Swedish context (see 8.4.2.1).

The C-TEST was a significant predictor of performance on all tests, and students with an L1 other than the country's majority language appeared to significantly positively impact performance on the MKT.

#### *8.5.5.2 Individual EE Activities and Automatized-Implicit Knowledge (RQ7)*

To begin with, findings emerging from the Individual Activities Models lent further support to **H<sub>5.4</sub>**, hypothesizing that EE would be a stronger influencing factor among Swedish than Austrian learners. The bearing individual activities had on test scores was significantly positive more often in the Swedish as compared to the Austrian sample. Nevertheless, among Austrian learners, the direction of the effect was positive in the case of most activities and automatized-implicit tests, including the effects of WATCHING on the TGJTs, READING and SPEAKING on the ONT and TGJTs, WRITING on the ONT, EIT, and TGJTs, LISTENING and SINGING on the WTGJT, MUSIC on the EIT and TGJTS, and GAMING on the ONT and WTGJT. Considering measures of explicit knowledge (i.e., the UGJT and MKT among Austrian learners and the MKT among Swedish learners), they proved to be little or even negatively impacted by EE activities, further corroborating **H<sub>6.1</sub>**. The only exception here was the significant positive effect of GAMING on MKT scores among Swedish students. As explained in 7.1.7, RQ7, enquiring about the relative impact of different EE activities on test performance, was widely exploratory. However, the one hypothesis formulated, **H<sub>7</sub>**, expecting LISTENING TO MUSIC not to be effective in the development of automatized-implicit knowledge, was consolidated. The EE activities LISTENING TO MUSIC and SINGING in fact surfaced as the least influential types of language use in the development of automatized-implicit grammar knowledge: LISTENING TO MUSIC showed a significant impact only on the UGJT in the Swedish sample, and SINGING had no positive significant impact overall, nor among Swedish students. The last activity even indicated a significant negative direction in terms of the ONT and UGJT among Austrian learners.

The EE activities READING, WRITING, LISTENING, and SPEAKING only showed a very inconsistent positive effect on automatized-implicit grammar knowledge, which in addition often became apparent only among Swedish students. First, READING demonstrated a significant bearing on the ONT overall and among Swedish learners in particular, a near significant impact on the EIT among Swedish learners, and a significant effect on the UGJT among Swedish students. Second, WRITING seemed to predict ATGJT and WTGJT performance in the total sample nearly significantly and significantly respectively, and this activity also significantly

boosted UGJT scores among Swedish learners, it appeared. Third, LISTENING emerged as a significant contributing factor in terms of the UGJT and MKT among Swedish students. Fourth, SPEAKING overall showed a near significant impact in terms of the ATGJT and a significant negative impact on the MKT. Among Austrian learners, READING, LISTENING, and SPEAKING showed a significant negative impact on the UGJT, which also nearly emerged for the MKT. The only exception to the non-significant positive and significant negative effects in the Austrian sample was the significant positive effect of WRITING on the WTGJT.

In comparison to those activities, WATCHING and GAMING—both of which are multimodal activities—showed a more consistent effect on grammar learning. Among Swedish learners, WATCHING had a significant effect on the ONT, EIT, and UGJT, and it nearly reached significance in terms of the ATGJT. The positive effect of WATCHING observed among Swedish learners was (nearly) significantly weaker in the Austrian sample in the case of the ONT, EIT, UGJT, and MKT. Last but not least, GAMING was the activity that showed the strongest effect on grammar acquisition. Overall, it significantly predicted performance on the EIT, ATGJT, and nearly also the ONT and UGJT. Among Swedish learners, GAMING surfaced as a predictor of achievement on all tests but the WTGJT, an effect significantly smaller among Austrians in case of the EIT, ATGJT, UGJT, and MKT.



## 9 DISCUSSION

In this core chapter of the dissertation, I am going to discuss the main findings that were reported in the previous sections. In doing so, results are interpreted by drawing on relevant previous literature and characteristics of the two geographical contexts. Rather than addressing results individually, they are discussed in an interconnected way. The following sections are concerned with the type of instruction applied in English classrooms in Austrian and Swedish lower secondary education (9.1), extramural English practices of learners at the given level (9.2), the construct validity of tests of automatized-implicit and explicit knowledge (9.3), and the relative role of extramural English and instruction in the learners' grammar knowledge (9.4). Finally, elaborating on Robert DeKeyser's Skill Acquisition Theory (DeKeyser, 2017), the chapter culminates in the proposal of a context-dependent accuracy development theory in 9.5.

### 9.1 The Type of Instruction in Austrian and Swedish Lower Secondary EFL Classrooms

Today, national curricula and guidelines for foreign language instruction, such as in the case of Austria and Sweden (see 6.1.2), convey basic principles of Communicative Language Teaching. However, CLT is a broad construct operating within fuzzy boundaries. Even though it stipulates focus on form to be meaning-based and contextualized, it actually represents a continuum of varying degrees of form-focused vs. meaning-focused teaching (see 3.1). Therefore, in an attempt to pinpoint the more precise nature of instruction in Austria and Sweden, various types of data, collected from students and teachers, need to be discussed in conjunction.

#### 9.1.1 *The Skills-Systems Ratio*

To explore the extent to which instruction aligns with CLT, it was instrumental to compare the relative frequency of classroom activities involving language skills (READING, LISTENING, WRITING, SPEAKING, and WATCHING) and systems (GRAMMAR, VOCABULARY) (see Scrivener, 2011). Given these activity categories rely on single items that different students might have interpreted differently, results are mere approximations of their actual frequency of occurrence. When it comes to activities involving language skills, ELT classes in the three school types were comparable in that READING, LISTENING and WRITING appeared to occur *once or a few times a month* on average. If student responses are taken at face value, this suggests practice of these skills with a medium frequency of occurrence across contexts.

However, differences across school types emerged in SPEAKING and WATCHING. In the AHS group, it seemed that (*almost*) *every class* included oral production activities, such as discussions, role plays, presentations, and conversations with the teacher, as exemplified in the questionnaire item. Such speaking activities were significantly less common in Swedish and AMS data, with a medium effect size. In Sweden, numbers were higher than in AMS, but not significantly so. Interestingly, the lower frequency of speaking in AMS and Sweden coincided with teacher reports from these two contexts on learner difficulties. In AHS, the context where speaking appeared to be more common, teachers did not report on such learner difficulties. Evidently, this pattern does not provide sufficient evidence to suggest a causal relationship between the frequency of speaking in class and learner difficulties. Concerning the other aspect in which school types differed, AMS students were found to WATCH audio-visuals (e.g., video clips, documentaries, theatre plays) less frequently than pupils in Sweden and AHS. The difference between AMS and Sweden reached significance and showed a medium effect size. In fact, Austrian teachers from both school types maintained that authentic English-language movies and videos are often too difficult for students at that age and level to follow—a contention that none of the Swedish teachers made. Nevertheless, across school types, audio-visuals seemed to be used relatively rarely in class. This can be described as unfortunate, given students apparently preferred such material over listening activities in their spare time (see 9.2.2), and its use in class could increase exposure to natural language (see elaboration in 9.4.1.2).

When looking at language systems (i.e., 'up-in-the-head' knowledge of grammar, lexis, and phonology, see Scrivener, 2011), in this case vocabulary and grammar, the Austrian school types both differed significantly from Sweden. According to student responses, VOCABULARY teaching, GRAMMAR RULES, and GRAMMAR PRACTICE occurred significantly more frequently in both Austrian school types as compared to Sweden. The effect size was only small in terms of VOCABULARY but large in terms of GRAMMAR instruction. Taking skills-practice and system-practice together, in Sweden, the median frequency of occurrence was strikingly similar across activities, mostly being *a few times a month*. Only WATCHING and GRAMMAR RULES appeared much less frequently than the remainder of activities, namely *a few times a semester* if judging by the median. If obtained numbers are taken at face value, the emerging picture for Swedish lower secondary ELT suggests a balance between skills-practice and attention being directed to form, and this aligns with the principles of CLT (see 3.2). This would tie in with the Swedish curriculum of ELT in Comprehensive School, which stipulates that instruction should allow students to develop comprehensive communicative competence (Swe.: *allsidig kommunikativ förmåga*) integrating sociolinguistic competence, receptive and productive

skills, as well as mastery of form (SNAE, 2017, 2021b). In Austria, the relative frequency of different ELT activities was less balanced, with GRAMMAR PRACTICE and RULES ranking highest, on average being worked on (*almost*) *every lesson*. Indeed, Austrian teachers reported to have their students write down grammar rules that can be looked up when needed. This is despite the fact that the Austrian curricula of lower secondary ELT indicate as a goal of instruction the balanced development of the four skills that allow for successful, rather than necessarily error-free, communication (AME, 2012b, 2018).

While student responses on the frequency of in-class activities may not be generalizable if used by themselves, teacher interviews support findings of varying levels of form-focused instruction. In Sweden, all teachers reported that their classes revolve around communication and the four skills. They visibly did not attach importance to learners actually knowing grammatical rules, especially if pupils can apply them, such as based on intuition. In Austria, even though teachers generally reported grammar to be secondary, one AMS teacher straightforwardly attributed a fundamental role to it. As she explained how grammar is being worked on, it emerged that system-based linguistic knowledge, in this case grammar, is reinforced by skills-practice, in this case speaking, rather than vice versa. Even though it is not clear to what extent this way of proceeding is consistently adopted in her classes, it echoes a rather traditional albeit still widely applied approach ('grammar first', see Richards, 2006, p. 28; Scrivener, 2011). Along the same lines, another Middle School teacher recruited in Schurz and Coumel (2021) and Schurz et al. (2022) also indicated the primary goal of their classes to be for the students to grasp and correctly use grammatical features. Indeed, as discussed in ample research, it still seems to be a pervasive idea among teachers that grammar is a major building block that needs to be taught and mastered *before* introducing a more communicative focus (Ortega, 2008; Sato & Oyanedel, 2019; Thornbury, 1999; Uysal & Bardakci, 2014). This idea is in opposition to one of the basic principles of CLT, being that communicative production should take place immediately rather than only once form is 'mastered' (Richards & Rodgers, 2014). To pinpoint the extent to which such ideas linger in Austrian lower secondary schools, a much larger sample would have to be recruited.

At least in the Austrian classrooms reported on here, the ostensible heavy focus on language systems can be described as a more traditional approach to language teaching. Nonetheless, grammar and vocabulary knowledge form part of communicative competence, in addition to sociolinguistic, discourse, and strategic competence, as well as fluency (e.g. Hedge, 2008). Additionally, it must be considered that the collected data do not give away to what extent such a focus on language systems is communicatively embedded in the classrooms in question.

When it comes to student reports, the item used to operationalize the frequency of GRAMMAR PRACTICE suggested a rather isolated focus on grammar (*We practice grammar (e.g., reformulating sentences, completing clozes, correcting texts)*). However, such exercises can still be preceded and/or followed by meaning-based tasks, which obviously would be more in line with CLT than the juxtaposition of activities that look at grammar in isolation. As found in the interviews, in all school types, grammar is sometimes worked on in isolation, such as in gap-fill tasks. Only Swedish teachers illustrated activities that straightforwardly exemplified communicatively embedded grammar practice. Again, it remains unclear to what extent such activities, with a low or high communicative demand, are consistently implemented in a given school type. Still, it is safe to conclude that compared to the Austrian classes, the Swedish teachers recruited here appear to provide a greater balance between skills-practice and focus on form. The latter approach corresponds well with CLT principles.

### **9.1.2 Degrees of Focus-on-Form(S)**

As mentioned above, CLT can best be depicted as a continuum ranging from more form-focused to rather meaning-focused instruction. It follows that in its prototypical form, CLT matches the definition of focus-on-form (see 3.1.3). In all school types, however, students showed higher agreement with FOCUS-ON-FORMS than with FOCUS-ON-FORM. In a study on the beliefs of Austrian lower and upper secondary English teachers ( $N = 112$ ) by Wegscheider (2019), the respective teachers were also found to prefer form-focused over meaning-focused instruction, and to some degree also focus-on-formS over focus-on-form. In general, also outside of Austria, focus-on-formS still seems to be widespread in foreign language classrooms (see 3.1.2) (Borg, 2006; Graus & Coppen, 2016). According to Graus and Coppen (2016), teachers often seem to stick to the traditional PPP model, with practice occurring in restricted contexts. As Larsen-Freeman (2015, p. 263) put it quite frankly, research findings have left such practices in grammar teaching “relatively unaltered”. These options in teaching may reflect the teachers’ own experiences as students, and/or the perception of such an approach facilitating classroom management (Borg, 2006; Graus & Coppen, 2016).

In spite of the students’ generally high agreement with FOCUS-ON-FORMS across samples, this finding should not be taken at face value. Rather, it seems to be more telling to adopt a comparative, cross-national perspective. In the case of Sweden, the student and teacher reports suggested a widely skills-based, implicit fluency-based type of instruction (see 9.1.1 and 9.1.3). The apparent stronger focus on language systems in the Austrian data coincided with student reports from both Austrian school types suggesting significantly greater FOCUS-ON-

FORMS in ELT than student reports from Sweden, with a medium effect size. In contrast, FOCUS-ON-FORM was stronger in the Swedish than the Austrian data but differed significantly—again with a medium effect size—only from AHS and not from AMS. The finding of FOCUS-ON-FORM being equally present in Swedish schools and in AMS runs counter to frequency reports on classroom activities and teacher responses (see 9.1.4), indicating a stronger and more systematic grammar focus in Austrian classrooms. Various factors could underlie these diverging results, but one possible explanation is that learners may have conceptualized the items differently than was intended.

Indeed, the constructs of FOCUS-ON-FORM and FOCUS-ON-FORMS used here included not only items suggesting grammar to be the focus in ELT classes and accuracy being important in language production. They also integrated the level of systematicity in introducing grammatical features (see 7.3.4.2). Thus, closely linked to these constructs are the concepts of INCIDENTAL vs. SYSTEMATIC grammar instruction. It became evident through the teacher reports in the questionnaire and interviews that grammar teaching seems more INCIDENTAL in the Swedish than the Austrian context. There, grammar teaching was reported to occur in response to student deficiencies or learner curiosity around specific language mechanisms. As an alternative to such *reactive* focus-on-form occurring *in response* to student needs and interests, one Swedish teacher described focus-on-form to sometimes happen *pre-emptively*, i.e., *in preparation* to a meaning-based task (R. Ellis, 2001b) (see 3.1.3). This represents a way of proceeding where grammar is not central but taught and used functionally to allow students to perform communicative tasks (see 'grammar last', Richards, 2015, p. 280).

Much in contrast to the Swedish context, teacher reports from Austria revealed a widely SYSTEMATIC introduction of grammar features, with interview data showing that the choice of features and the timing of their introduction is largely predetermined for the different school years. It is in particular the course book that typically seems to function as a 'hidden curriculum', determining the teachers' way of proceeding. The predetermined nature of proceeding found in the Austrian context evokes a synthetic approach to language teaching and with it a structural syllabus, or, put differently, focus-on-formS (Long & Robinson, 1998; Wilkins, 1976) (see 3.1.2). The observed differences between the two countries are supported by previous research. Schurz and Coumel (2020) reported that Swedish lower and upper secondary school teachers agreed significantly higher with statements suggesting they teach grammar incidentally as compared to Austrian secondary teachers.

The above-discussed cross-national disparities are reflected in the respective ELT curricula and might be rooted in certain characteristics of the countries' school systems. The preselected

and ordered nature of grammar instruction found for Austria ties in especially with the Middle School curriculum, listing which grammatical features ought to be taught in what grade (AME, 2012b) (see 6.1.2). In contrast, the Swedish curriculum not only provides teachers with greater leeway as to how and what to teach in grammar instruction, but it also explicitly points to the importance of gearing classes to student needs and experiences (SNAE, 2017, 2021b) (see 6.1.2). Importantly, the necessity of adapting grammar instruction to current learner needs seems a reality in particular in the Swedish context. There, the comprehensive school system and little grade retention (see 6.1.1) are likely to lead to greater proficiency diversity within classes than might be the case in Austria (for discussion, see Schurz & Coumel, 2021). Even though the present data point to more incidental, needs-based instruction in Swedish lower secondary ELT than in the respective context in Austria, this does not imply that the goal of individualized instruction as indicated in the Swedish curriculum has been achieved. The Swedish Schools Inspectorate (2011) evaluated teachers' ELT practices in grades 6–9 as based on classroom observations. This report concluded that teachers show a tendency towards applying a one-size-fits-all approach despite great variation in student's proficiency levels within classes.

In fact, in the present study, the extreme difficulty of catering to the wide range of learners' proficiency levels within a class was expressed by some of the Swedish teachers in interviews. To a certain extent, this evokes Krashen's Natural Approach (1982), suggesting meaning-focused instruction to be more successful in catering to different learner needs than sequenced grammar-based instruction, which might also increase learner anxiety. Instead of such form-focused instruction, Krashen argued that comprehensible input in class can help (in particular weaker) learners benefit more from out-of-class language use. Since this approach was conceptualized in an ESL setting, parallels can be found with the Swedish context providing high extramural English use. Nevertheless, while Krashen advocated a strictly meaning-focused instruction, the Swedish context clearly provides some explicit instruction.

### **9.1.3 *Levels of Explicitness***

Certainly, all participating teachers seemed to provide at least some explicit instruction. However, the degree to which explicit instruction occurs and when it starts warrants special attention. Even though the distinction of focus-on-form vs. focus-on-formS cannot directly be mapped on implicit vs. explicit instruction, focus-on-formS most prototypically involves the provision of explicit grammar rules (R. Ellis, 2016) (see 3.1.2). This pattern was indeed found in the data.

### 9.1.3.1 *The Onset of Explicit Instruction*

Related to the finding of grammar teaching occurring more incidentally in Sweden, the age of instruction of the different target features also seemed higher in this context. Seven out of eight Swedish teachers reported to teach this study's target features in year 7 (age 13–14) at the earliest, at least one year later than what the Austrian teachers reported (age 11–12). The same questionnaire had previously been used in a large-scale study ( $N = 180$ ) (Schurz & Coumel, 2020), which yielded results that can be compared to the present findings (see 6.1.3). In the case of the larger sample by Schurz and Coumel (2020) and the present study, Austrian participants largely agreed on the grade in which they explicitly teach a given grammatical feature. In contrast, among Swedish participants, a much greater dispersion of teacher responses was found. This phenomenon can be elucidated based on the interview reports. Swedish teachers explained that grammar instruction follows the learners' implicit encounters with a given feature and happens in response to learner errors and/or learner interest in a given structure. Some of them emphasized that focusing on grammar *later* allows for the learners' own curiosity in the mechanisms of the language to arise. It is true that the factor of the learners' immediate wish to know how a particular structure works likely entails their intrinsic motivation to learn (see Hulstijn & Laufer, 2001 on *need* in vocabulary learning). Moreover, it has been argued in research that grammar instruction should target features that learners are ready to acquire and that they might already have some implicit knowledge of; however, it is questionable to what extent teachers can veritably determine this in individual learners (Pawlak, 2021a).

Swedish teachers also mentioned in the interviews that a late onset of explicit instruction can curb the learners' fear of making mistakes and of speaking in general (for further discussion, see Schurz et al., 2022). This latter idea is also reflected in the results reported for another high-EE context. In Piggott (2019), Dutch lower secondary students receiving implicit instruction showed greater willingness to write and speak than the 'default' group who received integrated explicit instruction as suggested in the coursebook. In fluency and reading skills, too, the implicit group trumped the explicit condition, which, conversely, scored better only on some but not all accuracy measures. It would be especially insightful to carry out a similar project in a more traditional EFL setting providing less extensive extramural English, such as Austria, Spain, or France. It may be that there, too, a less systematic and less explicit grammar teaching in *lower* secondary years may be beneficial to learning outcomes overall and would perhaps also reduce learner anxiety; especially given the current increase in EE and consequently its potential for implicit learning happening alongside instruction.

The beneficial effects of postponing grammar instruction to ‘later’ are seen not only in terms of decreased learner anxiety and/or increased willingness to communicate. They may extend to older students’ potentially greater cognitive readiness to learn through explicit instruction (e.g. DeKeyser, 2000; R. Ellis, 2002b; Long, 2013; Muñoz, 2014; Shintani, 2017; Vyn et al., 2019). Such research argues against the premature provision of grammar instruction, such as when lexical foundations have not yet been built (R. Ellis, 2002b, 2018) and when learners have not previously encountered a given structure (Shintani, 2017). In Muñoz (2014), the age of onset of instruction did not significantly predict accuracy, fluency, and complexity measures in an oral test. Contrarily, exposure to the language in the given country and current informal language use surfaced as greater contributing factors. The research setting was a rather traditional EFL context, Spain, in which all participants ( $N = 160$ ) assumably received explicit instruction, but its age of onset varied slightly. However, research findings of a neutral or negative effect of early instruction on learning outcomes are not consistent. For instance, in Azzolini et al. (2020), an earlier onset of instruction across 14 countries showed an overall positive effect on reading, listening, and writing performance as tested at a mean age of 15 years (see 9.4.2.2 for an elaboration).

The latter studies (Muñoz, 2014; Azzolini et al., 2020), looking at the overall effect of the starting age of instruction, did not appear to control for the type of instruction applied. Importantly, what is likely to impact learning outcomes more than the age of onset is the *quality* of such early (or late) instruction—for instance in terms of teachers’ command of the language, the amount of input, and the methods applied (DeKeyser, 2000; Thieme et al., 2021). For instance, Vyn et al. (2019) demonstrated that teachers’ agreement with explicit teaching correlated with language gains positively at higher proficiency levels but negatively at lower proficiency levels. Vice versa, it could be that implicit learning conditions prove more conducive to learning among children than among adults, given potential maturational constraints that have been much discussed in research (DeKeyser, 2000; Pawlak, 2021b; see *Fundamental Difference Hypothesis*, Bley-Vroman, 2009 and *Critical Period Hypothesis*, Singleton, 2005). However, in measuring learning gains, it would be paramount to additionally distinguish between implicit and explicit knowledge. A recent study by Spit et al. (2021) showed that Dutch-speaking kindergarteners ( $N = 103$ ) receiving exposure to a miniature language including explicit instruction seemingly had a beneficial effect on implicit knowledge as gauged through eye-tracking data. Explicit knowledge as assessed through accuracy scores in a picture-matching task seemed less strongly impacted. Based on these findings, the authors propose that children may differ from adults in the type of knowledge they develop through learning, rather than in the learning mechanisms they can employ. However, it is noteworthy that such

findings of laboratory-based artificial language learning may not accurately depict authentic language learning of a real language.

### 9.1.3.2 *The Frequency of Explicit Instruction*

As discussed in 9.1.1, student reports from Austria showed significantly higher frequency levels of grammar teaching than reports from Sweden. In teacher reports, too, explicit instruction emerged as more common in Austria, particularly in terms of the provision of rules. Conversely, the Swedish practitioners agreed more strongly with implicit teaching and expressed their belief in acquiring grammar as a by-product of naturalistic language use. These results corroborate previous findings reported in Schurz and Coumel (2020). They found lower secondary teachers in Austria to provide significantly more explicit instruction than respective teachers in Sweden. Vice versa, across levels of secondary school, teachers in Sweden appeared to teach significantly more implicit fluency-based than teachers in Austria. However, it is worth noting that in the present study, most teachers in the two countries showed high agreement with both EXPLICIT and IMPLICIT FLUENCY-BASED instruction, as was also the case in Schurz and Coumel (2020). This might indicate a bias towards social desirability, according to which teachers strive to cover the several demands placed by the national curricula and/or CLT. A similar finding was made in Piggott (2019), where lower secondary teachers in the Netherlands had rather positive attitudes towards both explicit and implicit approaches, although attitudes towards the latter were even more positive.

It is likely that teaching practices and ultimately the level of explicitness of grammar instruction are influenced by a country's subtitling practices and the amount of EE it provides. The observed lower levels of explicit instruction in the Swedish context coincide with research cross-nationally comparing secondary teachers' ( $N = 534$ ) beliefs towards the effectiveness of EE in terms of learning gains (Schurz & Sundqvist, 2022). This study showed that teachers from the subtitling countries Sweden and Finland apparently believe strongly in grammar acquisition through extramural English. In contrast, teachers from the dubbing countries Austria (non-significant difference) and France (significant difference) believed less strongly in the potential of EE in this regard. In Sweden, given varying degrees of extramural English use within a class<sup>66</sup>, as well as likely differences in the learners' aptitude to learn implicitly, students can be expected to differ widely in the extent they have grasped a given structure. This might call for a more learner-based approach (see 9.1.2 for a discussion of proficiency

<sup>66</sup> Additionally, as pointed out in 9.1.2, the nature of the Swedish school system may also contribute to proficiency diversity within classes (see also 6.1.1 for preliminary information on the Austrian and Swedish school system).

diversity). As was explained by Swedish teachers in interviews, in the event of grammar teaching, students often autonomously practice on their computer according to their own level and needs. At the same time, as one Swedish teacher explicitly mentioned, another implication of the learners' recreational use of English is that in-class activities in comparison seem inauthentic—a phenomenon to which teachers might respond by avoiding decontextualized and seemingly meaningless activities. This was previously observed in Henry et al. (2018) (for further discussion, also see Schurz et al., 2022).

Even though across samples, teachers seemed to favor deductive instruction according to teacher questionnaire data, two Austrian teachers expressed in the interviews their preference of an inductive approach whenever possible. In the Austrian context, Wegscheider (2019) also unveiled secondary teachers' slight preference for inductive rather than deductive grammar teaching. This somewhat ties in with findings reported in the national survey of lower secondary school (FIERID, 2020), where the vast majority of Austrian teachers, 93%, *rather or fully agreed* with a constructivist, learner-centered approach towards teaching. In the survey, such a stance suggested learners learn best through autonomous work and problem-solving. At the same time, however, 78% of teachers recruited in that survey also *rather or fully agreed* with a traditional, teacher-centered approach. Indeed, in Austria, all students typically work on the same grammatical feature at a given moment and move on together, with the introduction and practice of a grammatical structure being teacher-centered. Certainly, this way of proceeding is partly possible because grammar acquisition in Austria can be expected to still take place primarily in class rather than extramurally; and because of the more selective school system in Austria (see 6.1.1), reducing proficiency diversity within classes. Considering these contextual factors, the finding of primarily deductive rather than inductive teaching in Sweden might be somewhat misleading. Assuming that learners previously encounter grammatical features extramurally and that proficiency diversity within classes is greater, this perhaps obviates the need for a formal, teacher-centered introduction of grammar rules in class all together, be it deductive or inductive (see also Schurz et al., 2022).

#### **9.1.4 A question of School Types?**

The two Austrian school types were found to differ quite considerably in the role that the respective teachers seemed to attribute to grammar. This was observed (1) in the student-reported frequency of occurrence of WATCHING audio-visuals, nearly significantly less common in AMS than in AHS, with a medium effect size; (2) in the student-reported frequency of occurrence of SPEAKING, significantly less common in AMS than in AHS, also with a medium

effect size; (3) in frequency reports on GRAMMAR PRACTICE, significantly more frequent in AMS than in AHS, with a large effect size; and (4) to a negligible degree also in teacher interview reports. Certainly, the limited sample size of only two AMS classes and their respective AMS teachers implies that any conclusions drawn remain highly speculative. Yet, assumed differences could be explained by multiple factors. First, teacher populations in AMS and AHS differ in their respective professional training. Secondly, teachers in the two respective school types ( $N = 56, 50$ ) were recently found to differ in their perceptions of learners, with AHS teachers apparently believing more in their students' learning achievements and motivation in the subject English (Erling et al., 2021). This may in turn have an impact on teachers' choices in teaching practices. Fourthly, another possible impacting factor are teachers' assumed learner expectations towards particular methodological choices, with a grammar focus suggesting that 'real' instruction is taking place (Borg, 1998, 2003). Fourthly, differences could be due to lower proficiency levels of Middle School students across skills in English as compared to Academic High School students (e.g. FIERID, 2020). Certainly, varying levels of proficiency might as well be the consequence of rather than the reason for specific didactic choices. However, the idea of the students' learning abilities determining the approach adopted by teachers was echoed in the Swedish context. There, students with severe learning difficulties are sometimes instructed separately in so-called base groups. According to the accounts of one Swedish teacher, these students need instruction that looks at form in isolation, working on one aspect at a time. Generally, it can be assumed that lower-level students use relatively little extramural English, again likely to be both a consequence of and a reason for lower proficiency levels (e.g. Schwarz, 2020). Nonetheless, this pattern did not emerge in the present data. EE use among AHS students was comparable to EE use in the small sample of AMS students, where, however, dispersion was greater than among AHS students.

## 9.2 Extramural English among Austrian and Swedish Lower Secondary School Learners

This section is concerned with the young learners' extramural English practices, and, as such, will target and cross-nationally compare levels of EE use (9.2.1), the popularity of different activities (9.2.2), and the average starting age of regular EE engagement (9.2.3).

### 9.2.1 *Levels of EE Use in Austria and Sweden*

#### 9.2.1.1 *Levels of Total EE Use*

Little surprisingly, Swedish learners apparently spend more time on extramural English than Austrian learners. The Austrian students at the age of 13–14 years on average reported spending 25.94 hours a week on EE, compared to 36 hours for an average Swedish learner; or 16.71 hours and 26.50 hours respectively if based on the median. The difference in overall EE use among students from Austria and Sweden reached significance. Even though this difference only showed a small effect, the finding of higher EE use in Sweden overlapped with the interview data. Whereas students in Sweden were described by the teachers to be typically immersed in the English language outside class, in Austria, only a few individuals per class regularly engaged in activities in English—with the exception of English music, which certainly is ever-present across Europe and beyond. Importantly, however, it has to be kept in mind that average and median EE levels computed for a given context certainly conceal the underlying diversity and individual differences both in terms of the extent of EE use as well as the preferred types of activities (e.g. Schurz et al., 2022; Schwarz, 2020).

Besides the geographical context, another important predictor of individual EE use seems to be gender. In fact, I found boys to invest more hours a week on EE than girls, overall and in terms of READING, LISTENING, SPEAKING, WATCHING, and GAMING. Even if these findings did not reach significance, they are solidified by previous research also reporting higher EE levels among boys (e.g. Hahn, 2018; Olsson, 2012; Schwarz, 2020; Sundqvist & Sylvén, 2014). However, even when comparing girls and boys separately, Swedish participants showed higher levels of both EE FREQUENCY and WEEKLY EE in most activities—albeit only descriptively. It is important to acknowledge that in WEEKLY EE, the mixed ANOVA could not statistically consolidate any differences between Austrian and Swedish girls, nor between Austrian and Swedish boys. This applies to EE overall as well as to individual activities. On the one hand, this might be owing to the small sample size of each of the four groups, girls in Austria, girls in Sweden, boys in Austria, and boys in Sweden. This makes the finding of descriptive, less

conspicuous cross-country differences hardly generalizable. On the other hand, upon considering gender-based differences, results can be assumed to be more meaningful. Notably, in the present samples, the female:male ratio was 73:36 in Austria and 51:38 in Sweden, which biased results of the direct country comparison in favor of Sweden. And yet, as already mentioned, Swedish girls and boys were descriptively found to use more EE than Austrian girls and boys respectively, especially in certain activities (see 9.2.1.2).

Intra-group differences aside, previous research conducted in the two contexts made me anticipate Sweden to be a context of higher EE use. Austrian students two years above in age of the present target population were found to dedicate a mean number of 28 hours a week on EE activities (Schwarz, 2020). It is true that this average is only slightly higher than the one computed for the younger Austrian age group in the present study. However, the use of EE among Austrian youth can be assumed to have grown in the approximate 2.5 years that lie between data collection of Schwarz (2020) and the present study. A comparison of the present results with previous findings proves even more difficult for the Swedish context, on which—to my knowledge—no recent numbers on weekly hours of EE exist. A number of years ago, an average of 18.4 weekly hours were reported for learners aged 15–16 years (Sundqvist, 2009a), 20.3 hours for 16 year-olds (Olsson, 2012), and 30 hours for non-CLIL and 54 hours for CLIL students aged 16- to 19-years (Olsson & Sylvén, 2015). Again, due to technological advances and ubiquitous access to English media, EE use can be assumed to have increased considerably since data were collected for these studies. Indeed, the very recent numbers found in Schurz and Sundqvist (2022) suggest that EE seems to be significantly more common among upper secondary school students in Sweden rather than Austria, as reported by their teachers ( $n = 108$  in Sweden,  $n = 175$  in Austria) (see 6.2).

Likely explanations that account for the higher EE use among Swedish students as compared to Austrian adolescents are twofold. Most evidently, dubbing practices in the Austrian media landscape curtail the use of English in the population's leisure time. Certainly, with the popularity of YouTube and other social media platforms, users in dubbing countries cannot always fall back on dubbed foreign-language media. Yet, even in the era of Netflix and other streaming platforms, speakers of more widely spoken languages (e.g., German, French, Spanish) still seem to be provided with mostly dubbed foreign-language content. Sweden, on the other hand, has a long tradition in subtitling practices, exposing children early on to English and laying the groundwork for an increasingly extensive use of anglophone media as they grow up. Somewhat less conspicuously, cross-country differences can partly also be rooted in the population's overall spare time behavior. According to data provided by the Organization for

Economic Cooperation and Development (OECD, n.d.-a), in 2015, 59.4 and 77.7 percent of Austrian and Swedish 15-year-old students respectively were identified as 'extreme internet users'<sup>67</sup>; compared to 70.1 and 85.1 percent in 2018. This does not only mean that internet use among youth is increasing in general, but it also seems considerably higher in Sweden as compared to Austria. Moreover, in the PISA study of 2015 (OECD, 2017), about 40 percent of students in Austria reported feeling bad if not being connected to the internet<sup>68</sup>, compared to a striking 75 percent in Sweden. Certainly, the generally higher internet use in Sweden can be considered an important underlying predictor of cross-country disparities in levels of EE involvement.

#### 9.2.1.2 *Levels of EE Use by Individual Activities*

When looking at EE activities individually, the Swedish teenagers' higher use compared to Austrian learners became apparent in all activities but SINGING and LISTENING TO MUSIC—at least descriptively. A likely reason for the high values found for the Austrian group in these categories might be the Austrian students' affinity for music, since three out of six classes recruited in the Austrian context were from schools with a musical-creative focus. The otherwise higher EE engagement among Swedish learners was especially salient in READING, WATCHING, and GAMING, where 95% confidence intervals did not overlap in EE FREQUENCY, and where the mixed ANOVA showed significant cross-country differences in WEEKLY EE, albeit only with a small effect. These three activities were also the most time-consuming ones in Sweden. By the same token, in the interviews, gaming (Christine, Pia), movies, and series (Magnus, Pia, Karin) clearly surfaced as the most common activities in Swedish classes. In Austria, WATCHING was also the second most popular activity in terms of WEEKLY EE, but far more time was dedicated to English MUSIC.

In terms of the Swedish participants' higher engagement in READING, it must be considered that according to my data, it is an activity done *once or a few times a month* on average and emerged among the activities being spent the most time on. This contrasts with studies from Sweden among learners in primary and upper secondary school levels, where reading books and magazines or newspapers was the least popular activity, if compared to audio-visuals, gaming, and listening to music, for example (Sundqvist, 2009a; Sundqvist & Sylvén, 2014; Sylvén & Sundqvist, 2012a). However, it should be noted that READING does not necessarily

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<sup>67</sup> Extreme internet users were students who indicated using the internet outside school for more than 6 hours on a typical weekday (OECD, n.d.-a).

<sup>68</sup> These students agreed or strongly agreed with feeling bad if not being connected to the internet (OECD, 2017).

entail reading books, but perhaps even more importantly so, reading on social media and while chatting, for instance. Indeed, in the Austrian context, Hahn (2018) and Schwarz (2020) previously found reading on social media to constitute a high-frequency activity among 15- to 16-year-olds in Austria. And yet, the occurrence of READING in the present Austrian sample, was much less frequent, *once or a few times a year*, than in Sweden, and ranked in the middle range in terms of WEEKLY EE among the other activities. In the Austrian interview data, too, it emerged that only few students would sometimes read in English, as reported by Julia, Elena, Barbara, and Veronika. Potentially, students and teachers thought primarily of books when asked about EE reading. Even if reading social media posts was listed as an example in the Learning Experiences Questionnaire, students may have overlooked it.

Considering WATCHING audio-visuals, the higher engagement in TV shows, movies, and videos in English among participants from Sweden might evidently be due to the country's subtitling practices. Typically, Austrian learners would be able to opt out of using such content in English and instead choose dubbed versions in German. Swedish learners, instead, often do not have a choice between their country's majority language and English, simply because content is usually not dubbed in Swedish. Therefore, the default setting in Sweden appears to be the use of Swedish or English subtitles when watching foreign-language media. Compared to Sweden, among Austrian participants it was much less common to engage in audio-visual input with subtitles in another language (e.g., German or Swedish). Instead, they appeared to prefer English subtitles or no subtitles at all. The picture that emerges for the Austrian population thus seems to be that if they opt to engage in anglophone audio-visual media in a non-dubbed version, it is most typically done fully in English, without subtitles in another language. Considering interview data gathered in Austria, even though audio-visuals, like series, videos, and TikTok, emerged as one of the most common types of EE use, only Julia and Andrea mentioned that some of their students *regularly* engage in it. This observation is further elucidated in 9.2.2.

Finally, in terms of GAMING, a potential reason for lower engagement among Austrian than Swedish participants might be the wider use of German (as compared to Swedish) among fellow gamers online. As argued in 6.2, given the size of the respective language communities, the use of German in online contexts, such as in YouTube videos and multi-player games, is clearly more widespread than the use of Swedish. An alternative (or complementary) explanation would be that Austrian learners at that age prefer not to participate in multi-player online games, where the common language is English. This could be due to their more limited recreational use of English in general, especially of a productive nature, and thus a greater

inhibition threshold to start engaging in such games. In previous studies, it was found that although Austrian teenagers who play games do so rather extensively, GAMING overall seems to be a relatively uncommon EE activity (Hahn, 2017; Schwarz, 2020). Importantly, though, in the present study, GAMING still featured among the most popular activities done in English among boys in Austria, as discussed in the subsequent section, 9.2.2. Still, comparatively speaking, students in Sweden apparently spend much more time on EE GAMING. According to interview data collected in Sweden, student ‘gamers’ can dedicate many hours a day to this activity, such as 4-5 hours as reported by Pia. This typically includes speaking (Pia, Emma, Eva) and/or chatting (Karin) with co-players. In previous research, too, GAMING was reported to constitute a large chunk of EE use among boys in Sweden (Sylvén & Sundqvist, 2012a).

As explained in the previous section, 9.2.1.1, it is worthwhile considering persisting cross-national differences separately by girls and boys even if sample sizes were small. Cross-country differences in EE FREQUENCY among girls and in WEEKLY EE among boys were most salient in READING, WATCHING, and GAMING, thus comparable to overall differences between the two countries discussed above. In EE FREQUENCY among boys, differences seemed greatest in SPEAKING and WATCHING, the divergence in SPEAKING perhaps being attributable to gaming practices that require interaction—in case students indicated their interaction in gaming under the category of speaking. In WEEKLY EE among girls, major differences were found only in WATCHING, with the engagement in the other activities being only slightly higher among Swedish than Austrian students. These cross-national differences that persisted in the separate analysis by girls and boys can be assumed to be revelatory, even if they remain merely descriptive. The practice of WATCHING audio-visual material in English hence surfaced as an important indicator of remaining great disparities between the subtitling and the dubbing country. However, as discussed above, it might as well be attributable to more extensive internet use among teenagers in Sweden as compared to Austria (OECD, n.d.-a; see 9.1.2.1; OECD, 2017).

### **9.2.2 *The Relative Popularity of EE Activities***

Notwithstanding these cross-country differences, similarities occurred in the preferred types of EE activities. LISTENING TO MUSIC and WATCHING audio-visuals in English were among the top three activities in both countries and gender groups. This was supplemented by GAMING among boys and, at least in EE FREQUENCY, by SINGING among girls. It remains out of question that English music is omnipresent globally, and both audio-visual media and gaming in general seem to be widespread leisure activities. Already OECD data from 2015 (OECD, n.d.-a)

demonstrated that the percentage of students watching TV or gaming on the most recent day they attended school was high in both Austria, 85.2%, and Sweden, 88.8%. More recent reports from the Swedish Media Council (2021) reveal that in 2019, about 60% of 9- to 12- and 13- to 16-year-olds reported spending one to three hours a day watching films or series. Around 20% of each age group reported spending the same amount of time watching videos on YouTube. Findings in Austria may be similar. There is no doubt that listening to music, viewing films, series, and/or videos, and gaming are very popular leisure activities in general; and these activities have previously been found to be the most common types of EE<sup>69</sup> use among upper secondary students in Austria, France, Finland, and Sweden, as reported by their teachers ( $N = 534$ ) (Schurz & Sundqvist, 2022).

Hence, even though the Swedish students in the present investigation clearly spent much more time WATCHING audio-visuals in English than the Austrian participants (see 9.2.1.2), this finding should not undermine the observation that Austrian learners on average did so *once or a few times a month* and about 2.50 hours a week, as based on the median. This might be due to the fact that a large part of (audio-visual) media currently *en vogue* among teenagers, such as videos on YouTube and TikTok, may not be available in dubbed version. Indeed, a recent large-scale national survey conducted in Austria shows that 70% of 11- to 17-year-olds reported using TikTok and/or Snapchat, 81% are on Instagram, and 95% use YouTube (Saferinternet.at, 2022). Two teachers in Austria, Julia and Andrea, said their students use EE out of personal interest, such as to follow influencers. The Austrian teacher Julia explained that bloggers—and arguably even more importantly so, vloggers—often produce their content in English, leaving Austrian pupils with little options other than to get involved in EE. Interestingly, even if learners *do* have the choice between engaging in material in their first language or in English, they would sometimes opt for English: In Schwarz (2020), nearly 60 percent of 15- to 16-year-old students strongly agreed that they used English recreationally because ‘it just sounds better’, and almost 43 percent strongly agreed being interested in what such content is like in its original version.

Moreover, in the quantitative analysis of WEEKLY EE, I found that in both samples, WATCHING audio-visuals *without* subtitles or captions was the option in which learners invest the most time. This could point to the fact that indeed, much of the audio-visual content is retrieved from platforms such as TikTok and YouTube, not providing (high-quality) subtitles or captions. An alternative explanation would be that students perceive subtitles as a distraction, as some

<sup>69</sup> Less common EE activities in this study were reading, speaking, writing, and listening to audio material other than music.

students reported in a study by Vanderplank (2019), and/or that they already have considerable experience and the necessary skills to watch the content in English without additional support. Surprisingly, the clearest cross-country difference emerged in the use of WATCHING with subtitles in another language (e.g., German or Swedish), much more widespread among Swedish than Austrian participants. The pattern that emerges may be that *if* Austrian students engage in English-language movies, series, or videos, they prefer investing themselves fully and opting for English captions or renouncing subtitles all together. Swedish students, in contrast, are used to watching foreign-language content with Swedish subtitles from an early age onwards, a habit they (unconsciously) potentially prefer to uphold (e.g. Sofía Sánchez-Mompeán, 2021). Besides learners' personal interest in original English-language media in the Austrian setting, the AHS teacher Elena explained some of her students use them intentionally to learn and prepare for tests. The latter motivating factor for EE use was the third most common one in Schwarz (2020), with nearly 40 percent of 15- to 16-year-old students having shown strong agreement with using it as a means of improving their English.

When it comes to the gender-specific popular activities, GAMING occurred for a median duration of 3.88 hours a week among Austrian boys, and 7 hours a week among Swedish boys. This activity (together with others, see 9.2.1.2) descriptively showed higher weekly EE engagement among boys than girls, and this is substantiated by previous research conducted in different geographical contexts (e.g. Muñoz, 2020 in Spain; Olsson, 2012 in Sweden; Schwarz, 2020 in Austria). In the same vein, the Swedish Media Council (2021) reported that like in previous years, gaming is more widespread among boys than girls, especially from the age of 12 onwards. In 2020, 54% of 9- to 12-year-old boys and 47% of 13- to 16-year-old boys indicated gaming every day—on a mobile phone, tablet, computer, or console. Likewise, in Austria, the gaming platforms Twitch and Discord were much more widely used in 2021 among 11- to 17-year-old boys than girls, namely by 49% and 61% of boys compared to 11% and 30% of girls respectively (Saferinternet.at, 2022). While in the present study, Swedish students showed significantly higher levels of extramural engagement in gaming (see 9.2.1.2), all Austrian teachers but one reported gaming to occur in their respective class, even if it concerned only few individuals per group. According to Julia, Barbara, and Veronika, this activity often involved using English to communicate with other players online. The additional analysis delving into subtypes of GAMING further revealed that GAMING with co-players (e.g., multi-player online games) was indeed the preferred option in both samples. Although it is clear that SINGING seems like an activity that girls stereotypically engage in more than boys, previous EE research has not reported such a finding. For the Austrian sample, it can again be

assumed that this trend is due to three out of the six classes that were recruited having stemmed from musical-creative schools.

In contrast to these dominating activities across groups, LISTENING was among the two least common activities in both country samples and across gender groups. It seems evident that multimodal activities, such as WATCHING and GAMING in general are more attractive spare time activities and thus also more widespread types of EE use among teenage learners. Listening to podcasts or radio shows might instead attract older age groups. Schwarz (2020), in her exploration of general leisure time activities (irrespective of the language), found 86.17 percent of 15- to 16-year-old students to almost never listen to audiobooks and 35.64 percent to almost never listen to the radio. In contrast, nearly all students watched videos online at least *a few times a week*. Returning to the present study, among boys in Sweden, SINGING was the other most infrequently performed activity. Among girls from both countries, GAMING was the other least common activity. This means that what is most common among girls seems to be rather unpopular among boys, and vice versa. This phenomenon could be observed in both countries. Without distinguishing between gender, another relatively uncommon activity in terms of WEEKLY EE in both countries was WRITING. While overall, engagement in receptive activities seems to exceed productive language use, speaking perhaps is required in much of gaming practices<sup>70</sup>. In contrast, writing—such as in chats (e.g., again as when gaming) or active contributions to blogs or on social media—apparently is less common.

### **9.2.3 The Age of EE Onset**

In terms of the age of EE ONSET, the descriptive data overall suggested a lower starting age of EE engagement among Swedish participants. As Sara, a Swedish teacher, pointed out, children in this context are exposed to English already early on. While this finding was expected (e.g. see Sundin, 2000), results were not as clear-cut as hypothesized. It is noteworthy that countries did not significantly differ in the student-reported starting age of regular EE use across all activities, and Austria even showed a slightly lower median starting age for SPEAKING and MUSIC than Sweden. This likely is attributable to the percentage of students never even having started with a given EE activity, which was relatively high in Austria. Since this also resulted in limited sample sizes, results are not generalizable. Nevertheless, cases in point of a lower starting age among Swedish participants were READING and WATCHING. Here, the two groups

<sup>70</sup> Students were instructed to report a given EE activity only once, so that gaming for instance should be reported only as gaming, but not additionally as speaking or writing, which can be part of gaming given the interaction with co-players. However, it is impossible to know whether students strictly followed those instructions.

differed significantly, but showed a strong effect size only in the latter type of activity. While in Austria, students typically started just after turning 12 to regularly engage in reading and audio-visuals, the median age of onset among Swedish learners was about 11 and 10 years respectively for the two activities. Visible cross-country differences in READING and WATCHING persisted when looking at girls and boys separately. However, the divergence became slightly less clear in terms of READING, where confidence intervals of the two countries now marginally overlapped among both girls and boys.

Looking at results through a less comparative lense, EE engagement in EFL contexts in Europe can be expected to often start prior to teenage years. Even though this observation applies especially to the subtitling country Sweden, it extends to a certain degree also to Austria. In both countries, students who regularly use EE apparently mostly began doing so at the age of 11–12 years, with only SINGING (and WATCHING among Swedish participants) and LISTENING TO MUSIC starting earlier, at age 10 and 6–8 years respectively. While again no up-to-date numbers on the age of EE onset in the two countries can be drawn upon, previous research provided some evidence of the occurrence of EE even among young learners. In a small-scale Austrian study, 9- to 11-year-old primary school children used EE for 2.45 hours a week (Wieland, 2016), compared to a weekly average of 7.2 hours for 10- to 11-year olds (Sundqvist & Sylvén, 2014) and 9.4 hours for 11- to 12-year-olds (Sylvén & Sundqvist, 2012a) in Swedish studies carried out earlier. To date, particularly in dubbing countries such as Austria, regular engagement in EE among pre-teenage learners can be expected to concern individual students rather than being a wide-spread phenomenon. However, this is likely to change in the near future given the upward trend in EE use among European youth.

### 9.3 Implementing Measures of Automatized-Implicit and Explicit Knowledge in Austria and Sweden

Through the lens of an applied pedagogic perspective, the tests implemented in this study were designed to tap into knowledge of a more automatized-implicit nature, and knowledge of a rather declarative, explicit nature. This was done by manipulating the time allowed for each test, the degree of metalinguistic knowledge they required, and in some cases the focus directed to form vs. meaning. To measure automatized-implicit knowledge, I used an oral narrative test, an elicited imitation test, and an aural and a written timed grammaticality judgment test. To tap into explicit knowledge, I used an untimed grammaticality judgment test and a metalinguistic knowledge test. An extensive body of research has employed a similar set of test instruments and found them to load accordingly in their respective factor analysis (e.g. Bowles, 2011; Ebadi et al., 2015; Godfroid & Kim, 2021; Gutiérrez, 2012; Loewen et al., 2009; Philp, 2009; Zhang, 2015). In the following, the best factor solutions will be discussed for Austria (9.3.1) and Sweden (9.3.2).

#### 9.3.1 The Case of Austria

##### 9.3.1.1 The Confirmatory Factor Analysis for Austria

When considering the Austrian sample, the Confirmatory Factor Analysis corroborated my expectations. The ONT, EIT, ATGJT, and the WTGJT loaded on the factor referred to as automatized-implicit knowledge, and the UGJT and the MKT on the factor labelled explicit knowledge. Thus, this was in line with the above-mentioned body of previous literature having used a comparable test battery. The measures of automatized-implicit knowledge can be assumed to capture automatized explicit knowledge and/or implicit knowledge. It has been argued that implicit and (highly) automatized knowledge are “functionally equivalent” (DeKeyser, 2017, p. 19; Suzuki, 2017, p. 1230), which is why the present study, with its applied pedagogic perspective, did not seek to distinguish between them. This is despite the fact that recent research has found the measures of automatized-implicit knowledge employed here to tap into a factor separate from psycholinguistic measures of implicit knowledge (i.e., real-time comprehension tests, see 2.2.2.5) (e.g. Mostafa & Kim, 2020; Suzuki, 2017; Suzuki & DeKeyser, 2015; Vafaei et al., 2019). However, such reports do not seem fully consistent. Godfroid and Kim (2021) found their UGJT and MKT to load on one factor, and the other factor subsuming tests of automatized *and* implicit-statistical learning. This provides evidence for the similar functional affordances provided by automatized and implicit knowledge; or even for the latter

types of knowledge to be non-distinct. In the present study, the best-fit factor solution and varying levels of factor loadings were likely influenced by timing and test modality, which I discuss in the rest of this section.

Factor loadings of the different tests might reflect the respective time constraint these tests placed on participants during performance. What brings the measures of explicit knowledge together is that they did not subject participants to any time constraints. Tests of automated-implicit knowledge were all paced, and their varying levels of time constraints might explain their respective strength of the factor loading. Factor loadings of the EIT were highest, followed by the ATGJT, WTGJT, and ONT. The ONT granted students more time to produce and perhaps plan utterances than the other tests. By this rather lenient time constraint I intended to curb learner anxiety. In oral production tests, learner anxiety likely is an issue especially in the case of young participants and the testing scenario requiring them to speak with the researcher nearby and while being voice-recorded. The lenient approach I adopted in timing is likely to have predicted test difficulty, which was lowest for the ONT, followed by the EIT, ATGJT, and WTGJT. Even though productive tests are in general more demanding for learners than receptive language use (e.g. J. Kim & Nam, 2017), this was not consistently observed here. I assume the factor of time constraint overpowered test modality in its relative impact on achievement on the ONT.

Even if test modality might not have greatly influenced test achievement, it is generally reported to have an impact on what type of knowledge a test taps into. Previous research has shown that the aural version of the TGJT has a tendency to more successfully gauge implicit knowledge than does its written counterpart (J. Kim & Nam, 2017; Spada et al., 2015). In the study by Spada et al. (2015), for instance, the ATGJT loaded strongly on the factor called implicit knowledge, together with elicited imitation; the WTGJT loaded almost equally strongly on the factors of implicit *and* explicit knowledge, with only a slight tendency towards implicit knowledge. Similarly, in the present study, the EIT and ATGJT loaded most strongly on automated-implicit knowledge, whereas the WTGJT had a lower factor loading. In contrast, in the Confirmatory Factor Analysis in Godfroid and Kim (2021), the WTGJT loaded most strongly on the factor of what they called implicit knowledge, but this was followed by the EIT (i.e., like in the present study), and the ONT, ATGJT, and measures of implicit-statistical learning. Given that in this last study measures of implicit-statistical learning (self-paced reading, word monitoring; see 2.2.2.5) yielded lowest factor loadings, this factor might have tapped more strongly into automatized explicit rather than implicit knowledge. In Kim and Nam (2017), the ATGJT also loaded more strongly on the factor of ('weak') implicit knowledge than the

WTGJT. Compared to these receptive tests, however, the EIT and ONT seemed to elicit implicit knowledge even more clearly because they produced a separate factor, named 'stronger implicit knowledge'. It might be that in their study, the production tests were more strictly paced than ones in the present study. This assumption is supported by the fact that the EIT and ONT in that study also showed lower scores than the TGJTs. The opposite was true in the present study. Thus, it appears, in comparing factor analysis results of different studies it is crucial to also consider core parameters of the tests, such as the severity of time constraints and test difficulty.

### *9.3.1.2 The Exploratory Factor Analyses for Austrian School Types*

Contrary to the Confirmatory Factor Analysis computed for the Austrian sample as a whole, Exploratory Factor Analyses carried out for the two Austrian school type samples were a little more unexpected. In both Austrian samples, the TGJTs and the ONT straightforwardly loaded on factor 1, representing automatized-implicit knowledge, whereas the MKT loaded more heavily on factor 2, representing explicit knowledge. However, the EIT (in Middle School) and the UGJT (in Academic High School) displayed similar loadings on both factors. The EIT might load equally strongly on the component including the UGJT and MKT in the case of AMS because time constraints in the EIT were not strict enough as to successfully curb the retrieval of rather unautomatized explicit knowledge. In Suzuki & DeKeyser (2015), performance on elicited imitation was predicted by metalinguistic knowledge, which Kim and Nam (2017) claimed to be due to insufficient time constraints. In addition, in the present study, despite the integration of a meaning-based phase in the EIT, focus still lay heavily on form as students were asked to repeat the sentence in correct English. Vice versa, in AHS, the UGJT loaded slightly more strongly on the factor of automatized-implicit knowledge. This could entail that many students performed the UGJT by employing automatized-implicit knowledge. Clearly, if learners with high automatized-implicit knowledge can make grammatical judgments under time pressure, i.e., as is the case in the TGJTs, then, naturally, they can do so also when being exempt from time constraints. As discussed in 2.2.2.3, learners with little explicit knowledge will necessarily recourse to implicit knowledge even when performing the untimed written GJT (Suzuki, 2017; see also Williams, 2009).

To elaborate on this argument and map it on test takers in this study, it helps to consider descriptive data of their test performance. Accordingly, AMS students performed weaker than AHS students on all tests but the ONT (see 8.4.1 for descriptive statistics). This tendency of AHS students faring better in English proficiency measures than AMS students became

evident also in C-TEST scores (see Table 7.25 in 7.4.3.1), and has in addition repeatedly been observed in large-scale national studies (FIERID, 2014, 2020). Such evidence of generally lower proficiency levels, as well as instruction perhaps being more grammar-based in AMS as compared to AHS (see 9.1.4), lends credibility to participants from AMS possessing more unautomatized explicit rather than automatized-implicit knowledge. If this assumption was true, AMS students might have performed the EIT based on rather unautomatized explicit knowledge. Contrarily, AHS students, who showed higher proficiency levels, might have used rather automatized-implicit knowledge to perform not only the EIT, but also the UGJT.

### **9.3.2 The Case of Sweden**

Much in contrast to the hypothesized findings and factor analysis results for the Austrian participants, Confirmatory Factor Analysis produced a single factor for the Swedish learners' performance on the six tests. This was surprising, because to the best of my knowledge, such a finding is unprecedented in published research. In particular the finding of the MKT loading on the same factor with the other tests was unexpected. Previously, the MKT had been reported to load on the same factor along with (A) the UGJT (with the ONT, TGJT, and EIT loading on the other factor) (e.g. Akakura, 2012; R. Ellis, 2005a; R. Ellis et al., 2009; R. Ellis, 2009a; Godfroid & Kim, 2021; K. M. Kim, 2020), (B) the UGJT and TGJT (with real-time comprehension measures loading on the other factor) (e.g. Vafaee et al., 2019), and (C) no other test (with the EIT and ONT, and the ATGJT and WTGJT loading on two other factors) (J. Kim & Nam, 2017). In an attempt to better understand the factor analysis finding for the Swedish best factor solution, it was worthwhile to consider test achievement and modality.

Across all tests, Swedish participants fared most poorly on the MKT and thus demonstrated little metalinguistic knowledge. This was expected, since Swedish classrooms typically provide little explicit metalinguistic instruction. The relatively low MKT scores across students from this sample—compared to Austrians and the other tests—entailed low variance between participants and thus perhaps a weaker correlation with the UGJT ( $r = .4$ ) than found among Austrian participants ( $r = .6$ ). The learners' low metalinguistic knowledge may have also increased guessing behaviour, and test reliability likely was low. Importantly, however, the Swedish participants scored similarly low on the WTGJT as they did on the MKT. The Swedish students' relatively low scores on the WTGJT and MKT could be explained based on their test modalities. As discussed in 9.3.1, test modality can influence the type of knowledge being elicited. Low scores attained on the WTGJT and MKT could be due to the written modality of test item delivery, with the MKT requiring more reading than the UGJT, and with the timed

nature of the WTGJT implying a heavier cognitive load on students than the UGJT. Moreover, extramural English, which can be expected to constitute an important part of the Swedish teenagers' leisurely activities, typically implies audio-visual engagement and less reading (see 9.2.2).

Potentially due to modality, factor loadings of the different tests on the single component were also lowest for the MKT and the WTGJT. This could hint at the MKT and the WTGJT tapping into more unautomatized explicit knowledge than the other tests. As pointed out earlier, in Spada et al. (2015), the WTGJT loaded on the factor of implicit knowledge only slightly more heavily than on the factor of explicit knowledge. Yet, in the case of the Swedish sample in the present study, no individual factor was produced for the MKT and WTGJT, because their correlations with the other measures was strong enough, and stronger than was the case among Austrians (see 11.11.8 for correlation tables). When it comes to the other measures used in this study, factor loadings of the UGJT and ATGJT on the single component produced were strongest, followed by the EIT and ONT. This was despite the fact that the modality of the UGJT was also written, and students on average scored only slightly higher on the UGJT than on the MKT and WTGJT, with 95% confidence intervals of the three tests (partly) overlapping (see 8.4.1 for descriptive statistics).

Ultimately, it appears reasonable that Swedish participants performed all tests using primarily automatized-implicit knowledge, even in the UGJT. If metalinguistic knowledge is not available, it cannot be tested, nor can it produce a separate factor representing such knowledge. Given the vast exposure of the Swedish population to English and limited explicit instruction in school, the context is different from ones in which the bulk of earlier research studies implemented their measures of implicit vs. explicit knowledge. However, fortunately, one very recent study (Muñoz & Cadierno, 2021) also adopted a cross-national perspective in comparing Danish and Spanish learners' EE engagement, as well as their scores on an MKT, UGJT, and a listening comprehension test. While among Spanish participants ( $N = 80$ ), test scores of the MKT and UGJT showed a strong significant correlation ( $r = .6$ ), this relationship was weaker among Danish students ( $N = 86$ ) ( $r = .4$ ). Vice versa, the listening comprehension test and the UGJT correlated strongly and significantly ( $r = .6$ ) among Danish students, but more weakly so in the Spanish sample ( $r = .3$ ). Thus, very similar to the present study, it may be that the Danish learners, who grew up in a high-EE context, drew primarily on their automatized-implicit knowledge in performing the UGJT. In contrast, they were less successful in the MKT, on which Spanish students, who learned English mostly formally in class, scored significantly higher. Certainly, findings of a listening comprehension test cannot be directly mapped on

measures of automatized-implicit knowledge. However, as pointed out in this study's limitations section (10.3), it cannot be ruled out that scores obtained through the ONT and EIT conflated different constructs, such as automatized-implicit knowledge and listening skills.

It is therefore worthwhile to compare the results of the present study (and the results of Muñoz and Cadierno, 2021) with studies implementing measures of automatized-implicit and explicit knowledge among native speakers. Even though most studies have targeted non-natives, Philp (2009) for instance reported that according to her cluster analysis, the cluster dominated by native or near-native speakers performed high on measures of implicit *and* explicit knowledge except for the identification of sentence parts in the MKT. Likewise, Ellis (2009b) reported scores of native speakers having approached 100% in all tests except the MKT—where their performance was not superior to the one of L2 learners—and ungrammatical items of the TGJT. It therefore could be that the Swedish participants performed the tests more similarly to native speakers than Austrian learners. In contrast, previous studies recruited EFL learners of East Asian origin (Ebadi et al., 2015); of various backgrounds, half of them Chinese (Godfroid & Kim, 2021); with mostly Asian first languages (Loewen et al., 2009); with L1 Chinese (R. Zhang, 2015); and of L2 Spanish at a Canadian University (Gutiérrez, 2012). To my knowledge, Bowles (2011) constitutes one of the very few studies looking at participant samples who acquired the target language to a great or the greatest part implicitly. In her study, the sample constituted of native speakers, heritage learners, and L2 learners of Spanish ( $n = 10$  per group) still showed a best factor solution (Confirmatory Factor Analysis) in which the UGJT and MKT loaded on one factor, and an OIT, ONT, and TGJT on another factor. However, ideally, different participant groups should be looked at in isolation and contain larger samples.

## 9.4 The Role of Extramural English and Instruction in Automatized-Implicit and Explicit Knowledge

Having carefully illustrated the different affordances provided by the Austrian and Swedish contexts in the first half of this chapter, this section finally zooms in on the question of what role these factors, extramural English (9.4.1) and instruction (9.4.2), play in the learners' development of the two types of grammar knowledge<sup>71</sup>.

### 9.4.1 The Impact of Extramural English

#### 9.4.1.1 Overall Effects of EE on Automatized-Implicit Knowledge

The high potential of extramural English in aiding the development of automatized-implicit grammar knowledge could be demonstrated more clearly among the lower secondary students in Sweden. In the Austrian sample, no significant positive relationship between EE and test performance was detected besides the one of WRITING and the WTGJT. Overall, across countries, SPEAKING-ATGJT and READING-ONT showed a strong significant relationship, but this did not extend to the Austrian sample by itself. Nevertheless, in Austria, the direction of the extramural influence was positive in the case of most activities and tests, as well as of total weekly hours of EE and the TGJTs. In the Swedish sample, total EE appeared to have a significant positive bearing on all tests of automatized-implicit knowledge (ONT, EIT, ATGJT, UGJT) but the WTGJT. Moreover, in this group, all individual activities but SPEAKING and SINGING seemed to have a significant effect on at least one test of automatized-implicit knowledge, with GAMING and WATCHING emerging as the most beneficial activities (see 9.4.1.2). In Austria, WATCHING showed a positive (but non-significant) influence on learning only in terms of the TGJTs, and GAMING in terms of the ONT and WTGJT. The finding of much greater ramifications of EE in the Swedish rather than Austrian learner group can be interpreted with the help of teacher and student reports on the effect of extramural English on grammar learning.

In line with the findings summarized above, teachers in the Swedish rather than Austrian context overall more strongly believed in the potential of extramural English for grammar learning, as expressed in the interviews. The Swedish teacher participants all verbalized that grammar can be acquired implicitly through extramural English at least partly, listing a number of

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<sup>71</sup> Based on the discussion in the previous section, automatized-implicit knowledge is represented by ONT, EIT, and TGJTs scores among Austrian students and additionally by UGJT scores among Swedish students. Explicit knowledge in the Austrian sample is captured by the UGJT and MKT scores, and in the Swedish sample tentatively by the MKT that, however, may not have been reliable.

caveats. Such moderators of extramural grammar acquisition included learner talent, the grammatical feature at hand, receptive knowledge being more easily acquired than productive knowledge, and the time being invested in such recreational language use. It appeared that explicit instruction is provided when extramural grammar acquisition reaches its limits, as further discussed in 9.4.2. This rather nuanced conception of the benefits of spare time language use on grammar learning among Swedish teachers did not become apparent in the Austrian teachers' responses. The Academic High School teachers generally supported the idea that grammar is acquired through spare time English, without mentioning specific limitations. In contrast, Middle School teachers seemed less optimistic in the interviews. Interestingly, these teacher interview data converged with student reports. Middle School students agreed significantly less strongly with learning grammar through EE than Swedish students, even if the effect size was small. Certainly, in comparing different teacher and learner populations in their perception of the benefits of EE on grammar learning, it must be considered that their understanding of grammar knowledge can differ across groups. Even though a widespread conceptualization is that grammar knowledge entails "familiarity with rules, accuracy, [and] the ability to construct sentences ..." (Pawlak, 2021b, p. 882; see also Pawlak & Droździeł-Szelest, 2007; Pawlak, 2020), further research is needed to learn more about potential cross-national differences.

Returning to the observed relationship between students' test scores and their EE behavior, teacher interview statements could shed light on the different factors apparently at play in the (relatively small) Middle School sample. One teacher explaining that the fast pace of interaction in gaming—an activity that some of her students performed extensively—did not provide students with enough time to employ accurate grammar. Interestingly, the same idea was expressed by a Middle School teacher additionally recruited in the previously published analysis of the present teacher interviews (Schurz et al., 2022). Lukas stated that those students who do use English in their spare time do so for video gaming and often happen to be 'weaker' learners. He continues by explaining that

although they do tell me that they have used it, they also say that they didn't understand the others and that the others didn't understand them .... when you work on TeamSpeak with other gamers that's- it's about very fast reactions, not only in playing but also in speaking. And for that they are not experienced enough with the language.

Two tentative conclusions can be drawn from this statement. First, if indeed primarily comparatively weak, lower-level proficiency students engage in specific EE activities, in this case gaming, results computed by the Linear Mixed Models can be misleading. In this scenario, low

test scores are not due to EE use but possibly the learners' baseline language proficiency and/or learning aptitude. However, the C-TEST, capturing general language proficiency, should normally control for such bias but perhaps not fully so. Second, it is possible that the Swedish students' prior experience in using English in a 'real' communicative setting has a leverage effect on learning gains. Such prior experience points to the learners' onset of EE use, arguably much lower in the Swedish group (see 9.2.3), which is elaborated on in 9.4.1.2. The question of what the influence of EE is among slightly older learners in an EFL setting similar to Austria opens interesting new avenues to be hopefully explored in future research. Learner proficiency and previous EE experiences but also for instance implicit vs. explicit aptitude, learner motivation, and working memory most likely influence levels of EE use and the effect the latter have on learning (Complex Dynamic Systems, see Sockett & Kusyk, 2015) (see 5.1.1). Considering working memory, high-capacity phonological short-term memory seems to aid incidental learning and be advantageous especially in an implicit, communicative learning environment given its focus on oral input (Hummel & French, 2010; Kormos & Safar, 2008). As such, phonological short-term memory perhaps is an important moderator of extramural grammar acquisition and ideally should be explored in follow-up research.

Another factor that might have been at play in the Austrian sample is that extensive EE use was overall less common, and the grammar knowledge of only individual learners was positively affected by it. For instance, an Academic High School teacher referred to one student in particular, who is a high-EE user and, according to the teacher, naturally uses certain structures that had not yet been addressed in class. Importantly, Austrian students agreed equally strongly with learning grammar through EE as Swedish learners. But statistical tests directly assessing the link of EE use and automatized-implicit knowledge can more easily detect effects if EE use is widespread in a sample. In the Swedish sample, I found numerous significant relationships between EE activities and test performance. Similarly, in another high-EE context, Flanders, informal learning also trumped the length of instruction in their relative effect on receptive vocabulary, overall proficiency, and speaking skills among lower secondary students ( $N = 107$ ), based on correlations (Wilde et al., 2021). This finding was supported by Peters et al. (2019) in terms of vocabulary knowledge. What Sweden and Flanders have in common are an estimated low starting age and a vast amount of input—apparently the necessary preconditions for incidental and implicit learning conditions to considerably aid language acquisition (e.g. DeKeyser, 2000; Leow, 2015; Long, 2013, 2020).

#### 9.4.1.2 *Zooming in on Individual EE Activities*

**Where Learning Effects Became Clear.** Comparing different EE activities, WATCHING and GAMING emerged as the most consistent predictors of grammar test scores—at least among Swedish students. It should be noted that EE activities other than WATCHING and GAMING could be greatly beneficial to automatized-implicit knowledge, too, but may not have occurred sufficiently often among participants to yield more consistent effects. Notwithstanding these possible limitations, it seems likely that WATCHING and GAMING are indeed especially conducive to grammar learning. The effectiveness of watching audio-visuals for different areas of language learning (for a review, see Zhang & Di Zou, 2021), including grammar acquisition (M. Lee & Révész, 2020; Pattemore & Muñoz, 2020), has been shown in previous research. Gaming may be equally beneficial due to its multimodality, and the time-pressured nature of interaction with co-players is a distinctive feature of this activity.

According to Nation (2007), ideal ‘meaning-focused input’ should contain a vast amount of exposure to content that learners are interested in and want to know more about, and with the vast majority of language features being known to the learner and contextual clues further aiding comprehension. Such an input is provided in recreational viewing and gaming. The beneficial effect of contextual clues is linked to the idea of a combination of verbal and visual input fostering information retention, as discussed in the Dual Coding Theory (Paivio, 1991). In a similar vein, the Cognitive Theory of Multimedia Learning (Mayer, 2014) proposes that learners’ input processing is facilitated through the simultaneous presentation of words and pictures. The assumed increased learning gains through bi-modal input is an idea supported by Long (2020), who suggests incidental learning opportunities may be increased this way also in the classroom, where exposure in any case is limited. The provision of subtitles or captions adds a third input channel and seems to modulate the learning potential (M. Lee & Révész, 2020; Muñoz et al., 2021)—hopefully to be addressed in follow-up research on implicit and explicit knowledge.

Besides the idea of visuals providing contextual clues, audio-visual activities may be especially beneficial if the content, language, and discourse features in the input are familiar to the learner. This is expressed both in Nation’s (2007) definition of ‘meaning-focused input’ and in his ‘fluency development strand’. In the latter, learners should further experience “some pressure or encouragement to perform at a faster than usual speed” (Nation, 2007, p. 7). In watching audio-visuals, receptive fluency is being practiced, while in gaming, learners often have to produce language under time-constrained conditions. Such a high-paced language use arguably is less immanent in reading or writing, for instance, and potentially not only aids

fluency but also the automatization of form-based knowledge. As expressed in Nation's strands, it seems that a certain level of language knowledge and experience with language use in the given setting is required in order for students to successfully engage in the content; and assumingly in turn for their automatized-implicit knowledge to be elevated. As alluded to in 9.4.1.1, these preconditions are more likely to be present in the target age group of the Swedish population. This phenomenon is for example illustrated in Sundqvist (2015), a case study about interview-reported gaming practices of a 14-year-old boy who was born in Bosnia and moved to Sweden at the age of 6. This boy disclosed in an interview that when first starting with gaming, he was unable to understand what was going on in the game *Halo*, as everything was in English. But this improved with time, by spending around 2–3 years observing the game and, as paraphrased in the article, "trying to connect visuals with audio in order to understand what was going on in the game" (Sundqvist, 2015, p. 359). In the same way, gamers in the Swedish sample might have benefited from such early gaming practices in developing their language skills, while in Austria, students perhaps started gaming only more recently. Certainly, learning effects may additionally hinge on the precise nature of gaming practices, varying for instance across single-player or multi-player games, and the use of written and/or spoken interaction (e.g. Muñoz & Cadierno, 2021). These aspects deserve more attention in future research.

Certainly, Nation (2007) conceptualized the above-explained learning conditions as strands to feature in the classroom, but especially the factors of learner enjoyment and the large amount of language use are akin to extramural English. In an effort to increase EE use and its potential for learning, teachers may have students share their experiences of using English recreationally in class. This can not only encourage classmates to perform similar activities but further increases the teacher's understanding of the learners' recreational language use. Such understanding can in turn lead to (1) the integration of EE-like material in class (e.g., songs, social media content, gamer videos), (2) teaching what is not as easily learned extramurally (e.g., grammar, vocabulary, and text types of a formal register), and (3) scaffolding activities. To give an example of (3), this can involve teaching interactional strategies to be used in gaming and that can help learners better benefit from such EE activities. Such scaffolding tasks could integrate EE-like material presented as 'elaborated input' (Long, 2020). This type of input is described as being based on authentic material, ideally bi-modal, that has not been reduced in its complexity of linguistic features, but, rather, supplemented with *additional* information that clarifies unfamiliar language<sup>72</sup>. The integration of EE-like material may

<sup>72</sup> An example used in Long (2020, p. 173) was a conversion of authentic language, such as "The only witness just caught a glimpse of the driver as he fled the scene" to an elaborated version, "The only person who saw

raise the learners' interest in such leisure activities and increase their motivation in class (Henry et al., 2018; see 4.2).

**Where Learning Effects Were Less Clear.** When it comes to the relative effectiveness of READING, WRITING, LISTENING, SPEAKING, SINGING, and LISTENING TO MUSIC, and also more generally speaking of receptive vs. productive activities, no straightforward differences were found. Regarding the comparison of receptive and productive EE use, it proves instrumental to consider Swedish learners, where overall more effects became visible. There, receptive activities (READING and LISTENING) had a significant impact on tests of automatized-implicit knowledge in three cases (READING on the ONT and UGJT, LISTENING on the UGJT), to which one can add the three times in which WATCHING seemed impactful (ONT, EIT, UGJT). Productive activities had a significant impact on such tests only once (WRITING on the UGJT), but twice if considering the cross-country impact of SPEAKING (ONT), to which one can add the five times in which GAMING appeared effective in Sweden (ONT, EIT, ATGJT, UGJT). Thus, no clear-cut differences between receptive and productive EE use surfaced. In ISLA research, both comprehension-based and production-based grammar instruction emerged as similarly effective in developing receptive and productive grammar knowledge, as was shown in a meta-analysis of studies comparing the two conditions (Shintani et al., 2013). In EE research, Sundqvist (2009a) found a list of activities that she categorized as requiring active language use (playing video games, surfing the Internet, reading) to have a greater impact on oral proficiency and vocabulary learning among Swedish teenagers than passive language use (audio-visuals, music). As Sundqvist (2009a, p. 204) argued, in passive language use, learners need to rely less strongly on their language skills than in activities requiring active language use, which would otherwise "become pointless". Although both listening to music and watching audio-visuals were categorized as passive language use, watching audio-visuals arguably implies language use that is much more active than listening to music and not much less active than reading—hence perhaps also the very positive effect WATCHING audio-visuals showed on tests of automatized-implicit knowledge among Swedish learners in the present study, as compared to the inapparent effect of LISTENING TO MUSIC.

Indeed, contrary to WATCHING and GAMING, MUSIC and SINGING showed no strong impact on any of the grammar tests in the two samples. This was expected, given that songs arguably are less language-rich than other types of input, and they are often engaged in rather passively and alongside doing other things, with focused attention likely being limited (Boal-Palheiros

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the accident, the only witness, was a woman. She only caught a glimpse of the driver, just saw him for a moment, because he fled the scene, driving away fast without stopping".

& Hargreaves, 2004). The factors of attention and awareness vary across activity types and even individual learners, and ideally should be measured online and taken into account in statistical computations. This again hints at the complex dynamic system operating in the interplay of EE and learning outcomes (Sockett & Kusyk, 2015). Similar to listening to music, in singing, learners are likely to engage in a limited repertoire of songs. This potentially restricts the encountered number of linguistic features more so than in the case of generic language use in other EE activities. In the study by Muñoz and Cadierno (2021), listening to songs also showed no significant correlation with either of the two grammar tests used, the MKT and the UGJT, in the Spanish and Danish samples of teenage EFL learners.

Learning effects were also less clear in terms of the participants' performance on measures of explicit knowledge. In Muñoz and Cadierno (2021), the strongest correlation across activities and the two grammar tests was a negative significant correlation of multi-player gaming and MKT scores in the Spanish sample,  $r = -.35$ , which was similar to its relationship with the UGJT,  $r = -.34$ . In the Danish sample, these correlations were closer to zero ( $r = -.2$  to  $.1$ ) and non-significant. In the present study, GAMING had a significant negative bearing on the MKT in Austria, but a significant positive one in Sweden. In general, Austrian learners' explicit knowledge (UGJT and MKT) appeared to be significantly negatively related to total WEEKLY EE and various individual activities. EE was not expected to boost explicit knowledge, but the reasons for a strong negative relationship remain largely unclear. Yet, one explanation could be that diligent students who spend much time learning and practicing grammar rules could be ones who spend less time in front of a screen, such as for gaming. In Sweden, the MKT was significantly negatively related only to LISTENING, but it should be considered that the MKT was less reliable in this learner group. Despite some parallels between the present study and Muñoz and Cadierno (2021), all correlations reported in the latter are weak,  $r \leq .3$ , with the exception of the correlations given above. Linear mixed models arguably more accurately assess relationships, as they can control for additional learner variables. The impact of different types of extramural language use on grammar learning urgently requires more attention in research.

In sum, despite the potential of extramural English in aiding grammar acquisition, other language areas may be more strongly affected. Even if the teachers of the present samples at least partly believed in its benefits on grammar learning, they generally conveyed that this language area is affected less strongly than other aspects. They most frequently mentioned vocabulary learning, on which the effect of EE was demonstrated in numerous studies, also in the Austrian and Swedish contexts (e.g. Hahn, 2018; Olsson, 2016; Schwarz, 2020; Sundqvist, 2019a; Sundqvist & Sylvén, 2012; Sylvén & Sundqvist, 2012b). Interestingly, a recent study

(Schurz & Sundqvist, 2022) indeed showed a strikingly clear pattern of upper secondary teachers from Austria, Sweden, France, and Finland ( $N = 534$ ) believing much less in the benefits of EE on students' grammar, writing skills, and formal language use as compared to informal language use, reading, listening, and speaking skills, vocabulary, and learner motivation and confidence. Austrian and Swedish teachers did not differ significantly in their agreement with EE aiding grammar learning, with the respective mean suggesting a neutral (neither positive nor negative) influence; Sweden only showed a marginally stronger belief in the EE-grammar acquisition interface. Teachers' relatively pessimistic opinion on the potential of EE aiding learners' writing skills was also reported in Toffoli and Sockett (2015). In that study, only a sixth of the university teachers taking part in the survey ( $N = 30$ ) indicated that English informal learning helps students' writing skills. In comparison, nine instructors saw benefits of EE on learners' reading skills, and 22 participants in terms of students' listening skills. The apparent scepticism among teachers with regard to extramural learning opportunities for more formal areas of language learning may be mirrored in learners' perceptions on the same issue. For example, this evaded from an utterance provided by a 15- to 16-year-old student in Austria in Schwarz (2020), in stating that they were "unlearning English" through EE.

Similarly, in Pattemore et al. (2020), among 136 Spanish/Catalan undergraduate students having watched an English-language TV show during 7 days (either with captions, textually enhanced captions, or without captions), only close to 12% reported having learned grammar this way. The group being exposed to textually enhanced audio-visuals most strongly believed in an effect on grammar (about 21%), followed by the no captions group (about 11%) and the captions group (7%). However, Pattemore and Muñoz (2020), in targeting the same participants (though only the ones watching the series with or without captions,  $N = 90$ ), showed significant learning gains in terms of 16 English abstract constructions (e.g., passive, emphatic *do*, will-future continuous). The pre-test and post-test measures, such as sentence transformation and fill-the-gap activities, arguably tapped into explicit knowledge. It is difficult to tell why exactly in this study the effect of exposure on grammar acquisition was more clearly noticeable than in the case of the Austrian participants in the present sample<sup>73</sup>. A major influencing factor certainly is the nature of the studies. Whereas Pattemore and Muñoz (2020) is an experimental study capturing a pre-defined, shorter duration of exposure that was the same for all participants, my study looked at learning effects of individual ongoing EE use, which was reported by students in retrospect. Evidently, the setting of the present study did

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<sup>73</sup> A comparison of the present study with Pattemore and Muñoz (2020) is most meaningful in terms of the results I obtained through the UGJT—arguably the most similar measure to the tests used in Pattemore and Muñoz (2020).

not allow for an isolation of the effect of EE use on grammar test scores to, for instance, disentangle the impact of EE use and instruction. Additionally, many students in the Austrian context perhaps did not engage in (audio-visual) EE activities for a long enough time and retrospective reports on EE use certainly varied in their accuracy. Another reason for somewhat inconsistent results could be that in the present study, the chosen target features are acquired less easily in an implicit setting by Austrian and Swedish young learners than the target features selected in Pattemore and Muñoz (2020) by Spanish learners. All features used here were selected specifically so as to target ones that appear to be problematic for the two learner populations (e.g., Köhlmyr, 2005; Komaier, 2013; see 7.2.2.1). Especially third person -s is a feature known to be difficult to notice in the input and therefore acquired late (Cintrón-Valentín & Ellis, 2016; Pienemann, 1999, 2005).

### **9.4.2 *The Impact of Instruction***

As shown in the previous section, extramural English thus appeared to be a stronger predictor of Swedish rather than Austrian learners' grammar knowledge. In contrast, instruction may demonstrate a greater explanatory force for performance among Austrian as compared to Swedish students. While the impact of (explicit) instruction was quite clearly mirrored in explicit knowledge and in particular the MKT scores, conclusions drawn for automatized-implicit knowledge are more tentative. However, even there, additional student and teacher data back up the assumption of a greater influence of instructed rather than extramural English among Austrian learners.

#### **9.4.2.1 *Explicit Instruction and Explicit Knowledge***

A quite clear relationship of instruction and test performance could be established specifically for the apparent interplay of explicit instruction and explicit knowledge. The Austrian group significantly outperformed Swedish learners on the MKT test. Clearly, metalinguistic terminology is very unlikely to be learned extramurally. Rather, the higher MKT scores among participants from Austria coincided with the greater and earlier provision of explicit grammar instruction in this context. In Muñoz and Cadierno (2021), too, students in the Spanish sample scored significantly higher on the MKT than students in the Danish group. According to the authors, this may be due to the Spanish students having received more hours of English instruction, whereas in Denmark, EE levels were higher. Unfortunately, the hours of previous English instruction are unknown for my two samples. According to official documents (AME, 2012a, 2012b; SNAE, 2019c) (see 6.1.2), at the end of year 8 (age 13–14), Austrian students

must have received at least 655 hours, and Swedish learners 480 hours by the end of year 9 (age 15–16). These numbers are a mere minimum, and it is unclear to what extent these were surpassed in the case of my participants. However, it may be that English instruction is more extensive in primary school levels in Sweden than in Austria. In Coumel and Schurz (2022), primary school teachers in Austria (grades 1–4;  $n = 120$ ) on average reported a weekly amount of 56 minutes of English instruction, compared to a weekly average of 1 hour and 45 minutes reported by grade 1–6 teachers in Sweden ( $n = 65$ ). Despite the uncertainty as to the hours of previous instruction in the present study, Spain represents a more traditional EFL setting like Austria, whereas in Denmark, ELT and EE may overall provide a more English-rich learning environment, as is the case in Sweden.

In terms of the UGJT, the linear mixed model did not reveal a significant group difference. Only in the descriptive statistics, non-overlapping 95% confidence intervals were observed (see 8.5.1.1). However, importantly, the Linear Mixed Models included a number of control variables, which is why these results are more truthfully depicting group differences. Even though in Muñoz and Cadierno (2021), Danish students scored significantly higher on the UGJT—and on a listening comprehension test—the *t*-tests the authors used to calculate group differences did not control for any additional learner variables. Moreover, among Swedish students in the present study (and possibly among Danish students in Muñoz and Cadierno (2021)), the UGJT was likely to have tapped into automatized-implicit knowledge, while among Austrians, it apparently elicited (unautomatized) explicit knowledge.

The beneficial effect of explicit instruction on grammar learning, in particular in terms of measures of explicit knowledge, has been demonstrated in extensive research (e.g. Kang et al., 2019; Lichtman, 2013; Norris & Ortega, 2000; Spada et al., 2015; Zhang, 2015). In the classroom-based longitudinal study of lower secondary school students by Piggott (2019), too, the explicit instruction group produced written language that was less error-prone than in the case of the implicit instruction group. Although the spoken language they produced contained significantly more verb errors in year one, this improved by year two, potentially as the learners' explicit knowledge had been automatized.

#### ***9.4.2.2 Different Pathways to Automatized-Implicit Knowledge***

Even if research suggests integrated explicit instruction also helps the construction of automatized-implicit knowledge (e.g. R. Ellis, 2002a; Goo et al., 2015; La Fuente, 2006; Piggott, 2019; Spada et al., 2014; Spada & Tomita, 2010), the degree to which this was the case in the present study could be assessed only tentatively. In Austria, owing to the lack of effects found of

extramural English, it seems that instruction played a greater role in helping construct automatized-implicit knowledge. According to student self-reports, too, they developed their intuitive and rule-based grammar knowledge more strongly through instruction rather than extramural English. Furthermore, the Austrian participants' level of agreement of learning grammar through instruction was significantly stronger if compared to the Swedish learners' responses, with a medium effect size. As also seemed the case in Piggott's (2019) explicit instruction group, Austrian participants may first have constructed declarative knowledge that in turn was proceduralized and automated (see Skill Acquisition Theory, DeKeyser, 2014; 9.5).

The ostensibly stronger effect of instruction—or the role attributed to it by teachers and students—in the Austrian context may be due to the greater linguistic distance and lower levels of extramural English. In a re-analysis of the Surveylang data collected in 14 EU countries (Azzolini et al., 2020), time dedicated to formal instruction played a considerable role in teenage learners' language competence in countries rather distant from English (e.g., Estonia, Greece, Portugal). This was true for all skills taken into consideration, writing, listening, and reading. These skills were less clearly affected by instruction in regions with a majority language closer to English, comprising Dutch- and German-speaking Belgium, the Netherlands, and Sweden. The latter regions are also high-EE contexts, although Germanophone Belgians arguably have easy access to dubbed media in German. However, media and social exposure to English turned out to be an equally important contributing factor in both types of countries. Even though the effect of instruction and EE was not directly compared among Germanophone Belgian and Swedish students per se, the relative linguistic distance and/or a country's overall EE levels seem to act as moderators. Considering the idea of implicit learning to be fruitful only given massive input that starts early (DeKeyser, 2000; Long, 2013, 2020; Pawlak, 2021b), directing students' attention to form, as is done in instruction, can indeed be assumed to be even more important in a traditional EFL context like Austria. As Pawlak (2021b, p. 893) rightly put it, in such a learning environment, "it immediately becomes clear that complete abandonment of the structural syllabus in favor of the task-based one ... is simply a nonstarter in most cases". Certainly, it would be a more felicitous approach to "adeptly combine the traditional and the innovative with the main purpose of helping learners use grammar structures in communication" (Pawlak, 2021b, p. 893). Despite the benefits of explicit instruction, the question of *when* explicit instruction should be introduced—be it in lower secondary schools or perhaps only somewhat later—remains highly debated (see 9.1.3.1). Finding suitable ways of catering to individual variation in grammar acquisition patterns certainly does not make this question any easier to answer (Pawlak, 2021b).

In contrast to Austrian learners, Swedish students arguably acquire implicit knowledge already in childhood, in class and out-of-school. This is then continuously supplemented by explicit knowledge through instruction—of features likely already encountered implicitly but perhaps not (fully) acquired this way. Especially in Sweden, such explicit knowledge gained through instruction is likely to be automatized not only in-class but also extramurally (for an elaboration, see 9.5). To conclude on this section, it must be emphasized that the ideal type of instruction is certainly highly context-dependent. This is because the suitability of a given instructional approach is always linked to the specificities of a given local context (Pawlak, 2021b; Richards & Rodgers, 2014; also see principles of *particularity*, *practicality*, and *possibility* in Kumaravadivelu, 2006). The importance of context is further fleshed out in the subsequent, concluding section of the discussion.

## 9.5 Context-Dependent Skill Acquisition

In this final section of the discussion, I propose a theoretical model informed by the data analyzed and discussed in this thesis. This model describes the stages learners traverse in acquiring language skills as contingent on the learning environment and the affordances it offers. The model is thus referred to as Context-Dependent Skill Acquisition Theory and is an elaboration of Robert DeKeyser's Skill Acquisition Theory (2014, 2017).

The Skill Acquisition Theory (DeKeyser, 2014; 2017) is a felicitous depiction of the stages learners typically pass through in a traditional foreign language learning setting. Its overall theoretical framework can be applied to the acquisition of any type of human skill, also external to language use, such as in learning how to ski. The process begins with an initial representation of 'knowledge *about* a skill' (declarative knowledge) that is followed by one's ability to 'act on this knowledge' (procedural knowledge), a process that DeKeyser (2014) describes as easily and quickly achievable. In contrast, the process that follows, automatization, is lengthy and slow and requires extensive practice. Through extensive practice, task performance increases in speed while the error rate decreases, ultimately allowing for spontaneous, effortless, and skilled behavior—i.e., automatized knowledge. Importantly, though, even at an elaborate stage, automatized knowledge is not always error-free, as for instance when an experienced and skillful black-slope skier sometimes does not have the skiing poles in the right position; or when a (near) native speaker of any language makes a grammar mistake. Considering language acquisition, DeKeyser (2014) explains that Skill Acquisition Theory applies first and foremost to instructional contexts<sup>74</sup>. While he acknowledges the opportunities that implicit learning conditions hold for language acquisition, Skill Acquisition Theory does not account for this type of learning setting.

Against this background, the presentation of a new skill acquisition model is in order—to give room to implicit language learning environments that are by now widespread in the European context (and beyond). The Context-Dependent Skill Acquisition model introduced here (see Figure 9.1) distinguishes between countries or regions providing a vast amount of extramural English already early on—i.e., assimilating an ESL context, such as Sweden, and others that do so to a less strong degree—i.e., a more typical EFL context, such as Austria<sup>75</sup>. In a high-EE context,

<sup>74</sup> Besides the instructional context, DeKeyser (2014) also lists other factors that need to be given for the Skill Acquisition Theory to be most easily applicable. It can be best understood in terms of beginner but high-aptitude adult learners and target structures that are simple rather than complex. This is explained by the assumptions that acquiring declarative knowledge (1) is increasingly complemented by implicit learning opportunities as proficiency develops and (2) can prove difficult for very young and low-aptitude learners as well as in terms of very complex rules.

<sup>75</sup> See 6.2 for a more precise definition of high- vs. low-EE contexts.

learners are exposed to the target language already early on and thereby develop implicit knowledge. This can be supplemented by explicit knowledge through increased levels of awareness during EE use and the noticing of structures, especially in the case of high analytical abilities; and through explicit instruction that most typically begins only after the onset of EE. Such explicit knowledge is then proceduralized and slowly automatized through communicative practice (see DeKeyser, 2015, 2017), in class and/or extramurally. The idea of implicit knowledge aiding the construction of explicit knowledge through increased levels of awareness in input and perhaps output during implicit learning conditions reflects the *reverse interface position*. Based on this stance, Cleeremans (2008) proposed the radical plasticity thesis, according to which knowledge and skill development passes through three stages: implicit knowledge, explicit knowledge, and automatized knowledge (see 2.1.4.2). Indeed, the recent dissertation by K.M. Kim (2020) was among the first studies to demonstrate that not only can explicit knowledge aid the construction of what she termed implicit knowledge<sup>76</sup>, but the latter can bring about higher levels of consciousness ultimately leading to explicit knowledge. The degree to which this occurred among the Swedish participants in the present study remains unclear. Their (relatively low) levels of explicit knowledge may be the result of the type of instruction. In Sweden, explicit instruction appears more common in higher instructional levels, and some of the Swedish teachers explained the benefits of introducing grammar rules once learners themselves express interest in how a feature works. Research has reported older students' potentially greater cognitive readiness to learn through explicit instruction (e.g. DeKeyser, 2000; R. Ellis, 2002b; Long, 2013; Munoz, 2014; Shintani, 2017; Vyn et al., 2019). Therefore, a scenario of learners' implicit knowledge promoting their explicit knowledge through analytical thinking might apply more closely to slightly older students.

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<sup>76</sup> Given Kim (2020) used a WTGJT, ONT, and EIT as measures of what she labelled implicit knowledge, this would be labelled as automatized-implicit knowledge in the present thesis (see 2.2.2).

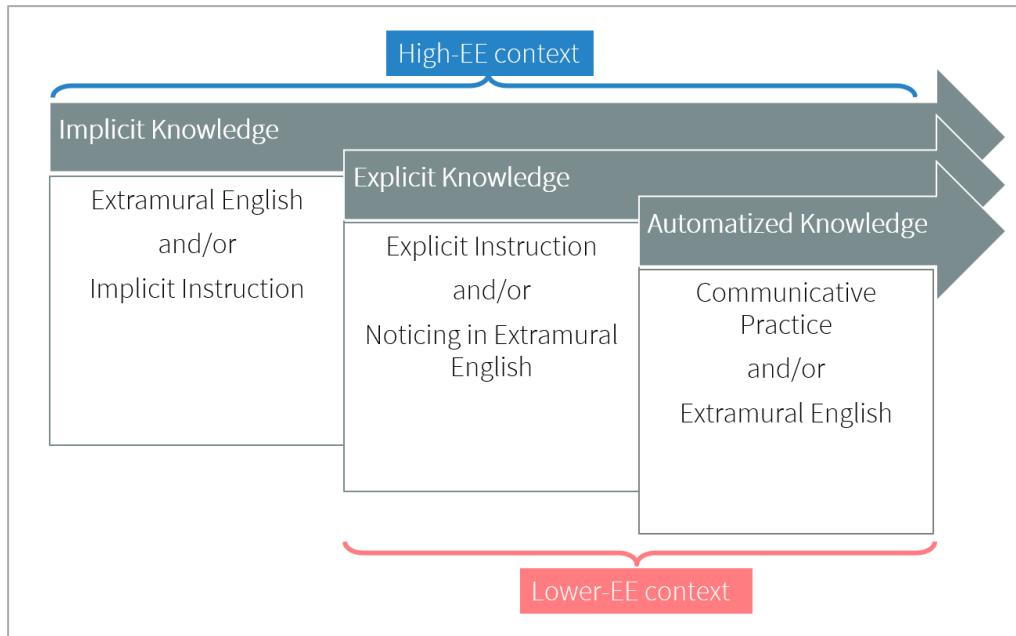


Figure 9.1 Context-Dependent Skill Acquisition Theory

In a low-EE context, implicit encounters with English are much less frequent and intensive in childhood, and the learning process more clearly starts through formal instruction that typically integrates explicit teaching. Here, too, the obtained explicit knowledge can in turn be automatized given extensive practice, as explained in DeKeyser's Skill Acquisition Theory (2014, 2017) and as in accordance with the strong interface position (see 2.1.4.2). As rightly put forward by Pawlak (2021b, p. 883), when learning a language in a foreign language context after the critical period—such as typically the case in a low-EE setting—it is unrealistic learners can develop extensive implicit knowledge. In such contexts, Pawlak continues, it may be more likely to develop highly automatized explicit knowledge. In contrast, if explicit knowledge is not automatized, for instance due to little communicative practice, the learner will be restricted in their ability to employ grammatical features accurately and meaningfully in spontaneous communication (see *inert knowledge problem* in Larsen-Freeman, 2003). Limited communicative practice in class can be deemed problematic especially in low-EE settings, which promote implicit knowledge only to a negligible degree. Yet, in both high-EE and low-EE contexts, the process of automatization may be accompanied by implicit learning happening incidentally through instruction and/or extramural English. Implicit and explicit learning processes emerging in parallel or consecutively may or may not cover the same target features. Some features may be learned more easily implicitly and others requiring explicit instruction, or a combination of both, likely also as contingent on the extensiveness of EE early (DeKeyser, 2000; Long, 2013, 2020; Pawlak, 2021b), linguistic distance (Azzolini et al., 2020), learner aptitude and analytical abilities (Godfroid & Kim, 2019; Kasprowicz et al., 2019;

Pattemore & Muñoz, 2020), and phonological short-term memory (Hummel & French, 2010; Kormos & Safar, 2008).

Adopting such a context-dependent perspective in exploring learning stages is important because we cannot presume a simple causal relationship between a given learning condition, such as weekly hours of EE, and specific learning outcomes, e.g., implicit knowledge. In the present study, this became clear in the different results obtained by the factor analysis and the Linear Mixed Models in the case of Austria vs. Sweden. As accurately discussed in Sockett and Kusyk (2015), the variables of instruction and extramural English are elements part of a complex dynamic system. Such a system integrates a variety of other learner variables potentially modulating the relative effect of instruction and EE in a given context. For instance, as seen in the present study, the EE age of onset likely predicts current EE levels but may well have a greater effect on learning outcomes than current levels of EE use considered by themselves. Moreover, the more implicit vs. explicit learning conditions provided in a context overall may lead to different levels of awareness and analytical thinking during EE use. Another possible moderator could be that in a low-EE context, less optimistic teacher attitudes towards the potential of EE use for learning (see Schurz & Sundqvist, 2022) may negatively influence student EE use and learning outcomes in the manner of a self-fulfilling prophecy (Erling et al., 2021). Such additional factors were not investigated here but should be delved into in future research.

Having explained the basic assumptions and principles of the model I proposed, there are a few things to be considered. First, even if the contextual distinction of the model points to a *geographical* context, it is noteworthy that individuals in a low-EE country or region may of course find themselves in a setting more typical of a high-EE context. This would apply for instance when a child in an EFL context, such as Austria, with the first and main language for instance being German, is regularly exposed to English socially and/or through media early on. Only later, this child would receive explicit instruction in English in a scholastic setting. Second, another concession of the strict classification into high- and low-EE contexts is that in the present study, the high-EE context Sweden coincided with comparatively less systematic grammar teaching than was the case in the low-EE context Austria. However, this is not necessarily always the case. There may be high-EE countries where grammar instruction in lower secondary education also happens rather systematically, for instance with the coursebook functioning as a ‘hidden curriculum’, each coursebook unit addressing one or multiple target feature(s) (Cunningsworth, 1995; Robert Schmidt, 2015). Another contributing factor in the sequence and dominance of the individual skill acquisition stages is the linguistic

distance between the country language and the target language. This likely also determines the relative effectiveness of EE and instruction (see Azzolini et al., 2020). Third, related to linguistic distance and languages involved, the present model can of course be applied to target languages other than English. English has a special status given its dominance in today's media and entertainment landscape and its function as a Lingua Franca, and the present study fleshed out the effects of such a precondition. However, even in another target language, a high-Ln (see extramural Ln, Sundqvist, 2019b) setting can be pictured, as is the case with Spanish in certain regions of the United States, such as New Mexico.

As a concluding remark, the Context-Dependent Skill Acquisition model and its two subsets do not propose what the different stages and processes involved in skill development *ought* to look like. It merely shows what it *seems* to look like according to the data of this thesis. The data solely provides a snapshot of learners' skill development, namely of the types of knowledge that appear to be available to the students at the given age and proficiency level subject of this study. This may be subject to change as the learners grow older and for instance evolve in their EE behaviour and/or overall proficiency. The long-term effects of explicit instruction and/or implicit learning conditions experienced more recently remain widely unknown in the present study and in research in general (e.g. see Goo et al., 2015). Likewise, very few empirical studies explicitly set out to explore (a specific stage of) Skill Acquisition Theory, which ideally is longitudinal or at least cross-sectional (DeKeyser, 2014). Such research certainly is desirable but should not be reduced to an exploration of the interplay of instruction and the type of knowledge, but, rather, also integrate EE or extramural Ln (Sundqvist, 2019b) as a prime contributing factor in knowledge development.



## 10 CONCLUSION

This concluding chapter serves the presentation of the study's key findings in section 10.1, their implications in section 10.2, and the study's limitations and areas of inquiry that deserve attention in future research in section 10.3.

### 10.1 Rationale and Key Findings

As amply discussed in this thesis, automatized-implicit knowledge allows learners to spontaneously use accurate language under time-constrained conditions, such as in fluent conversation. Whereas explicit knowledge of a rather unautomatized type also allows for accurate language use, it does so only if enough time is available to access such knowledge. It follows that the development of automatized-implicit knowledge should be a primary goal in language teaching and learning (e.g. Doughty, 2001; R. Ellis, 2005a, 2005b; Gotseva, 2015; Krashen, 1982; Pawlak, 2019). In previous research, the impact of implicit vs. explicit conditions on learning has been looked at mostly in laboratory-based settings, and often, learning outcomes were measured only in terms of explicit knowledge (see Kang et al., 2019; Norris & Ortega, 2000). However, authentic learning situations entail a complex system of individual and contextual variables that can modulate learning effects (Sockett & Kusyk, 2015). Notably, the opportunities provided by extramural English (EE) as an enjoyable, pressure-free learning environment ought to be fleshed out in research. In doing so, comparing countries differing in the average amount of EE they provide proves especially insightful. Additionally, to my knowledge, measures to tap into these types of knowledge had not yet been administered and evaluated based on a population of young, non-academic learners, who in general receive too little attention in research (Andringa & Godfroid, 2020).

Therefore, the aims of the current study were tripartite. First, it endeavored to explore learning environments in Austria and Sweden in respect to the type of instruction and extramural English. Second, the construct validity of measures of the implicit vs. explicit knowledge spectrum were sought to be evaluated with samples of young learners. Third, the potential impact of instruction and EE on the learners' development of automatized-implicit vs. explicit knowledge was investigated. To address these aims, a total of 213 learners aged 13–14 years, 110 in Austria and 103 in Sweden, were recruited together with their respective English teachers ( $n = 14$ ). Through a learner and teacher questionnaire as well as a teacher interview, information on the type of instruction and the frequency, starting age, and weekly use of extramural English was collected. To measure the learners' grammatical knowledge, they

performed tests of automatized-implicit knowledge (oral narrative test, elicited imitation, and aural and written timed grammaticality judgment tests) and explicit knowledge (untimed grammaticality judgment test and metalinguistic knowledge test).

To enquire into the above-listed aims, the first step was to provide a clear picture of the affordances provided by instruction and extramural English in lower secondary education in Austria and Sweden. Concerning classroom practices, general similarities between the two countries emerged in the teachers' indications of communication being the primary goal of instruction, the student-reported frequency of reading, listening, and writing in class, and the teacher-reported nature of explicit grammar practice. However, major deviations in the student-reported frequency of grammar practice and vocabulary work and the extent to which explicit instruction seems to be based on immediate learner needs were detected. My findings point to a much more systematic and form-focused teaching approach in Austrian than in Swedish lower secondary education. In Austria, the more selective school system results in classes that are more homogenous in terms of the learners' current acquisitional stage than seems to be the case in the rather non-selective school system of Sweden. It appeared that grammatical features are introduced and worked on one after another, typically mirroring the Presentation-Practice-Production sequence and DeKeyser's Skill Acquisition Theory (DeKeyser, 2014, 2017). Considering extramural English, EFL learners in Austria in most cases have the option to engage in foreign language media that is dubbed in German. Yet, since much of foreign language media use nowadays takes place online, such as on social media, students cannot always—or do not always want to—opt out of using English. This was visible in the data, showing a median of 16.71 weekly hours of EE in the Austrian setting. However, this number was higher in the Swedish sample, where students also appeared to start engaging in regular EE use earlier on in life.

In Sweden, learners are, in one way or another, naturally exposed to English in their spare time, and this exposure starts in pre-teenage years. Especially if adolescents enjoy watching audio-visuals, using social media, and/or gaming—which many of them do—they can hardly opt out of using English in their spare time due to the limited availability of such content in Swedish. Based on the median, an average Swedish participant spent 26.50 hours a week using English extramurally. This implies that often, a learner's first encounters with a given target feature typically happen incidentally. Acknowledging that EE preferences and learning benefits derived from them are very diverse, students in the Swedish context can be assumed to traverse highly individual pathways to proficiency. The resulting great proficiency diversity in classes, likely also a result of the comprehensive school system and little grade

retention, means that adopting a learner-centered approach in instruction is a necessity (see Schurz & Coumel, 2021). Learners' deficiencies in grammar knowledge and their curiosity in how a feature works were described by teachers as triggers of explicit instruction, which often seems to be implemented by having learners practice grammar on their own devices and at their own pace (see Schurz et al., 2022).

In a next step, I administered measures of automatized-implicit and explicit knowledge on the young, non-academic learners of my sample. Factor loadings yielded for Austria were unsurprising in that they reflected previous findings (e.g., Ellis, 2005; Loewen et al., 2009; Godfroid & Kim, 2021), consistently showing two separate factors for the ONT, EIT, and TGJTs, vs. the MKT and UGJT. In contrast, the six measures produced a single factor in the Swedish context. I argued that the Swedish participants perhaps performed all tests based on automatized-implicit knowledge given the limited explicit instruction generally provided in this country at that level. This assumption was mirrored in the Swedish learners' extremely low scores on the MKT, on which Austrian students scored significantly higher. The findings of the factor analysis highlight the importance of reassessing the construct validity of test instruments if they are used with a participant sample different from settings in previous analyses. This became most clear when considering that the UGJT seemed to tap into explicit knowledge among Austrian students and into automatized-implicit knowledge among Swedish teenagers. While previously, the six tests were employed with populations from more traditional EFL settings (e.g., with learners of L2 Spanish at a Canadian University in Gutiérrez, 2012; and with learners of East Asian and Chinese origin in Ebadi et al., 2015 and R. Zhang, 2015), the Swedish context somewhat approximates an ESL context.

In a final step, I assessed the differential or complementary role of instruction and extramural English in the construction of the young learners' grammar knowledge. In Austria, potential benefits of extramural English on learning did not clearly surface in the statistical models, whilst in Sweden, its effect was clearly positive and most consistent in terms of watching audio-visuals and gaming. The more positive relationship between EE and automatized-implicit knowledge in Sweden can be explained by the lower starting age and more widespread current use of EE in this sample. The Swedish learners' prior EE use and the schematic, discourse, and linguistic knowledge obtained this way may have a leverage effect on the benefits they derive from current EE engagement. If Austrian learners lack such experiences, which they often do, they likely are at a disadvantage despite showing similar levels of current EE use. The finding of the audio-visual activities of watching films, series or videos and gaming showing clearest effects on learning assumably is due to their multimodal nature and rather fast

pace, requiring fluent language processing and/or production. Nevertheless, overall, EE may impact grammar less strongly than for instance vocabulary, according to teacher interview reports (see also Schurz & Sundqvist, under review). Even though all Swedish teachers expressed their belief in grammar acquisition also happening extramurally, thereby showing a more positive attitude than Austrian teachers, they also mentioned success in such learning depends for instance on the type of target feature and the extensiveness of EE.

In terms of instruction, its effects unfortunately could not be directly looked at in Linear Mixed Models, because none of the student variables was deemed sufficiently reliable and construct-valid in depicting methods applied in the classroom. Yet, the significantly higher MKT scores among Austrian participants coincided with the more explicit instruction in this context. Additionally, given EE did not surface as a strong predictor of automatized-implicit knowledge in Austria, it is estimated that instruction must be the primary contributing factor in aiding the construction of such knowledge in this setting. Despite the finding that in Sweden, too, teachers seem to apply explicit instruction, it appeared that it occurs less frequently and systematically and later than in the Austrian context. Additionally, according to student self-reports, Austrian learners developed their intuitive and rule-based grammar knowledge more strongly through instruction rather than extramural English. Among Swedish learners, the level of agreement with learning through instruction was significantly weaker. There, I argued, explicit instruction can lead to explicit knowledge, after and alongside the development of implicit knowledge through extramural learning. Especially in Sweden, such explicit knowledge gained through instruction is likely to be automatized not only in class, but also extramurally.

## 10.2 Implications

Importantly, the study reported on in this thesis addresses the “specific local characteristics” (Sockett, 2014, p. 156) of grammar acquisition through extramural English, and instruction, among 13- to 14-year-old learners in Austrian and Swedish small towns. In this vein, this project is much needed from a local Austrian and Swedish perspective with its unprecedented analysis of the relationship between the given learning environments and grammar learning gains. The study is however also valuable for an audience beyond the two target countries. Clearly, due to the unprecedented nature of this study, results need to be corroborated in further research. Yet, tentatively, I can conclude that EE use *may* predict automatized-implicit knowledge especially if it is extensive and starts early, if it is multimodal (viewing, gaming), and if it can build on prior linguistic and schematic knowledge. In terms of the type of instruction, it proved difficult to determine which practices favorably influence automatized-implicit knowledge. Overall, there may not be a one-size-fits-all solution, since the ideal teaching approach is highly context-dependent (see Pawlak, 2021c). However, findings point to the idea of instruction being more influential the less widespread learners’ EE use is, while in a high-EE context, instruction and EE seem to share the responsibility of advancing learning. The emerging developmental pattern in grammar acquisition among Swedish learners—from implicit, to explicit, and automatized knowledge—evokes the radical plasticity thesis (Cleeremans, 2008) and may be typical of a high-EE context in general. I accounted for this type of learning environment in the Context-Dependent Skill Acquisition Theory presented in 9.5—an elaboration of DeKeyser’s Skill Acquisition Theory (2015, 2017) that focused exclusively on a traditional, low-EE, EFL context and its prototypical PPP stages.

Despite the proposed contextual distinction, high-EE and low-EE contexts may be in the process of alignment and become more alike. With media being accessed increasingly online, and with content of interest to pre-teenage and teenage learners often being in English, I expect extramural English use to further rise not only in subtitling countries, but, perhaps even more importantly so, in dubbing countries. The general rise in EE use entails certain pedagogical implications. To begin with, the implementation of ‘bridging activities’ is potentially gaining in relevance (see Henry, 2013). As already observed in high-EE contexts (see Schurz & Sundqvist, 2022), teachers may wish to pay attention to what learners do not sufficiently acquire extramurally and focus on these aspects in class, such as formal vocabulary, writing skills, and grammatical structures not frequently used in informal language (e.g., passive, past perfect, see Carter & McCarthy, 2007). The apparent benefits of multimodal activities in particular as observed in this thesis suggest it would also be worthwhile to encourage learners

to engage in such material early on. To facilitate learners' extramural use of English and boost the learning potential, content that they likely are interested in can be shared in class. Likewise, it may be advantageous to topicalize challenges learners experience in EE use in class and provide possible strategies of overcoming these. For instance, English language videos can be screened with subtitles in English or the learners' L1 if need be, and teachers can clarify to learners that switching from dubbed media to original soundtracks may be difficult at first but is only a question of habit. Other interventions may be inviting learners to share their EE experiences in class and possibly also having them report on challenges, such as comprehension difficulties in interacting with co-gamers. In response, teachers can introduce expressions and discourse features useful for this setting.

Besides this call for the use of bridging activities, rising levels of EE also imply that general didactic approaches perhaps need to be re-evaluated. If EE use in a learner group is high, this may allow for more incidental and implicit grammar teaching in lower secondary years than what we to-date typically find in a more traditional EFL context such as Austria. Compared to systematic explicit grammar teaching, implicit instruction has been shown to result in higher learning outcomes in the high-EE context of the Netherlands—considering the total of fluency and accuracy measures and, perhaps even more importantly so, the learners' greater willingness to communicate (Piggott, 2019). It would be especially insightful to carry out a similar project in more traditional EFL settings providing somewhat less extensive extramural English, such as Austria, Spain, or France.

To conclude, the principal findings and implications of this thesis can be summarized as follows:

- Extramural English may predict automatized-implicit knowledge especially if...
  - it is extensive, and starts early;
  - it is multimodal (see Munoz et al., 2021);
  - it can build on learners' prior linguistic and schematic knowledge.
- In terms of the type of instruction, it seems there is no one-size-fits-all approach, given this is highly context-dependent (see Pawlak, 2021b).
- Rising EE levels *may* allow (or call) for a type of instruction in lower secondary education that is...
  - more incidental, and
  - more implicit (e.g., Piggott, 2019).

### 10.3 Limitations and Outlook

This thesis inevitably entails a number of limitations. These can be grouped as concerning the difficulty of controlling for influencing variables in an authentic, classroom-based setting; the ecological validity of test instruments and their conventionalized evaluation; and the non-representativeness of the data.

Firstly, with the study being classroom-based rather than experimental, a variety of contextual and individual differences variables were not isolated and possibly influenced results (see Dörnyei, 2009; Sockett & Kusyk, 2015). In terms of those influencing variables, the fact that participants from two countries were recruited and compared warrants special attention. For example, based on the school system, learners from the two samples may have differed in the extent they were used to being tested and evaluated, and to performing under time pressure (see 7.4). Resulting differences in the level of learner anxiety can influence test performance (see Matsuda & Gobel, 2004). Additionally, anecdotal evidence during test administration suggests that learners in Austria may have been more used to writing by hand, whereas in Sweden, all participants usually worked and wrote on a laptop provided by the municipality. Hence, ideally, the UGJT and MKT could have been delivered in digital form in Sweden. Besides socio-cultural and geo-political factors, individual cognitive differences may impact learning outcomes. While dyslexia could at least partly be controlled for through student reports, the Linear Mixed Models for instance did not take into account learners' working memory capacity and their analytical abilities (see 5.1.1). Due to these additional contributing factors, the impact of instruction and extramural English on automatized-implicit and explicit knowledge cannot be expected to be straightforwardly linear. Rather than anticipating a simple cause-effect relationship, the variables of instruction and extramural English are elements part of a complex dynamic system repeatedly referred to in this thesis (cf. Sockett & Kusyk, 2015). To account for this complexity, however, much more data would need to be collected and integrated in the statistical computations. Given the scope of this study and considering learners' and teachers' time is limited, this was beyond the realm of possibility. Moreover, despite the fact that Linear Mixed Models showed straightforwardly significant results in a number of cases, alternative interpretations, such as reverse causality, cannot be ruled out. For example, it cannot be said with certainty whether, in my samples, high levels of automatized-implicit knowledge are always the result of extensive EE use or if learners, vice versa, used much EE because their high language skills motivated or allowed them to do so. Likewise, below-average English learners who use EE extensively but perhaps only recently started doing so may have given the impression of a negative impact of EE on grammar

learning. The latter issue was observed in the interview data, and thus highlights the benefits of conducting mixed methods research. Additionally, this observation pointed to the important role that the starting age of EE likely plays, and its more precise impact on learning gains should be elucidated in forthcoming research. In the present study, the high number of missing values prevented me from more closely considering this component.

Secondly, a number of methodological issues related to the specific test instruments are noteworthy. Even if measures of automatized-implicit and explicit knowledge employed here had previously been widely used, their ecological validity remains questionable (Pawlak, 2019). Arguably, the oral narrative test provides a test format (of viewing and retelling stories) that students may be the most familiar with, whereas the elicited imitation test (with the oral correction of stimuli under timed conditions) likely caused confusion. It could also be that given that in Austria, a heavier focus on explicit instruction emerged, Austrian learners were more acquainted with grammaticality judgments and error correction than Swedish participants. The downside of greater ecological validity and rather free (over restricted) production tests is the difficulty of determining systematic rating criteria, as seen in the description of data evaluation of the ONT (7.3.1.1). Likewise, similar to previous studies, the time constraint imposed on learners in the EIT and TGJTs can be described as somewhat arbitrary, even if based on L1 performance. Finally, while ideally, factor scores should be used to provide a valid representation of automatized-implicit knowledge. To compute factor scores, more participants performing *all* test instruments would have been needed. Looking at the relationship between EE and a given test instrument in isolation, it could be that it conflates different types of knowledge and skills, such as automatized-implicit knowledge, working memory, listening skills, and speaking skills in case of the ONT and EIT. Yet, I carried out this study meticulously considering the options and making the necessary (often concessive) decisions as based on state-of-the-art research findings and the multiplicity of contextual factors (see, for instance, 2.2.2.3). Evidently, more studies are needed to consolidate my findings.

Regarding data collected to explore the learning environment provided for Austrian and Swedish lower secondary school students, student and teacher self-reports must also be taken with a grain of salt. Both desirability bias (Dörnyei, 2007) and actual difficulties remembering the starting age and the current weekly of EE use and the frequency of certain pedagogical practices most likely were at play. Even if the EE questionnaire was adopted from Bengtsson (forthcoming), it was validated based on university students in that study. For the younger learners in the present study, it might have been more challenging to estimate given numbers. This could have increased by-chance responses and implausibly high or low values, which

were filtered based on rather lenient cut-off values (see 7.5.7). While the items targeting EE were more concrete, this was less the case for reports on the concepts of focus-on-form vs. focus-on-formS. Especially for learners (and not so much for teachers), responding to the respective items can be challenging. For instance, the finding of FOCUS-ON-FORM being equally present in Swedish schools and in AMS diverged from frequency reports on classroom activities and teacher responses (see 9.1.4), indicating a more systematic grammar focus in Austrian classrooms. Various factors could underlie these diverging results. Learners are likely to have understood the items differently than was intended. This might be due to the learners' limited experience of alternative types of instruction to which they could compare their current teacher's practices. Moreover, the concept of and the items used to operationalize FOCUS-ON-FORM in general are abstract and less straightforward than in the case of FOCUS-ON-FORMS. It also needs to be borne in mind that in the factor analysis computed on the underlying items of focus-on-formS and focus-on-form, FS1 loaded slightly more heavily on the factor labelled as focus-on-form (negative loading) than on the factor called focus-on-formS (positive loading) (see 7.5.6.1). Thus, in general, results yielded for FOCUS-ON-FORM should be taken with a grain of salt. Considering the teacher survey, the sample size clearly was very small. However, findings could be supported by research involving a large-scale data collection in Austria and Sweden (Schurz & Coumel, 2020).

Thirdly, from a broader perspective, this study cannot be claimed to be fully representative of the two learning contexts, English teaching and learning in Austrian and Swedish lower secondary education. Many more participants would have needed to be recruited in order to yield results veritably representing the two populations. To reach this goal, ideally not only further quantitative but also qualitative analyses, such as classroom observations, student focus-group interviews, and extramural English diary reports, would need to be conducted. If supplemented by additional individual difference variables addressed previously, this could also have minimized the risk of overlooking the individual nature of learning trajectories. At the same time, it would have exceeded the scope of a PhD project.

It would be desirable for future research to corroborate and further explore the new avenues opened in the present study. The impact of different types of EE activities and various learning environments on grammar acquisition deserves more attention, while still disentangling learning effects on implicit vs. explicit knowledge. To allow for the latter, test instruments urgently need to be further validated with young learners in both implicit and explicit learning environments to achieve greater construct and ecological validity. Learning outcomes may additionally hinge on the more precise nature of EE practices. Gaming practices vary for

instance across single-player or multi-player games, and the use of written and/or spoken interaction (e.g. Muñoz & Cadierno, 2021), which should be inspected more closely. Learner aptitude, proficiency, and previous EE experiences, but also for instance cognitive factors, such as implicit vs. explicit aptitude, working memory capacity, and learner motivation, also ought to be considered in future studies examining the effect EE has on learning. To further explore low-EE contexts, a focus on the influence of EE among slightly older learners in an EFL setting similar to Austria would be worthwhile, since it might be that the effect is more clearly noticeable there. One last example for sorely needed research concerns the extent to which teacher attitudes towards the potential of EE use for learning—less positive in low-EE contexts (see Schurz & Sundqvist, 2022)—influence student EE use and learning outcomes in the manner of a self-fulfilling prophecy. Hopefully, forthcoming research is going to provide many more pieces to the puzzle of the complex nature of contextual and individual learner variables shaping the development of automatized-implicit knowledge.

## 11 APPENDIX

### 11.1 Letters of Consent

#### 11.1.1 Students and Caretakers (English translation)

**Letters of consent (prototypes)<sup>1</sup>**  
English

**Research project “Blurry borders between English leaning environments and the impact on the development of linguistic knowledge”**



Dear student!  
[Dear parent or caretaker!]

I am a doctoral researcher at the University of Vienna and carry out a study with the above-mentioned title. The goal of this study is to find out how students' language competence in English is linked to (1) the use of English in one's spare time and (2) methods applied in teaching. [This project was approved by the school's principal.]

I thus invite you [your child] to participate in this study. This is going to take place during class time from **[dates]**. This is what it will look like:

1. All participants fill out a **questionnaire** in which they answer questions on how often and since when they use English in their spare time (for example by watching films or gaming), including what their English classes look like in school. *Duration: ca. 20 min<sup>2</sup>.*
2. During ongoing classes, students, in pairs, are taken to a different room. They **watch videoclips and retell the story** and **listen to and repeat sentences**. The students' answers are audio-recorded. *Duration: ca. 40 min<sup>3</sup>.*
3. In the **(written) language tests<sup>4</sup>**, students complete sentences, decide on whether a sentence is correct or incorrect and explain mistakes. *Duration: ca. 90 min.*
4. I am going to observe English classes throughout this week. No visual or audio recordings will be made.<sup>5</sup>

The participation in this project is entirely **voluntary**, and you [participants] can choose to end your [their] participation at any point, even while performing a test. You [students] do not need to indicate a reason for that. The data collected for this study (meaning the questionnaires and

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<sup>1</sup> The wording in the letters of consent distributed to participants in the different schools deviated slightly from one another. This was due to institutional differences such as the time available, and the researcher's increasing experience with how much time is required for test administration and how best to clarify the procedures to students and parents. The deviations from the "prototypes" presented here are indicated in the footnotes of the English version. Furthermore, the letters presented in this section are addressed to students. Parents received a separate letter that was formulated slightly differently. These deviations are presented in square brackets.

<sup>2</sup> In the version of the letters sent to and approved by the ethics board of the University of Vienna, 50 min. were indicated for the questionnaire. In the information letters distributed to students, the length was indicated as 20-40 min., depending on how much time was available.

<sup>3</sup> In the version of the letters sent to and approved by the ethics board of the University of Vienna, the two oral tests were listed separately. Only after pilot-testing it was clear that both the EIT and the ONT would have to be done in two-on-one sessions with the researcher, which took 30-40 minutes per pair.

<sup>4</sup> The description of these tests refer to the UGJT, MKT, TGJT, and C-test. The TGJT and the C-test were not sent to and approved by the ethics board for time reasons, but they are perceived as highly comparable to the UGJT.

<sup>5</sup> The classroom observations were carried out only in schools A and B and in turn excluded from the study due to time restrictions during data collection.

tests that you fill in and the recorded audios)<sup>6</sup> will be **anonymized**<sup>7</sup> through a unique ID-code that you [participants] will be allocated. Without a "key" no one knows that the data comes from you [In this way, no one without a "key" can infer who the data comes from]. The data will only be used for my research, they will be stored safely, and will not be shared with others [third parties]. The raw data that will be collected (meaning the questionnaires and tests that you fill in and the recorded audios) will be destroyed once the project will have been completed. The results of the project will be presented in my dissertation and further publications.<sup>8</sup>

This research project of course is not in any way going to influence your [child's] grades, irrespective of whether you choose to take part or not. If you choose to take part, it is important that you take the study seriously (and for instance do not chat with classmates while being tested). Otherwise data might be distorted and you can be excluded from the study. [Since it is important that data is reliable it can happen that students who do not take the study seriously are excluded].

Your participation is [Your child was informed about their participation being] an important contribution to research and can help develop new methods for teaching English. Such a method could foster the use of spare time English and integrate the latter in the classroom. If you want [your child wants] to gain insight in your [their] data at a later point, this is possible in the next two months until **[date]**. If you [they] want to withdraw from the project, this is possible until **[date]**. If you want [If you or your child want] to be informed about the results, this can be done by contacting me via mail or phone.

I invite you [together with your child] to fill in and sign the following answer form and pass it on to your [the respective] teacher. You are welcome to contact me in case you have questions. Thank you for your time!

Best wishes,

**Alexandra Schurz**

Universität Wien, Anglistik und Amerikanistik

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Email: alexandra.schurz@univie.ac.at

I [My daughter/son], \_\_\_\_\_, student in class \_\_\_\_\_ ,

- would like to [may with my permission] take part in the research project "Blurry borders between English learning environments and the impact on the development of linguistic knowledge".

*I have been informed about the study's aim and how it will be carried out. I have read the information and am aware of my rights. I accept that my data will be collected, processed, and used for the research purposes described in the information letter. The results will be*

<sup>6</sup> In the letter of consent addressed to students that was approved by the ethics board of the University of Vienna, it only said in brackets "meaning the questionnaire filled in by you and the recorded audios" and the filled in tests were not mentioned explicitly. This was changed in later versions of the letters distributed to students.

<sup>7</sup> For school H, the text said "pseudonymized", as requested by the education directorate of the given region.

<sup>8</sup> This last sentence did not feature in the letter distributed in school E and G. A PhD research project naturally results in publications, and an explicit indication of this was not requested by the ethics board.

*presented in my dissertation and further publications.<sup>9</sup> [I accept that my child's data will be collected, processed, and used for the research purposes described in the information letter (the results will be presented in my dissertation and further publications).]*

*I [my son/daughter] was made aware of data collection and processing happens voluntarily and that I [they] can withdraw from the project and demand the deletion of my [their] data at any time until [date] without indicating reasons.*

- do not participate in the research project "Blurry borders between English learning environments and the impact on the development of linguistic knowledge".

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Date and participant signature  
[Date and parent or caretaker signature]

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<sup>9</sup> This last sentence, that the results will be presented in the researcher's PhD thesis and other publications, did not feature in the letter distributed in schools E and G. A PhD research project naturally results in publications, and an explicit indication of this was not requested by the ethics board.

### 11.1.2 Students and Caretakers (Austria)

Forschungsprojekt “Blurry borders between English leaning environments and the impact on the development of linguistic knowledge”



Lieber Schüler, liebe Schülerin!  
[Sehr geehrte Erziehungsberechtigte!]

Im Rahmen meines Doktorates an der Anglistik und Amerikanistik der Universität Wien führe ich eine Studie mit dem oben genannten Titel durch. Zweck der Studie ist es, die Sprachkompetenz von SchülerInnen im Englischen zu untersuchen, um herauszufinden, inwiefern (1) die Verwendung von Englisch in der Freizeit, und (2) die Art des Unterrichts dieses Wissen beeinflussen. Dieses Projekt wurde von der Direktion deiner Schule [der Schule Ihrer Tochter/Ihres Sohnes] genehmigt.

Ich lade dich hiermit ein, an der oben genannten Studie, welche vom **[dates]** während des Unterrichts stattfindet, teilzunehmen. [Die Datenerhebung der Studie findet vom **[dates]** während der Unterrichtszeit statt.] Der Ablauf ist wie folgt:

1. Alle teilnehmenden SchülerInnen werden anhand eines **Fragebogens** befragt, wie oft und seit wann sie in ihrer Freizeit Englisch verwenden (z.B.: durch englischsprachige Filme, Computerspiele, etc.), und wie der Englischunterricht aussieht. *Dauer: ca. 20 min.*
2. Die SchülerInnen kommen der Reihe nach zu zweit aus dem Unterricht, um sich **Videos und einzelne Sätze auf Englisch anzuhören/-sehen**. Diese müssen anschließend **nachgesprochen/-erzählt** werden. Der gesprochene Text wird aufgenommen. *Dauer: ca. 40 min.*
3. In **(schriftlichen) Sprachtests** müssen SchülerInnen Sätze vervollständigen, als richtig oder falsch einstufen, und Fehler erklären. *Dauer: ca. 90 min.*
4. Im Laufe der Woche wird der Englischunterricht von mir **beobachtet**. Es werden keine Ton- oder Bildaufnahmen gemacht.

Die Teilnahme an diesem Projekt ist **freiwillig** und auch während der Testungen kannst du [können Teilnehmende] die Teilnahme jederzeit und ohne Angabe von Gründen beenden. Die Daten, die in dieser Untersuchung erhoben werden (also die von dir ausgefüllten Bögen und die Tonaufnahmen) [Die Daten, die in dieser Untersuchung erhoben werden], werden **anonymisiert** indem dir [den Teilnehmenden] ein ID-Code zugewiesen wird. So weiß niemand ohne „Schlüssel“, dass die Daten von dir stammen. [, sodass niemand ohne „Schlüssel“ Rückschlüsse auf ihre Identität ziehen kann]. Die Daten werden ausschließlich für meine Forschung [für Forschungszwecke] verwendet, sicher aufbewahrt, und niemandem weitergegeben. Die Rohdaten (also die Fragebögen und Tonaufnahmen) [Die Rohdaten] werden nach Abschluss des Projektes vernichtet. Die Resultate werden in meiner Doktorarbeit und weiteren Publikationen veröffentlicht.

Selbstverständlich hat die Teilnahme oder Nichtteilnahme am Forschungsprojekt keinerlei Einfluss auf deine Schulnoten [die Schulnoten Ihres Kindes]. Wenn du als TeilnehmerIn die Befragung nicht ernst nimmst (und du z.B. währenddessen mit Klassenkameraden sprichst), so kann es sein, dass du aus der Studie ausgeschlossen wirst, da Daten ansonsten verfälscht sein könnten. [Da die Ergebnisse der Studie durch mangelnde Ernsthaftigkeit auf Seiten der Teilnehmenden während der Befragung verfälscht werden können, erlaube ich mir in einem solchen Fall, die Person aus der Untersuchung auszuschließen.]

Durch deine Mitarbeit am Projekt leitest du einen **wichtigen Beitrag zur Forschung**, und kannst dazu beitragen [Ihr Sohn/Ihre Tochter wurde von mir darüber informiert, dass er/sie

durch seine/ihrе Mitarbeit einen wichtigen Beitrag zur Forschung leistet und dazu beitragen kann], dass neue Methoden für den Englischunterricht entwickelt werden, welche den Sprachgebrauch in der Freizeit fördern und in den Unterricht integrieren. Falls du [er/sie] zu einem späteren Zeitpunkt Einsicht in die Daten nehmen möchtest [möchte], ist das bis [**date**] jederzeit möglich. Falls du aus dem Projekt aussteigen möchtest [Will er/sie aus dem Projekt aussteigen], ist dies bis in zwei Monaten [**date**] möglich. Wenn du dich für die Ergebnisse meiner Studie interessierst [Wenn Sie oder Ihr Kind sich für die Ergebnisse meiner Studie interessieren], kannst du [können Sie] auch Einsicht in diese erhalten. Schreib für all diese Anliegen [In diesem Fall schreiben Sie oder Ihr Kind] bitte eine E-Mail oder nimm [nehmen Sie] telefonisch mit mir Kontakt auf.

Ich bitte dich [Sie], den beiliegenden Abschnitt [in Absprache mit Ihrem Kind] auszufüllen und zu unterschreiben, und der Englischlehrerin zukommen zu lassen. Falls du Fragen hast, [Bei Fragen] stehe ich gerne jederzeit per E-Mail zur Verfügung. Ich bedanke mich für deine [Ihre] Unterstützung und verbleibe mit freundlichen Grüßen,

**Mag. Alexandra Schurz**

*University of Vienna, Department of English and American Studies  
Email: alexandra.schurz@univie.ac.at | Telefon: +43-1-4277-42472*

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Ich [Mein Sohn/meine Tochter], \_\_\_\_\_, Schüler/in der \_\_\_\_\_ Klasse,

möchte am Forschungsprojekt „Blurry borders between English learning environments and the impact on the development of linguistic knowledge“ teilnehmen [nimmt mit meiner Erlaubnis ... teil].

*Mir wurden der Ablauf und die Ziele der Studie erklärt und ich bin mir über meine Rechte als TeilnehmerIn im Klaren. Ich habe das Informationsblatt gelesen und erkläre mich damit einverstanden, dass meine Daten zu den im Informationsblatt genannten Forschungszwecken erhoben, verarbeitet und genutzt werden dürfen. [Ich erkläre mich damit einverstanden, dass die Daten meines Kindes zu den im Informationsblatt genannten Forschungszwecken erhoben, verarbeitet und genutzt werden dürfen.]*

*Ich wurde [Mein Kind und ich wurden] darauf hingewiesen, dass die Erhebung und Verarbeitung dieser Daten auf freiwilliger Basis erfolgt und dass ich bis [**dates**] jederzeit und ohne Angabe von Gründen ausscheiden kann und die Löschung der Daten verlangen kann [erfolgt und dass diese Einwilligung bis [**dates**] jederzeit und ohne Angabe von Gründen zurückgezogen und die Löschung der Daten verlangt werden kann].*

nehme [nimmt] nicht am Forschungsprojekt „Blurry borders between English learning environments and the impact on the development of linguistic knowledge“ teil.

---

Datum und Unterschrift des/der Teilnehmenden  
[Datum und Unterschrift des/der Erziehungsberechtigten]

### 11.1.3 Students and Caretakers (Sweden)

Forskningsprojekt "Blurry borders between English leaning environments and the impact on the development of linguistic knowledge"



universität  
wien

Hej!

I samband med mina doktorandstudier vid Wiens universitet genomför jag en undersökning med den ovannämnda titeln. Jag vill ta reda på hur elevers språkkompetens i engelska hänger ihop med (1) användningen av engelska på fritiden, och (2) undervisningsmetodiken.

Härmed bjuter jag in dig [ditt barn] att delta i den här studien. Den [Det här projektet har beviljats av skolledningen på ditt barns skola och datainsamlingen av studien] kommer äga rum på lektionstid mellan den [dates]. Det kommer gå till så här:

1. Alla deltagande elever kommer fylla i **en enkät** där de svarar på frågor om hur ofta och sedan när de använder engelska på sin fritid (t ex genom att titta på filmer eller spela tv-spel, m.m), samt om hur deras engelsklectioner ser ut i skolan. *Längd: ca. 20 min.*
2. Eleverna kommer ut ur klassrummet två och två. De **tittar på videoklipp vars handling ska återberättas och lyssnar på meningar som de sedan måste upprepa**. Elevernas svar spelas in på en ljudfil. *Längd: ca. 40 min.*
3. I de (**skriftliga**) **språktesten** måste eleverna komplettera meningar, avgöra om en mening är rätt eller fel samt förklara fel. *Längd: ca. 90 min.*
4. Under en veckas tid kommer jag **observera engelskundervisningen**. Ingen bild- eller ljuddokumentation kommer att genomföras.

Deltagandet i det här projektet är helt **frivilligt**, och du [alla som deltar] kan när som helst, även under testen, välja att avbryta. Du [Man] behöver inte uppge någon anledning för det. Daten som samlas in för den här undersökningen (alltså enkäterna och testen du fyller i samt ljudinspelningarna) **anonymiseras** genom att du [alla] tilldelas en unik ID-kod. Utan "nyckel" vet då ingen att datan kommer från just dig [På det här viset kan ingen utan "nyckel" dra slutsatser om från vilken deltagare datan kommer]. Daten kommer endast användas för min forskning, de kommer förvaras säkert, och inte delas med andra [tredje part]. Rådata som samlas in (alltså enkäterna, testen och ljudinspelningarna) kommer förstöras respektive raderas när projektet är fullbordat. Resultatet av projektet kommer redovisas i min doktorsavhandling och ytterligare publikationer.

Givetvis kommer det här forskningsprojektet inte ha något som helst inflytande på ditt [barns] betyg, vare sig du [ditt barn] väljer att delta eller inte. Om du väljer att delta så är det viktigt att du tar undersökningen på allvar (och inte t ex pratar med dina klasskamrater samtidigt). Annars blir statistiken inte tillförlitlig och du kan bli uteslutnen från undersökningen [Eftersom det är viktigt att statistiken blir tillförlitlig så kan det hända att elever – som inte tar undersökningen på allvar – blir uteslutna].

Din medverkan [Era barn har blivit informerade om att deras medverkan] är **ett viktigt bidrag till forskningen** och du kan hjälpa [De kan bidra] till att utveckla nya metoder för engelskundervisningen. En sådan metod skulle kunna främja användandet av engelska på fritiden samt bygga vidare på det i klassrummet. Om du [ditt barn] vid senare tillfälle vill ha insyn i din data så är detta möjligt när som helst fram till om två månader [**date**]. Ifall du [de] skulle vilja dra dig ur projektet så är detta också möjligt fram till [**date**]. Om du [Om du eller ditt barn] vill bli informerad av resultatet så kan du ta kontakt med mig via mail eller telefon.

Jag ber dig [att tillsammans med ditt barn] fylla i och skriva under följande svarsblankett och ge den till din [respektive] lärare. Om du har några frågor eller funderingar är du välkommen att kontakta mig. Tack för din medverkan!

Hälsningar

**Alexandra Schurz**

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---

Jag [Min dotter/son], \_\_\_\_\_, elev i klass \_\_\_\_\_,

- vill gärna [får med min tillstånd] delta i forskningsprojektet "Blurry borders between English learning environments and the impact on the development of linguististic knowledge".

*Jag har blivit informerad om studiens syfte och om hur den kommer genomföras. Jag har tagit del av informationen och är medveten om mina rättigheter. Jag accepterar att min data samlas in, bearbetas och används för de forskningssyften som beskrivits i informationsblanketten. Resultaten kommer redovisas i min doktorsavhandling och ytterligare publikationer. [Jag accepterar att mitt barns data samlas in, bearbetas och används för de forskningssyften som beskrivits i informationsblanketten (resultaten kommer redovisas i min doktorsavhandling och ytterligare publikationer)]*

*Jag [Mitt barn] har blivit uppmärksammat om att insamlingen och bearbetningen av min data sker på frivillig basis och att jag [de] fram till [**date**] när som helst och utan att behöva uppge någon anledning kan dra mig ur projektet och kräva att min [deras] data raderas.*

- deltar inte i forskningsprojektet "Blurry borders between English learning environments and the impact on the development of linguististic knowledge".
- 

Datum och deltagarens underskrift  
[Datum och föräldras/vårdnadshavares underskrift]

### 11.1.4 Teachers (English translation)

Forskningsprojekt “Blurry borders between English leaning environments and the impact on the development of linguistic knowledge” (Teacher information)



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wien

Dear teacher!

I am a doctoral researcher at the University of Vienna and carry out a study with the above-mentioned title. The purpose of this study is to (1) investigate if students' language competence in English is based on **intuition or grammar rules**, and (2) to what extent language competence is linked to the use of **English in one's spare time and methods applied in teaching**. This project has been approved of your school's principal. The results of the study will be presented in my dissertation and further publications<sup>1</sup>.

Data collection for the study will take place during class time (except from the teacher interview and questionnaire) from the **[dates]**. For more information on the proceeding and students' rights, I refer to the information letters distributed to students and their parents or caretakers.

To explore how English classes are designed (does the focus lie on grammar or vocabulary, communication, etc.) and how students use English in their spare time, the participating students' English teachers will be invited to fill in a questionnaire (ca. 10 min<sup>2</sup>) and be interviewed (ca. 20 min<sup>3</sup>). This is voluntary and would take place outside class time. The interview can take place in English or **[Swedish/German]** and will be recorded as an audio file. Moreover, English classes will be observed throughout the week. No audio or visual recordings will be made<sup>4</sup>.

Participation in this study is **voluntary**, and participants can choose to end participation at any time, even during testing, without the indication of reasons. Participants and schools will at no time be mentioned by their name, also not in the presentation of data in publications. The recorded interviews and all raw data will be deleted once the project will have been completed.

Your participation is an **important contribution to research** and you can help develop new methods for English instruction. Such a method could foster the use of spare time English and integrate the latter in the classroom. If you, at a later point, want to gain insight into your data, this is possible at any time until **[date]**. If you want to withdraw from the project, this is possible in the next two months until **[date]**. In case you would like to be informed about the results you can contact me via mail or phone.

I invite you to please fill in and sign the consent form and pass it on to me. If you have other questions, you are welcome to contact me. Thank you for your support!

Best wishes,

**Alexandra Schurz**

Universität Wien, Anglistik und Amerikanistik

<sup>1</sup> This last sentence did not feature in the letter distributed in school E and G. A PhD research project naturally results in publications, and an explicit indication of this was not requested by the ethics board.

<sup>2</sup> The duration of the interview was indicated as 20 min. in some letters but in turn changed to 10-15 min., as this was the average time it took.

<sup>3</sup> The duration of the interview was indicated as 30 min. in some letters but in turn changed to 20 min., as this was the average time it took.

<sup>4</sup> The classroom observations were carried out only in schools A and B and in turn excluded from the study due to time restrictions during data collection.

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I, \_\_\_\_\_, English teacher in class \_\_\_\_\_,

- would like to be interviewed for the study project "Blurry borders between English learning environments and the impact on the development of linguistic knowledge".

*I accept that my data will be collected, processed and used for the study purposes described in the information letter. The results will be presented in my dissertation and further publications<sup>5</sup>. I have been made aware of the fact that data collection and processing happens based on my voluntary participation and that I can withdraw from the project and demand the deletion of my data at any point within two months until [date], without the indication of reasons.*

- do not want to be interviewed for the research project "Blurry borders between English learning environments and the impact on the development of linguistic knowledge".

---

Date and participant's signature

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<sup>5</sup> This sentence did not feature in the consent form filled out by teachers in Austria, but publications were mentioned in the information part of the letter of consent.

### 11.1.5 Teachers (Austria)

Forschungsprojekt "Blurry borders between English leaning environments and the impact on the development of linguistic knowledge" (Information für Lehrer\*innen)



universität  
wien

Sehr geehrte/r LehrerIn!

Im Rahmen meines Doktorates an der Anglistik und Amerikanistik der Universität Wien führe ich eine Studie zum oben genannten Titel durch. Zweck der Studie ist es, die Sprachkompetenz von SchülerInnen im Englischen zu untersuchen, um herauszufinden, ob diese auf **Intuition oder Regelwissen** basiert, und inwiefern sie durch **außerschulischen Sprachkontakt und der Art des Unterrichts** beeinflusst wird. Dieses Projekt wurde von Ihrer Direktion genehmigt.

Die Datenerhebung der Studie findet vom **[dates]** (sowie im Sommersemester 2020 für die zwei Stundenbeobachtungen) während der Unterrichtszeit statt. Für den Ablauf der SchülerInnen-Testung und die Rechte dieser Teilnehmenden, siehe Informationsblatt für SchülerInnen bzw. Erziehungsberechtigte.

Um mehr über die Gestaltung des Englischunterrichts (Liegt der Fokus auf Grammatik oder Vokabeln, Kommunikation? etc.) und den Sprachgebrauch der SchülerInnen in der Freizeit zu erfahren werden auch die Englisch-LehrerInnen der teilnehmenden SchülerInnen in einem Fragebogen befragt (ca. 10 min.) und interviewt (ca. 20 min.), wenn diese zustimmen. Dies findet außerhalb der Unterrichtszeit statt. Das Interview kann auf Englisch oder Deutsch stattfinden und der Ton wird aufgenommen. Außerdem wird der Englischunterricht der Klasse während einer Woche hospitiert. Es werden keine Ton- oder Bildaufnahmen gemacht.

Die Teilnahme an diesem Projekt ist **freiwillig**. Auch während der Testungen können Teilnehmende die Teilnahme jederzeit und ohne Angabe von Gründen beenden. Die Namen der TeilnehmerInnen und der Schulen werden an keiner Stelle genannt, auch nicht in etwaigen Veröffentlichungen der Daten dieser Studie. Die Tonaufnahme des Interviews wird transkribiert und die Rohdaten nach Abschluss des Projektes vernichtet.

Durch Ihre Mitarbeit leisten Sie einen **wichtigen Beitrag zur Forschung**, und können dazu beitragen, dass neue Methoden für den Englischunterricht entwickelt werden, welche den Sprachgebrauch in der Freizeit fördern und in den Unterricht integrieren. Falls Sie zu einem späteren Zeitpunkt Einsicht in Ihre die Daten nehmen oder doch aus dem Projekt aussteigen möchten, ist das bis **[date]** jederzeit möglich. Wenn Sie sich für die Ergebnisse meiner Studie interessieren, können Sie auch Einsicht in diese erhalten. In diesem Fall schreiben Sie bitte eine E-Mail oder nehmen telefonischen Kontakt auf.

Ich bitte Sie, den beiliegenden Abschnitt auszufüllen und zu unterschreiben, und mir zukommen zu lassen. Falls Sie Fragen haben, stehe ich gerne jederzeit per E-Mail zur Verfügung. Ich bedanke mich für Ihre Unterstützung und verbleibe mit freundlichen Grüßen,

**Mag. Alexandra Schurz**

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-----  
Ich, \_\_\_\_\_, Englisch-LehrerIn der Klasse \_\_\_\_\_,

nehme an dem Interview des Forschungsprojekts „Blurry borders between English learning environments and the impact on the development of linguistic knowledge“ teil.

*Ich erkläre mich damit einverstanden, dass die Daten zu den im Informationsblatt genannten Forschungszwecken erhoben, verarbeitet und genutzt werden dürfen. Ich wurde darauf hingewiesen, dass die Erhebung und Verarbeitung dieser Daten auf freiwilliger Basis erfolgt und dass diese Einwilligung zwei Monate lang (bis [date]) jederzeit und ohne Angabe von Gründen zurückgezogen und die Löschung der Daten verlangt werden kann.*

nehme nicht am Interview des Forschungsprojekts „Blurry borders between English learning environments and the impact on the development of linguistic knowledge“ teil.

-----  
Datum und Unterschrift des/der Teilnehmenden

### 11.1.6 Teachers (Sweden)

Forskningsprojekt "Blurry borders between English leaning environments and the impact on the development of linguistic knowledge" (*Information till läraren*)



universität  
wien

Hej!

I samband med mina doktorandstudier vid Wiens universitet genomför jag en undersökning med den ovannämnda titeln. Syftet med den här studien är (1) att undersöka om elevers språkkompetens i engelska baserar på **intuition eller följanget av grammatikregler**, och (2) till vilken utsträckning språkkompetensen påverkas av **språkkontakten utanför skolan och engelskundervisningen**. Det här projektet har beviljats av skoledningen på din skola. Resultatet kommer redovisas i min doktorsavhandling och ytterligare publikationer.

Datainsamlingen för studien kommer äga rum på lektionstid (förutom lärarintervju och enkät) mellan den **[dates]**. För mer information om studiens genomförande och elevernas rättigheter hänvisar jag till informationsblanketten som eleverna och deras föräldrar respektive vårdnadshavare tagit del av.

För att få reda på mer om hur engelskundervisningen gestaltas (ligger fokus på grammatik eller ordföråd, kommunikation, o.s.v.) och hur eleverna använder engelska på sin fritid blir även de deltagande elevernas engelsklärare tillfrågade att fylla i en enkät (ca. 10 min) samt att låta sig intervjuas (ca. 20 min). Detta är frivilligt och skulle i så fall äga rum utanför ordinarie lektionstid. Intervjun kan genomföras på svenska eller engelska och kommer spelas in på ljudfil. Dessutom kommer engelskundervisningen observeras under en veckas tid. Här förs ingen ljud- eller bilddokumentation.

Deltagandet i det här projektet är helt **frivilligt**, och alla som deltar kan när som helst, även under testen, välja att avbryta, utan att behöva uppge någon anledning för det. Varken eleverna eller skolorna kommer vid något tillfälle nämnas vid namn. Även när datan redovisas i diverse publikationer. De inspelade intervjuerna kommer transkriberas och all rådata kommer raderas när projektet är fullbordat.

Den medverkan är **ett viktigt bidrag till forskningen** och du kan hjälpa till att utveckla nya metoder för engelskundervisningen. En sådan metod skulle kunna främja användandet av engelska på fritiden samt bygga vidare på det i klassrummet. Om du vid senare tillfälle vill ha insyn i din data så är detta möjligt när som helst fram till **[date]**. Ifall du skulle vilja dra dig ur projektet så är detta också möjligt fram till om två månader **[date]**. Om du vill bli informerad av resultatet så kan du ta kontakt med mig via mail eller telefon.

Jag ber dig fylla i och skriva under svarsblanketten och sedan ge den vidare till mig. Om du har några frågor eller funderingar är du välkommen att kontakta mig. Tack för din medverkan!

Hälsningar

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Jag, \_\_\_\_\_, engelsklärare i klass \_\_\_\_\_,

- vill gärna intervjuas för forskningsprojektet "Blurry borders between English learning environments and the impact on the development of linguistic knowledge".

*Jag accepterar att min data samlas in, bearbetas och används för de forskningssyften som beskrivits i informationsblanketten. Resultaten kommer redovisas i min doktorsavhandling och ytterligare publikationer. Jag har blivit uppmärksammad om att insamlingen och bearbetningen av min data sker på frivillig basis och att jag fram till om två månader (tills [date]) när som helst och utan att behöva upprega någon anledning kan dra mig ur projektet och kräva att min data raderas.*

- vill inte intervjuas för forskningsprojektet "Blurry borders between English learning environments and the impact on the development of linguistic knowledge".

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Datum och deltagarens underskrift

## 11.2 An Overview of the Target Features' Word-for-Word Realizations

Table 11.1 An overview of the target features' word-for-word realizations in the six grammar tests

	ONT	EIT	WTGJT	ATGJT	UGJT	MKT (Parts A-C)
Third person -s	asks, continues, finishes, goes, hears, realizes, remembers, runs, says, sees, smiles, starts, turns, wonders	*A good football player <i>practice</i> every day. *Every child <i>need</i> a long summer holiday. *This teenager <i>hate</i> to have a lot of homework. Everyone <i>loves</i> burgers more than soup. Our English teacher <i>wants</i> to be our friend. Going abroad on a vacation <i>helps</i> you relax.	*A man often <i>eat</i> more for lunch than a woman. *My aunt <i>love</i> to clean the car. *Supermarkets <i>offers</i> different kinds of drinks. Barack Obama <i>spends</i> the weekends with his kids. I am sure he <i>likes</i> animals. Joseph <i>believes</i> he needs to buy new purple sneakers.	*My cousin <i>have</i> a girl-friend. *New clothes <i>makes</i> you a happier person. *Santa Claus <i>like</i> to celebrate Christmas with his wife. A tiger usually <i>eats</i> meat. Katy Perry <i>loves</i> to sing in the shower. The boy <i>takes</i> care of his sister on the way home from school.	*Big houses <i>needs</i> more than one bathroom. *My dad <i>speak</i> three languages almost [*AV] perfect. Very often a woman <i>spends</i> more time at home than a man. Greta Thunberg <i>believes</i> in a better future. Jane <i>feels</i> really bad about not going to school.	(A) So she <i>runs</i> around more and <i>sleeps</i> less. (B) [...] he really <i>enjoys</i> cooking [...] (C) *Sarah and I <i>likes</i> to play football. *My best friend usually <i>play</i> a lot of sports. *This girl never <i>go</i> to bed before midnight.
Regular past tense	arrived, asked, believed, enjoyed, figured out, hated, learned, lived, received, started, stayed, travelled, walked, wanted	*A long time ago people <i>walk</i> everywhere. *People <i>start</i> using computers 50 years ago. *Yesterday one of my friends <i>download</i> a movie. Last summer it <i>rained</i> a lot in Europe. Many people <i>died</i> in the first WW. This morning my mum <i>prepared</i> my sandwich.	*As a baby I often <i>watch</i> movies. *In 1780 King Louis <i>travel</i> to Italy. *The clown <i>enter</i> the stage and people laughed. Benjamin <i>loved</i> to swim in the lake as a young boy. Jack <i>climbed</i> a mountain last June. When I was your age I <i>wanted</i> to learn Chinese.	*America's president <i>close</i> the road in 2008. *The girl <i>finish</i> her meal and continued to work. *Tom <i>walk</i> all the way to Rome last year. Last winter holiday my brother <i>tried</i> out skiing. We <i>arrived</i> seven years ago. When he was ten he <i>started</i> to study physics.	*Columbus <i>sail</i> to America in 1492. *He <i>play</i> the piano when he was a child. *The monkey <i>enter</i> the stage and started his performance. Paddington Bear <i>arrived</i> in England as a small bear. Last week we <i>decided</i> to visit Paris.	(A) However, this time she <i>behaved</i> as if we were there. (B) [...] we repeatedly <i>asked</i> her [...] <i>loved</i> exploring [...] (C) *In 1864, President Lincoln <i>move</i> into the White House. *Last Friday I went to the beach and <i>jump</i> into the lake. *Yesterday I really <i>miss</i> walking my dog.

	ONT	EIT	WTGJT	ATGJT	UGJT	MKT (Parts A-C)
Adverbs (vs. adjectives)	<p>ADJ (excluded from analysis): look <i>happy</i>, felt so <i>bad</i>, was terribly <i>sad</i>, are <i>empty</i>, is feeling <i>terrible</i></p> <p>AV: <i>extremely</i> scared, <i>incredibly</i> beautiful, <i>terribly</i> sad, <i>totally</i> interested, <i>absolutely</i> hated, smiles <i>happily</i>, <i>quickly</i> runs, runs to the shop <i>fast</i>, <i>slowly</i> turns, <i>really</i> enjoyed</p>	<p>*A headache can make you feel <i>badly</i>. (ADJ)</p> <p>*A president shouldn't speak <i>nervous</i>.</p> <p>*It's a nice feeling when a test goes <i>good</i>.</p> <p>I don't like <i>badly</i> made video games.</p> <p>Students should speak <i>respectfully</i> to teachers.</p> <p>The teacher has no talent, she draws <i>terribly</i>.</p>	<p>*The homework is <i>unbelievable</i> simple today.</p> <p>*The wall is <i>beautiful</i> painted.</p> <p>*Wow, this garden seems <i>wonderful</i> peaceful.</p> <p>Dresses look <i>cute</i> on baby girls. (ADJ)</p> <p>These women are dressed so <i>elegantly</i>!</p> <p>To be <i>completely honest</i>, you should say sorry to her. (AV + ADJ)</p>	<p>*I can't believe he <i>serious</i> said that to his boss.</p> <p>*The cleaner <i>regular</i> cleans the building.</p> <p>*Those students speak English <i>fluent</i>.</p> <p>It is <i>truly painful</i> to end a relationship. (ADJ + AV)</p> <p>The singer <i>happily</i> responds to the mail.</p> <p>This song sounds so <i>sad</i>, don't you think? (ADJ)</p>	<p>*Mum can <i>easy</i> open the bottle without your help.</p> <p>*The job was done <i>professional</i>.</p> <p>He was <i>loudly</i> playing music on his new headphones.</p> <p>Jane feels really <i>bad</i> about not going to school.</p> <p>My dad [*TS] speak three languages almost <i>perfectly</i>.</p> <p>Roses smell <i>sweet</i>. (ADJ)</p> <p>You were <i>perfectly right</i> about her – she is a mean person. (ADJ+AV)</p>	<p>(A) I bet she waited <i>anxiously</i> for us all day long.</p> <p>(B) [...] <i>repeatedly</i> asked [...] <i>slowly</i> learning [...]</p> <p>(C)</p> <p>This guitar sounds <i>perfectly</i>. (ADJ)</p> <p>*The boy is dressed <i>beautiful</i>.</p> <p>*Could you please <i>quick</i> pass me the salt?</p>
Present simple (vs. continuous)		<p>*Most children <i>are liking</i> to eat fish.</p> <p>*We <i>are really needing</i> to save the bees.</p> <p>*Where <i>is Greta coming</i> from? She was born in Sweden.</p> <p>A good football player <i>practice</i> every day.</p> <p>Every child [*TS] <i>need</i> a long summer holiday.</p> <p>Everyone <i>loves</i> hotdogs more than soup.</p> <p>Our English teacher <i>wants</i> to be our friend.</p>	<p>*Adults <i>are</i> usually knowing that Santa Claus is not real.</p> <p>*Cats <i>are needing</i> to drink water.</p> <p>*Teenagers <i>are wanting</i> the new iPhone.</p> <p>How many languages <i>do you speak</i>?</p> <p>Ikea <i>sells</i> nice things for the kitchen.</p> <p>The secretary sometimes <i>writes</i> with a thick black pen.</p>	<p>*Elephants <i>are belonging</i> to the desert, not to zoos.</p> <p>*Grandmas <i>are liking</i> to drink tea with milk.</p> <p>*Not all children <i>are loving</i> books.</p> <p>* Your hair is smelling salty, have you been to the beach?</p> <p>A kind teacher rarely <i>gives</i> students too much homework.</p> <p>Food markets <i>have</i> a lot of things to offer.</p> <p>Libraries <i>store</i> many books.</p>	<p>*Dogs <i>are needing</i> a soft place to sleep.</p> <p>*Many people <i>are believing</i> in God.</p> <p>*A loaf of bread <i>is costing</i> £1.50.</p> <p>Many poems <i>talk</i> about love and other feelings.</p> <p>This mountain lake <i>has</i> crystal clear water.</p>	<p>(A) Usually, when we are not home, she plays a lot with the toys that <i>are lying</i> around.</p> <p>I <i>imagine</i> her as she is running around fast like she did when she was younger!</p> <p>(B) [...] <i>name is</i> [...] <i>enjoys cooking</i> [...] <i>is preparing</i> [...] <i>are talking</i> [...]</p> <p>(C) *Parents <i>are wanting</i> the best for their children.</p>

	ONT	EIT	WTGJT	ATGJT	UGJT	MKT (Parts A-C)
Present continuous (vs. simple)	<p>*Do you still listen to music? You should go to bed!</p> <p>*I wonder where Tom is. Oh, he sits by the lake!</p> <p>Our climate is slowly getting warmer.</p> <p>Right now, my classmates are waiting for the next break.</p>	<p>*Do you still wait for your boyfriend to call you tonight?</p> <p>*Oh no, look, my bus drives by!</p> <p>*Stop making that noise, can't you see I work?</p> <p>It's Christmas soon and people are preparing presents.</p> <p>This guy is speaking in a strange voice today.</p> <p>This homework is making me mad!</p>	<p>*Can you hear that? The birds in this tree sing.</p> <p>*Food is ready, we already wait for you downstairs!</p> <p>*Pick up the baby, it cries.</p> <p>Can you see that? This flower is opening up right now.</p> <p>It's fall and the weather is getting colder.</p> <p>Why are you laughing at me?</p>	<p>*It's already midnight and you still read?</p> <p>*Listen, it rains outside!</p> <p>It's summer and temperatures are getting higher.</p> <p>The man over there is behaving in a strange way.</p> <p>Why are kids always asking for sweets?</p>		<p>*Right now, with climate change, temperatures get higher.</p> <p>*Now that it's lunchtime, people buy sandwiches.</p>
Negated did	<p>They did not have a lot of things in common.</p> <p>They did not look happy. He did not call her again.</p> <p>Alice did not miss being with someone else.</p> <p>Why didn't I realize that myself?</p>	<p>*Jane did not eat any vegetables this weekend.</p> <p>*Most people didn't believe Trump would win.</p> <p>*The last Queen of England lived not very long.</p> <p>I did not enjoy sports as a child.</p> <p>Many people in England did not watch the last World Cup.</p> <p>Our grandparents did not use the internet at school.</p>	<p>*Disney didn't expect to become famous.</p> <p>*Hans Christian Andersen wrote not all the stories himself.</p> <p>*Yesterday I do not have breakfast.</p> <p>I did not like the cake at McDonald's.</p> <p>The band "the Beatles" did not live in Sweden.</p> <p>Women did not go to college until the 20th century.</p>	<p>*Last time the postman bring not the mail.</p> <p>*Music in the 60s didn't sound boring.</p> <p>*My grandparents said not goodbye to me after their visit.</p> <p>In the 19th century people didn't have heated housing.</p> <p>Michael Jackson did not have children.</p> <p>The tourists didn't like the place they visited.</p>	<p>*Apple spoke not about the problem with the new iPhone.</p> <p>*Most people didn't believe the war was over.</p> <p>In 1546 people didn't have electricity.</p> <p>Santa Claus did not drink Coca Cola for real.</p> <p>The Vikings did not live in South America.</p>	<p>(A) She did not destroy stuff in the living room – or did she, mum?</p> <p>(B) [...] did not understand [...] did not even want [...]</p> <p>(C) *Most teenagers read not the last Harry Potter.</p> <p>*I'm sorry, I didn't wanted to lie to you.</p> <p>*The students learned not for the test.</p>

	<b>ONT</b>	<b>EIT</b>	<b>WTGJT</b>	<b>ATGJT</b>	<b>UGJT</b>	<b>MKT (Parts A-C)</b>
<b>Interrogative <i>did</i></b>	<p><i>Did</i> they really <i>love</i> each other?</p> <p><i>Did</i> she really <i>need</i> to be married to be happy?</p> <p>Why <i>didn't</i> I realize that myself?</p>	<p>*<i>Did</i> you <i>heard</i> the news about Brexit yesterday?</p> <p>*<i>Did</i> you <i>swam</i> a lot in the sea this summer?</p> <p>*<i>Watched</i> you the football World Cup last year?</p> <p><i>Did</i> you <i>celebrate</i> last Christmas with your friends?</p> <p><i>Did</i> you <i>think</i> Trump would become president?</p> <p><i>Did</i> you <i>travel</i> anywhere as a baby?</p>	<p>*<i>Did</i> your grandma <i>went</i> to school?</p> <p>*<i>Do</i> you <i>walk</i> over to the beautiful beach yesterday?</p> <p>*<i>Enjoyed</i> you your very first day of school?</p> <p><i>Did</i> this garden <i>belong</i> to the castle of king Louis?</p> <p><i>Did</i> you <i>like</i> the zoo as a kid?</p> <p><i>Did</i> your parents <i>enjoy</i> school as students?</p>	<p>*<i>Did</i> you <i>had</i> fun last summer?</p> <p>*<i>Do</i> the Beatles <i>play</i> their first concert in 1960?</p> <p>*<i>Travelled</i> you to Italy as a child?</p> <p><i>Did</i> this fridge <i>work</i> well in the beginning?</p> <p><i>Did</i> those flowers the shop is selling really <i>grow</i> on a field?</p> <p><i>Did</i> you <i>enjoy</i> your last summer break?</p>	<p>*<i>Did</i> this prince <i>bought</i> a new horse?</p> <p>*<i>Went</i> your brother to the lake yesterday?</p> <p>*<i>What</i> <i>got</i> you for your birthday?</p> <p><i>Did</i> Peter Pan <i>live</i> a long time ago?</p> <p><i>Did</i> the president <i>go</i> to a private school?</p>	<p>(A) What <i>did</i> your cat <i>do</i> while she was at home alone?</p> <p>(B) <i>Did</i> we <i>forget</i> [...]</p> <p>(C)*<i>Did</i> you <i>went</i> to school yesterday?</p> <p>*<i>Missed</i> I your birthday last month?</p> <p>*<i>Did</i> you <i>studied</i> a lot as a student?</p>

## 11.3 The Oral Narrative Test (ONT)

### 11.3.1 *The Scripts of the ONT*

#### *Story 1*

The story of Alice and Luke. 10 years ago, Alice lived by herself in a small apartment in New York. One evening, she walked over to the bar next door. She started talking to Luke, who asked her out for drinks. Alice was totally interested in him. That is how their story began. But they did not have the same interests. For example, Luke absolutely hated going shopping with Alice. Did they really love each other? They did not look happy together. One day Alice and Luke travelled to Italy. They stayed at an incredibly beautiful hotel in Rome and really enjoyed their holidays. When they arrived back home, Alice felt so happy. She believed she wanted to marry Luke. But she received a phone call and figured out he was with someone else. Alice felt so bad, she was terribly sad. He did not call her again. But actually, Alice did not miss being with someone else. She could travel by herself! Through this experience, she learned a lesson. Did she really need to marry to be happy? (adapted from Oomongzu, 2016b)

#### *Story 2*

Mia and the mysterious stalker. It's Monday night and Mia is working late at the office. It is already midnight when she finally finishes her work. As she is leaving her office, she sadly realizes the streets are empty. While she is walking back home, she suddenly hears some footsteps behind her. She slowly turns around to look but no one is there. So she continues walking but she can still hear footsteps behind her. She starts to run, and the footsteps behind her get louder. Someone is chasing her! And while she is running (only a bit ambiguous), she sees a cemetery. She quickly runs into the cemetery. Mia is hiding and the footsteps stop. She is extremely scared and is feeling terrible now. Just then, Mia remembers there is a shop nearby. She runs to the shop fast. She goes inside and asks the man for help. But the man says to her [...] Why didn't I realize that myself? She wonders. Mia smiles happily, she is so relieved! (adapted from Oomongzu, 2016a)

### 11.3.2 *The Transcription Conventions*

*Table 11.2 The conventions applied to transcribe ONT performances*

<b>1. LENGTHENING</b>	
Pauses in speech within sentences are marked with a full stop in parentheses.	because they all give me different (.) different (.) points of view
<b>2. REPETITION</b>	
All repetitions of words and phrases (including self-interruptions and false starts) are transcribed.	e:r i'd like to go t- t- <b>to to</b> this type of course
<b>3. WORD FRAGMENTS</b>	
With word fragments, a hyphen marks where a part of the word is missing.	we have er (.) a joint doctorate or a <b>joi-</b> joint master
<b>4. UNCERTAIN TRANSCRIPTION</b>	
Word fragments, words or phrases which cannot be reliably identified are put in parentheses ( ).	I've a lot of very ( <b>generous</b> ) friends They will do whatever they want because they are a compan(ies)
<b>5. PRONUNCIATION VARIATIONS &amp; COINAGES</b>	
Striking variations on the levels of phonology, morphology and lexis as well as 'invented' words are marked <b>&lt;pvc&gt;</b> <b>&lt;/pvc&gt;</b> .	I also: (.) e:r played (.) tennis e:r <b>&lt;pvc&gt; bices &lt;/pvc&gt;</b> e:r we rent? went?
What you hear is represented in spelling according to general principles of English orthography. Uncertain transcription is put in parentheses ( ).	how you were controlling such a thing and how you <b>&lt;pvc&gt; (avprivate) &lt;/pvc&gt;</b> (it)
If a corresponding existing word can be identified, this existing word is added between curly brackets { }.	in a certain industry (.) and a certain <b>&lt;pvc&gt; compy {company} &lt;/pvc&gt;</b>
Particularly when it comes to salient variations on the level of phonology, e.g., sound substitution or addition, a phonetic representation should be added between <b>&lt;ipa&gt;</b> <b>&lt;/ipa&gt;</b> tags.	a total (.) <b>&lt;pvc&gt; summaray {summary} &lt;ipa&gt; səmə'mæri &lt;/ipa&gt; &lt;/pvc&gt;</b> of destinations
<b>6. NON-ENGLISH SPEECH</b>	
Utterances in a participant's first language (L1) are put between tags indicating the speaker's L1.	<b>&lt;L1de&gt; bei firmen &lt;/L1de&gt;</b> or wherever
<b>7. UNINTELLIGIBLE SPEECH</b>	
Unintelligible speech is represented by x's approximating syllable number and placed between <b>un&gt;</b> <b>&lt;/un&gt;</b> tags.	we <b>&lt;un&gt; xxx &lt;/un&gt;</b> for the

### 11.3.3 The Coding Guideline for Aspect

ambiguous

**obligatory simple**

obligatory continuous

#### *Story 1*

The story of Alice and Luke. 10 years ago, Alice **lived** by herself in a small apartment in New York. One evening, she **walked** over to the bar next door. She **started** talking to Luke, who **asked** her out for drinks. Alice was totally interested in him. That is how their story began. But they **did not have** the same interests. For example, Luke absolutely **hated** going shopping with Alice. **Did they really love** each other? They **did not look** happy together. One day Alice and Luke **travelled** to Italy. They stayed at an incredibly beautiful hotel in Rome and really enjoyed their holidays. When they arrived back home, Alice felt so happy. She **believed** she **wanted** to marry Luke. But she **received** a phone call and figured out he was with someone else. Alice felt so bad, she was terribly sad. He **did not call** her again. But actually, Alice **did not miss** being with someone else. She **could** travel by herself! Through this experience, she learned a lesson. **Did she really need** to marry to be happy? (adapted from Oomongzu, 2016b)

#### *Story 2*

Mia and the mysterious stalker. It's Monday night and Mia is working late at the office. It is already midnight when she finally **finishes** her work. As she is leaving her office, she sadly **realizes** the streets are empty. While she is walking back home, she suddenly **hears** some footsteps behind her. She slowly turns around to look but no one is there. So she **continues** walking but she **can still hear** footsteps behind her. She starts to run, and the footsteps behind her get louder. Someone is chasing her! And while she is running, she **sees** a cemetery. She quickly runs into the cemetery. Mia is hiding and the footsteps **stop**. She is extremely scared and is feeling terrible now. Just then, Mia **remembers** there is a shop nearby. She runs to the shop fast. She **goes** inside and **asks** the man for help. But the man **says** to her [...] Why didn't I realize that myself? She **wonders**. Mia **smiles** happily, she is so relieved! (adapted from Oomongzu, 2016a)

## 11.4 The Elicited Imitation Test (EIT)

### 11.4.1 The Items of the EIT

	Item <sup>77</sup>	Comprehension check
<b>PC1</b>	Right now, my classmates are waiting for the next break.	It's about my classmates' activity right now.
<b>AV4</b>	*It's a nice feeling when a test goes good.	It's about the bad feeling that one has when taking a difficult test.
<b>AV2</b>	Students should speak respectfully to teachers.	It's about how students should talk to one another.
<b>TS4</b>	*This teenager hate to have a lot of homework.	It's about a teenager who has to study for tests.
<b>PS2</b>	Our English teacher wants to be our friend.	It's about the relationship to our English teacher.
<b>AV1</b>	The teacher has no talent, she draws terribly.	It's about the artistic talent of students.
<b>PC4</b>	*Do you still listen to music? You should go to bed!	It's about a teenager who has to go to bed.
<b>ND5</b>	*The last Queen of England lived not very long.	It's about the last Queen's life time.
<b>QD3</b>	Did you think Trump would become president?	It's about the presidential election in the USA.
<b>RP1</b>	Many people died in the first WW.	It's about the second world war.
<b>AV5</b>	*A president shouldn't speak nervous.	It's about how presidents should speak.
<b>ND4</b>	*Most people didn't believed Trump would win.	It's about the presidential election in China.
<b>QD6</b>	*Did you heard the news about Brexit yesterday?	It's about English politics.
<b>RP5</b>	*Yesterday one of my friends download a movie.	It's about going to the cinema.
<b>AV3</b>	I don't like badly made video games.	It's about the quality of video games.
<b>ND1</b>	Our grandparents did not use the internet at school.	It's about my parents' internet use.
<b>RP4</b>	*People start_using computers 50 years ago.	It's about the history of the computer.
<b>Distr.</b>	I prefer Netflix over reading.	It's about spare time activities.
<b>QD5</b>	*Watched you the football World Cup last year?	It's about football training.
<b>ND2</b>	Many people in England did not watch the last World Cup.	It's about whether many people in England watched the World Cup.
<b>RP6</b>	*A long time ago people walk everywhere.	It's about means of transport in the past.
<b>PC2</b>	Our climate is slowly getting warmer.	It's about climate change.

<sup>c</sup>cccccccccccccc

<b>Item<sup>77</sup></b>	<b>Comprehension check</b>
<b>PS5</b> *Where is Greta coming from? She was born in Sweden.	It's about Greta Thunberg's nationality.
<b>RP2</b> Last summer it rained a lot in Europe.	It's about the sunny summer.
<b>PS4</b> *We are really needing to save the bees.	It's about saving businesses.
<b>QD4</b> *Did you swim a lot in the sea this summer?	It's about going swimming this last summer.
<b>PC3</b> *I wonder where Tom is. Oh, he sits by the lake!	It's about Tom's activity right now.
<b>TS5</b> *Every child need a long summer holiday.	It's about the summer holidays being too long.
<b>TS7</b> Going abroad for a vacation helps you relax.	It's about travelling abroad.
<b>QD2</b> Did you travel anywhere as a baby?	It's about travelling as a baby.
<b>ND3</b> I did not enjoy sports as a child.	It's about doing sports as a child.
<b>TS6</b> *A good football player practice every day.	It's about weekly football training.
<b>QD1</b> Did you celebrate last Christmas with your friends?	It's about with whom one celebrated last Christmas.
<b>AV6</b> *A headache can make you feel badly.	It's about the feeling when having a headache.
<b>PS1</b> Everyone loves burgers more than soup.	It's about Chicken McNuggets.
<b>PS3</b> *Most children are liking to eat fish.	It's about adults' eating habits.
<b>ND6</b> *Jane did not ate any vegetables this weekend.	It's about what Jane ate this weekend.
<b>RP3</b> This morning my mum prepared my sandwich.	It's about my mum's sandwich.

### 11.4.2 The Rating Scheme of the EIT<sup>78</sup>

Items	2 pts	1 pts	0 pts	Missing value <sup>79</sup>
Third person -s	*A good football player <i>practice</i> every day. (+ PS)  *Every child <i>need</i> a long summer holiday. (+PS)	<i>A good football player practices...</i>  <i>Good football players train...</i>  <i>Every child needs...</i>  <i>Children need...</i>	/	<i>A good football player practice/is practicing...</i>  e.g., <i>Is a good (.) football is practic(ing) every day.</i>
	*This teenager <i>hate</i> to have a lot of homework.	<i>This teenager hates...</i>  <i>These teenagers hate...</i>  <i>The teenager hate (.) hates...</i>	/	<i>This teenager hate...,</i>  <i>The students hates...</i>  e.g., <i>This is a teenager (.) to (.) hate (-).</i>
	Everyone <i>loves</i> burgers more than soup. (+PS)	<i>Everyone likes...</i>  <i>Everyone lo- loves...</i>	/	<i>Everyone like / is loving...</i>  /
	Going abroad on a vacation <i>helps</i> you relax. (+PS)	<i>Going abroad helps...</i>  <i>Every summer vacation hel-helps...</i>	/	<i>Going abroad for a vacation is helping you to relax.</i>  e.g., <i>Going abroad for a vacation (.) did (.) did you relax.</i>
	*People <i>start</i> using computers 50 years ago.	<i>People started / used / start started...</i>	/	<i>People start using / starts using / have using (...) 50 years ago.</i>  e.g., <i>People begin use computers in 50 years ago.</i> <i>People don't use computer.</i>
Regular past tense	*Yesterday one of my friends <i>download</i> a movie.	<i>Yesterday one of my friend downloaded / download downloaded...</i>	/	<i>Yesterday my friends download...</i>  e.g., <i>One of my friend wants to go to the movie.</i>
	Last summer it <i>rained</i> a lot in Europe.	<i>Last summer it rained / rain-ed...</i>	/	<i>Last summer it had been raining / it rains / it rain...</i>  e.g., <i>Last summer it was raining a lot in Europe.</i>
	Many people <i>died</i> in the first WW.	<i>Many people died...</i>  <i>Many people die died...</i>	/	<i>Many people die in the first word war.</i>  e.g., <i>Many people die(d)...</i>

<sup>78</sup> The listed responses are merely exemplary and not exhaustive, i.e., they do not represent the full list of responses that were provided by students. The brackets represent uncertain transcriptions, and (.) signifies pause (see 11.3.2).

<sup>79</sup> These are mere examples of the highly diverse responses rated as missing values. Moreover, the listed responses are to be understood in addition to actually missing values.

	Items	2 pts	1 pts	0 pts	Missing value <sup>79</sup>
Adverbs (vs. adjectives)	This morning my mum prepared my sandwich.	<i>My mum prepared...</i> <i>This morning my mums &lt;pvc&gt; prepared {prepared} &lt;/pvc&gt;</i> ...	/	<i>This morning my mum prepare...</i>	e.g., <i>This morning my mum gave...</i> <i>This morning my mum maked...</i>
	*A headache can make you feel <i>badly</i> . (ADJ)	<i>... can make you feel bad.</i>	/	<i>... can make you feel badly.</i> <i>... can make you feel &lt;pvc&gt; paddly {badly} &lt;ipa&gt; pædli &lt;/ipa&gt;.</i>	e.g., <i>A headache can feel you mad feel you made bad feel you (-).</i>
	*A president shouldn't speak <i>nervous</i> .	<i>... shouldn't speak nervously.</i> <i>...shouldn't be nervous while speaking.</i>	/	<i>... shouldn't speak nervous.</i>	e.g., <i>A president (.) should be (.) nervous.</i>
	I don't like <i>badly</i> made video games.	<i>... badly made video games.</i> <i>... poorly made video games.</i>	/	<i>... bad made video games.</i>	e.g., <i>I do not like the video games.</i>
Present simple (vs. continuous)	The teacher has no talent, she draws <i>terribly</i> .	<i>..., she draws terribly.</i> <i>..., she draws awfully.</i> <i>..., she's bad at drawing.</i>	/	<i>..., she draws terrible.</i> <i>..., she draws bad.</i>	e.g., <i>The teacher have no talent, she draws ho- (-).</i>
	*Most children are <i>liking</i> to eat fish.	<i>Most children like...</i> <i>Most children don't like...</i> <i>Most children likes like...</i>	<i>Most children are liking to eat fish. (.) most children likes to eat fish.</i>	<i>Most children is liking...</i> <i>Most children aren't liking...</i>	e.g., <i>Children has don't like fish.</i>
	*We are <i>really</i> needing to save the bees.	<i>We need to save...</i> <i>We should save...</i> <i>We really have to...</i>	<i>We really needs...</i>	<i>We are really needing...</i> <i>We are really need to...</i> <i>We are really needed to...</i>	e.g., <i>We are really needy to save the bees.</i>
	*Where is Greta coming from? She was born in Sweden.	<i>Where is Greta from? ...</i> <i>Where does Greta come from?...</i>	<i>Where comes Greta from?...</i>	<i>Where is Greta coming from?...</i>	e.g., <i>Where ha- di- has Greta come from? She is from Sweden.</i>
A good football player practice every day.			See third person -s		
Every child [*]need a long summer holiday.			See third person -s		
Everyone loves hotdogs more than soup.			See third person -s		

	<b>Items</b>	<b>2 pts</b>	<b>1 pts</b>	<b>0 pts</b>	<b>Missing value<sup>79</sup></b>
<b>Negated did</b>	*I wonder where Tom is. Oh, he sits by the lake!	<i>I wonder where Tom is. Oh, he's sitting by the lake. Who is Tomas? He is sitting on the sea.</i>	<i>I wonder where Tomas is. Oh, he sitting by the lake!</i>	<i>I wonder about Tomas. Ah, he sits by the lake! I wonder where is Tomas. Oh, (.) he sits by the lake.</i>	<i>e.g., I wonder where Tomas is. Oh, he is by the lake!</i>
	Our climate is slowly getting warmer.	<i>Our climate is getting warmer and warmer... Our climate is getting sl-warmer slowly.</i>	<i>Our climate getting warmer slowly.</i>	<i>Our climate (.) gets warmer slowly. Our climate is slowly warmer.</i>	<i>e.g., Our climate change and it's gonna be (.) warm.</i>
	Right now, my classmates are waiting for the next break.	<i>Right now, my class is waitin....</i>	<i>Right now, my classmate waiting...</i>	<i>Right now, my class waits... Right now, my class wait...</i>	<i>e.g., Wait now with the classmates for the next break.</i>
	*Jane did not eat any vegetables this weekend.	<i>Jade did not eat,,,</i>	/	<i>Jane did not ate... Jane din't didn't not ate...</i>	<i>e.g., Jane hasn't eaten any vegetables this weekend.</i>
	*The last Queen of England lived not very long.	<i>The last Queen didn't live...</i>	/	<i>The last Queen not live... The last Queen were not living... The last Queen doesn't live...</i>	<i>e.g., The last Queen life were not really long.</i>
	I did not enjoy sports as a child.	<i>I did not enjoy doing sports as a child.</i>	/	<i>I did not enjoyed... I have not enjoyed...</i>	<i>e.g., I did like sports when I was a child.</i>
	Many people in England did not watch the last World Cup.	<i>Many people did not watch the last World Cup.</i>	/	<i>Many people didn't watched...</i>	<i>e.g., Many people watched the World Cup last year.</i>
	Our grandparents did not use the internet at school.	<i>My grandparents did not use internet in school.</i>	/	<i>My grandparents didn't needed / doesn't use / have not used the internet in school.</i>	<i>e.g., My grandparents were not (.) internet in school.</i>

	<b>Items</b>	<b>2 pts</b>	<b>1 pts</b>	<b>0 pts</b>	<b>Missing value<sup>79</sup></b>
<b>Interrogative did</b>	*Did you hear the news about Brexit yesterday?	<i>Did you hear...?</i>	/	<i>Did you heard...? Do you hear the Brexit yesterday?</i>	e.g., <i>Have you heard about the new Brexit?</i>
	*Did you swim a lot in the sea this summer?	<i>Did you go swimming...?</i>	/	<i>Did you swam...? Did you s- (...) was swimming last summer?</i>	e.g., <i>Were you swimming a lot in the sea last summer?</i>
	*Watched you the football World Cup last year?	<i>Did you watch...?</i>	/	<i>Watched you ...?</i>	e.g., <i>Have you watched the football World Cup this year?</i>
	<i>Did you think Trump would become president?</i>	<i>Did you think ...?</i>	<i>Do you think Trump would be the president?</i>	<i>Do you thought ...?</i>	e.g., <i>Would you think Trump will become president?</i>
	<i>Did you travel anywhere as a baby?</i>	<i>Did you travel ...?</i>	/	<i>Did you travelling ...? Have you travelled anywhere as a baby? Did you travelled ...?</i>	e.g., <i>Do you travel anywhere with the baby?</i>

## 11.5 The Items of the TGJs<sup>80</sup>

	WTGJT	ATGJT
QD4	Did your grandma went to school?	Did you had fun last summer?
RP1	Jack climbed a mountain last June.	We arrived seven years ago.
TS4	A man often eat more for lunch than an adult woman.	Santa Claus like to celebrate Christmas with his wife.
PS1	How many languages do you speak?	Libraries store many books.
PC4	Do you still wait for your boyfriend to call you tonight?	Food is ready, we already wait for you downstairs!
ND1	The band "the Beatles" did not live in Sweden.	The tourists didn't like the place they visited.
AV1	To be completely honest, you deserve someone better.	It is truly painful to end a relationship.
Distr4	The burglar sneaked into the house.	You must not eat too much sugar.
RP4	In 1780 King Louis travel to Italy.	America's president close the road in 2008.
TS1	Joseph believes he needs to buy new purple sneakers.	The boy takes care of his sister on the way home from school.
QD1	Did your parents enjoy school as students?	Did this fridge work well in the beginning?
PS4	Adults are usually knowing that Santa Claus is not real.	Elephants are belonging to the desert, not to zoos.
Distr5	Stop watching TV!	The painting in blue is brighter than the yellow one.
PC1	It's Christmas soon and people are preparing presents.	Can you see that? This flower is opening up right now.
ND4	Disney didn't expected to become famous.	Music in the 60s didn't sounded boring.
AV4	Wow, this garden seems wonderful peaceful.	The cleaner regular cleans the building.
RP2	Benjamin loved to swim in the lake as a young boy.	Last winter holiday my brother tried out skiing.
TS5	Supermarkets offers different kinds of drinks.	New clothes makes you a happier person.

<sup>80</sup> Item names ending in \_1 to \_3 are grammatical and item names ending in \_4 to \_7 are ungrammatical. <sup>80</sup> QD stands for questions on *did*, RP for regular past, TS for third person -s, PS for present simple, PC for present continuous, ND for negated *did*, and AV for adverbs.

	<b>WTGJT</b>	<b>ATGJT</b>
<b>QD5</b>	Enjoyed you your very first day of school?	Travelled you to Italy as a child?
<b>PS2</b>	Ikea sells nice things for the kitchen.	Food markets have a lot of things to offer.
<b>PC5</b>	Oh no, look, my bus drives by!	Can you pick up the baby? It cries.
<b>ND2</b>	Women did not go to college until the 20th century.	In the 19th century people didn't have heated housing.
<b>AV2</b>	Dresses look cute on baby girls.	This song sounds so sad, don't you think?
<b>Distr2</b>	Have you ever travelled by yourself?	At age 14, the girl was allowed to go out until midnight.
<b>RP5</b>	As a baby I often watch movies.	Tom walk all the way to Rome last year.
<b>TS2</b>	Barack Obama spends the weekends with his kids.	Katy Perry loves to sing in the shower.
<b>PS5</b>	Teenagers are wanting the new iPhone.	Grandmas are liking to drink tea with milk.
<b>QD2</b>	Did this garden belong to the castle of king Louis?	Did those flowers the shop is selling really grow on a field?
<b>PC2</b>	This guy is speaking in a strange voice today.	It's fall and the weather is getting colder.
<b>AV5</b>	The wall is beautiful painted.	Those students speak English fluent.
<b>ND5</b>	Hans Christian Andersen wrote not all the stories himself.	My grandparents said not goodbye to me after their visit.
<b>Distr3</b>	The mouse was eaten by the cat.	May I go to the bathroom?
<b>RP3</b>	When I was your age I wanted to learn Chinese.	When he was ten he started to study physics.
<b>QD6</b>	Do you walk over to the beautiful beach yesterday?	Do the Beatles play their first concert in 1960?
<b>TS6</b>	My aunt love to clean the car.	My cousin have a girlfriend.
<b>PS3</b>	The secretary sometimes writes with a thick black pen.	A kind teacher rarely gives students too much homework.
<b>PC6</b>	Stop making that noise, can't you see I work?	Can you hear that? The birds in this tree sing.
<b>ND3</b>	I did not like the cake I had at McDonald's.	Michael Jackson did not have children.
<b>AV3</b>	These women are dressed so elegantly!	The singer happily responds to the mail.
<b>Distr1</b>	I can't believe you did this.	Could you please serve me some coffee?

	<b>WTGJT</b>	<b>ATGJT</b>
<b>RP6</b>	The clown enter the stage and people laughed.	The girl finish her meal and continued to work.
<b>TS3</b>	I am sure he likes animals.	A tiger usually eats meat.
<b>QD3</b>	Did you like the zoo as a kid?	Did you enjoy your last summer break?
<b>PS6</b>	Cats are needing to drink water.	Not all children are loving books.
<b>PC3</b>	This homework is making me mad!	Why are you laughing at me?
<b>ND6</b>	Yesterday I do not have breakfast.	Last time the postman bring not the mail.
<b>AV6</b>	The homework is unbelievable simple to-day.	I can't believe he serious said that to his boss.
<b>PS7</b>	-	Your hair is smelling salty, have you been to the beach?

## 11.6 The Untimed Grammaticality Judgment Test (UGJT)

### 11.6.1 The Test Sheets

#### 11.6.1.1 English Translation<sup>81</sup>

##### Grammar Test 1

**My code:**   2<sup>nd</sup> and 3<sup>rd</sup> letter of your first name  
 the last letter of your mother's first name  
  birth month (e.g. 03 for March)

In this test you can find *grammatically correct* and *incorrect sentences*.

- Indicate for each sentence if it is grammatically correct (✓) or incorrect (✗).
- Write down sentences that contain a mistakes in correct form.

	✓ or ✗?	Correction (for incorrect sentences)
<b>Three examples:</b>  An pullover keeps you warm. My parents love swimming. Dogs is cuter than cats.	✗ ✓ ✗	<i>A pullover keeps you warm.</i> <i>Dogs are cuter than cats.</i>
Last week we decided to visit Paris.		
My dad speak three languages almost perfectly.		
A loaf of bread is costing £1.50.		
Many poems talk about love and other feelings.		
Paddington Bear arrived in England as a small bear.		
He was loudly playing music on his new headphones.		
The man over there is behaving in a strange way.		
Apple spoke not about the problem with the new iPhone.		
Columbus sail to America in 1492.		
Did Peter Pan live a long time ago?		
Mum can easy open the bottle without your help.		
He play the piano when he was a child.		
It's summer and temperatures are getting higher.		
Jane feels really bad about not going to school.		
What were your hobbies as a kid?		

	✓ or ✗?	Correction (for incorrect sentences)
Dogs are needing a soft place to sleep.		
In 1546 people didn't have electricity.		
The monkey enter the stage and started his performance.		
Roses smell sweet.		
The student forgot to do the homework.		
Did the president go to a private school?		
Very often a woman spends more time at home than a man.		
This mountain lake has crystal clear water.		
Greta Thunberg believes in a better future.		
Most people didn't believed the war was over.		
Why are kids always asking for sweets?		
Went your brother to the lake yesterday?		
Last week I began to decorate the house.		
The job was done professional.		
Santa Claus did not drink Coca Cola for real.		
Many people are believing in God.		
What got you for your birthday?		
Big houses needs more than one bathroom.		
Christmas is the most beautiful time of the year.		
It's already midnight and you still read?		
The Vikings did not live in South America.		
You were perfectly right about her – she is a mean person.		
Listen, it rains outside!		
Joseph has lived in Paris for three years.		
Did this prince bought a new horse?		

<sup>81</sup> While in the German UGJT students were asked to use the given signs for correct and incorrect sentences, the Swedish version instructed participants to respond by using *R* or *F* for correct (Swe. *rätt*) or incorrect (Swe. *fel*) sentences respectively. This is because in Swedish, a checkmark is sometimes understood as “incorrect”.

### 11.6.1.2 German Version (Header)

#### Grammar Test 1

**Mein Code:**

<input type="checkbox"/>	<input type="checkbox"/>	2. und 3. Buchstabe deines Vornamens
<input type="checkbox"/>		der letzte Buchstabe des Vornamens deiner Mutter
<input type="checkbox"/>	<input type="checkbox"/>	Geburtsmonat (z.B. 03 für März)

In diesem Test gibt es *grammatikalisch richtige* und *falsche Sätze*.

- Gib für jeden Satz an, ob er grammatisch richtig (✓) oder falsch (✗) ist.
- Schreibe Sätze, die einen Fehler enthalten, in richtiger Form auf.

✓  
oder  
✗?

**Korrektur**  
(wenn Satz falsch)

### 11.6.1.3 Swedish Version (Header)

#### Grammar Test 1

**Min Kod:**

<input type="checkbox"/>	<input type="checkbox"/>	den 2:a och 3:e bokstaven i ditt förnamn
<input type="checkbox"/>		den sista bokstaven i din mammas förnamn
<input type="checkbox"/>	<input type="checkbox"/>	födelsemånad (t ex 03 för mars)

I det här testet finns det *grammatiskt korrekta* och *felaktiga* meningar.

- Ange för varje mening om den är grammatiskt korrekt (R) eller felaktig (✗).
- Skriv om meningarna som innehåller fel så att de blir korrekta.

R  
eller  
✗?

**Rättning**  
(om det finns fel)

### 11.6.2 The Rating Scheme of the UGJT

		2 pts	1 pts	0 pts	Missing value <sup>82</sup>
Third person -s	*Big houses <i>needs</i> more than one bathroom.	<i>need</i> <i>A/The big house</i>	/	Marked as correct <i>are needing</i>	
	*My dad <i>speak</i> three languages almost perfect.	<i>speaks, speacks, speeks</i>	/	Marked as correct <i>is, is speaking, speek</i>	<i>spoke, spocke, spokes, can speak</i>
	Very often a woman <i>spends</i> more time at home than a man.	Marked as correct Word order changed (e.g., <i>A woman often spends</i> )	/	<i>is spending, womans spends, are womans, women spends</i>	
	Greta Thunberg <i>believes</i> in a better future.	Marked as correct	/	<i>is believing, believe, want</i>	<i>belived, didn't, didn't believe, is going to believe</i>
	Jane <i>feels</i> really bad about not going to school.	Marked as correct	/	<i>feel</i>	<i>felt, is feeling</i>
Regular past tense	*Columbus <i>sail</i> to America in 1492.	<i>sailed, did sail, saild, sailed</i>	/	Marked as correct <i>sails, sail, sale</i>	<i>sold, soul, was sailing, had been sailed, had sailed</i>
	*He <i>play</i> the piano when he was a child.	<i>did play, played, used to play, playd, playid</i>	/	Marked as correct <i>had played, has played, plays, playes</i>	<i>play since he was, was playing</i>
	*The monkey <i>enter</i> the stage and started his performance.	Marked as correct <i>enterd, entered,</i>	/	<i>enters, entres</i>	<i>enter + starts, enter + start, enter + is starting, had enterd, had entered</i>
	Paddington Bear <i>arrived</i> in England as a small bear.	Marked as correct <i>arrived, arrived, to England, Paddington the Bear</i>		<i>had been arrived, has been arrived, arrive, is arrived</i>	<i>arrives</i>
	Last week we <i>decided</i> to visit Paris.	Marked as correct	<i>decided to visited</i>	<i>decide decide to visited</i>	/

<sup>82</sup> The listed responses are to be understood in addition to actually missing values.

		2 pts	1 pts	0 pts	Missing value <sup>82</sup>
Adverbs (vs. adjectives)	*Mum can <i>easy</i> open the bottle without your help.	<i>easely, easerly, easiley, easily, ea-</i> <i>lly, easly, esily, easliy</i>	/	Marked as correct <i>can easy opens, easys</i>	/
	*The job was done <i>profes-</i> <i>sional.</i>	<i>professionally, professionaly,</i> <i>was done and professional</i>	/	Marked as correct	/
	He was <i>loudly</i> playing music on his new headphones.	Marked as correct <i>loud, playing music loudly, play-</i> <i>ing loud music, loudly playing,</i> <i>loud playing</i>	/	<i>playing loudly music</i>	/
	Jane feels really <i>bad</i> about not going to school.	Marked as correct	/	/	/
	Roses smell <i>sweet.</i> (ADJ)	Marked as correct <i>smells, smalles, smelld, smell-</i> <i>ing, smells</i>	/	/	/
	You were <i>perfectly right</i> about her – she is a mean person. (ADJ+AV)	Marked as correct <i>completely</i>	/	<i>perfect</i>	<i>You had right about her - she is a mean person.</i>
	My dad [*]speak three languages almost <i>perfectly</i> .	Marked as correct <i>almost fluently, speaks</i>	/	<i>perfect, perfekt</i>	/
Present simple (vs. continu-ous)	*Dogs <i>are needing</i> a soft place to sleep.	<i>are in the need of, need</i>	<i>needs</i>	Marked as correct <i>needing, are need, is needing</i>	/
	*Many people <i>are believing</i> in God.	<i>beive, believe, believie, believing</i> <i>God, belive, beliving God, do not believe</i>	<i>believes, believs, belives</i>	Marked as correct <i>believing in, is believing, is beliving</i>	/
	*A loaf of bread <i>is costing</i> £1.50.	<i>costs, coasts</i>	/	Marked as correct <i>ar costing, are costing, costing, is cost, is costed, loafs</i>	<i>cost, are, costed</i>
	Many poems <i>talk</i> about love and other feelings.	Marked as correct <i>are, speak</i>	<i>talks, poem</i>	<i>are talking, talking</i>	<i>didn't talk, had talk, talked</i>

		2 pts	1 pts	0 pts	Missing value <sup>82</sup>
	This mountain lake <i>has</i> crystal clear water.	Marked as correct	<i>lakes</i>	/	<i>had, have, is are</i>
Present continuous (vs. simple)	*It's already midnight and you still <i>read</i> ?	<i>are/'re (still) reading</i>	<i>reading, you are still...</i>	Marked as correct <i>and you don't read, has already been and you still, have read</i>	<i>you still ready</i>
	*Listen, it <i>rains</i> outside!	<i>(it) is raining, its raining</i>	<i>is..., raining</i>	Marked as correct <i>is rains, rain</i>	<i>It's rain outside; Listen, to rains outside, rainy</i>
	It's summer and temperatures <i>are getting</i> higher.	Marked as correct <i>Going, the temperature is getting, are getting hotter</i>	<i>Is getting, is geting, the temperature are getting, temperatures is getting, temperature, temperatur, was getting</i>	<i>get, gets</i>	/
	The man over there <i>is behaving</i> in a strange way.	Marked as correct	<i>are behaving</i>	<i>behaves</i>	<i>behaved, has a strange behavoir</i>
	Why <i>are</i> kids always <i>asking</i> for sweets?	Marked as correct <i>The kids</i>	/	<i>are ask, do, do ask, do asking, why kids always ask</i>	<i>were asked</i>
Negated <i>did</i>	*Apple <i>spoke not</i> about the problem with the new iPhone.	<i>did not speak, didn't speak, did not speek</i>	<i>do not speak, didn't spoke, didn't spoke, did not spok, did not spok, didn't, didn't</i>	Marked as correct <i>speak not, speaks not, not spoke, not spokes, spoke nothing, spoked not, spokes not</i>	<i>had not spoke, hadn't spoken, is not spoking, spokes, speaking</i>
	*Most people <i>didn't believed</i> the war was over.	<i>believ, believe, did not believe, didn't believ, didn't believe, didn't believ, didn't believe</i>	/	Marked as correct <i>have believed</i>	/
	In 1546 people <i>didn't have</i> electricity.	Marked as correct	/	<i>didn't had, had not have, hadn't, haven't, havn't</i>	<i>hadn't got</i>

		2 pts	1 pts	0 pts	Missing value <sup>82</sup>
<b>Interrogative did</b>	Santa Claus <i>did not drink Coca Cola for real.</i>	Marked as correct	<i>didn't (drink)</i>	<i>did not drank, did not drunk, drank</i>	<i>doesn't, doesn't drink, is not drinking, does not drink, do not..., don't drink</i>
	The Vikings <i>did not live in South America.</i>	Marked as correct	<i>didn't live</i>	<i>did not lived, had not been lived</i>	/
	* <i>Did this prince bought a new horse?</i>	<i>buy, did bay, did buy, did by, did bye</i>	/	Marked as correct	<i>has bought</i>
	* <i>Went your brother to the lake yesterday?</i>	<i>Did go</i>	<i>did, did went</i>	Marked as correct <i>were your brother went, want</i>	<i>Was your brother, your brother went</i>
	* <i>What got you for your birthday?</i>	<i>did do, did get</i>	<i>did became, did get/got, did got/get, did got</i>	Marked as correct <i>do got, get you, gots you, what you got</i>	<i>are going to get, do get, have get, have got, will get</i>
	<i>Did Peter Pan live a long time ago?</i>	Marked as correct <i>did live</i>	/	<i>did lived, did lives, does lived, had lived, has lived, have lived, lived, livils</i>	/
	<i>Did the president go to a private school?</i>	Marked as correct <i>did go</i>	/	<i>do go, did goes, did went, did whent, went did</i>	<i>did, does...</i>

## 11.7 The Metalinguistic Knowledge Test (MKT)

### 11.7.1 The Test Sheets

#### 11.7.1.1 English Translation

##### GRAMMAR TEST 2

**My code:**

<input type="checkbox"/>	<input type="checkbox"/>	2 <sup>nd</sup> and 3 <sup>rd</sup> letter of your first name
<input type="checkbox"/>		the last letter of your mother's first name
<input type="checkbox"/>	<input type="checkbox"/>	birth month (e.g. 03 for March)

##### PART A

Read the text and, in each sentence, **underline ONE example** for the **grammatical term** indicated on the right. The first line has already been done for you.

Lisa is telling Eva what her cat <u>has been doing</u> the last few days.	present perfect tense
Eva: What did your cat do while she was at home alone?	helping/auxiliary verb did
Lisa: Usually, when we are not home, she plays a lot with the toys that are lying around.	present progressive/continuous
So she runs around more and sleeps less.	third person -s
I imagine her as she is running around fast like she did when <u>she was younger!</u>	present tense simple
However, this time she behaved as if we were there.	regular past tense
She did not destroy stuff in the living room – or did she, mum?	negated past tense
I bet she waited anxiously for us all day long.	adverb

##### PART B

Read the text and find ONE example for each grammatical term. **Underline the example in the text and insert it in the list.** The first line has already been done for you.

present perfect tense	have (just) come
present tense simple	
third person -s	
present progressive/continuous	
negated past tense	
adverb	
regular past tense	
question in past tense	

'My name is Catherine and I have just come home from work. My husband's name is Tom, and he really enjoys cooking. Right now he is preparing Pizza with his friends. They are talking about our daughter Lisa. Last year we went on holiday to Greece and she spent so much time online! She did not understand why we repeatedly asked her to go outside. Did we forget to tell her that being inside all day is unhealthy? Our son Noel, on the other hand, loved exploring at the beach. He was slowly learning to swim and did not even want to go inside.'

**PART C**

In this task, **all sentences are grammatically incorrect**. The part of the sentence containing the mistake is underlined.

- There is just **ONE correct answer** for each of the sentences 1-18.
- For each sentence, **choose** the sentence that best explains the error.

**Example**

He saw a elephant.

- A The word *elephant* requires an article.
- B *A elephant* should be replaced by *elephant*.
- ✗ A cannot be used because *elephant* starts with a vowel.
- D The definite article *the* should be used instead of *a/an*.

----- Let's get started! ☺ -----

**1. Yesterday I really miss walking my dog.**

- A *Miss* is an irregular verb.
- B The verb form *miss* requires a third person -s.
- C *Yesterday* indicates that the past tense should be used.
- D The present perfect tense is required.

**2. Most teenagers read not the last Harry Potter.**

- A The negated past tense is formed with *not* + verb in the past tense.
- B The helping/auxiliary verb *did* should go before *read not*.
- C A helping/auxiliary verb is missing between *Most teenagers* and *read not*.
- D The negation is formed with *do* (in the present or past tense) + *not* + infinitive/base form.

**3. Parents are wanting the best for their children.**

- A For general statements the present tense simple is used.
- B The verb should be in the present perfect tense.
- C The -ing form is used for general statements and habits.
- D The present progressive/continuous is used when speaking of a desire.

**4. Did you went to school yesterday?**

- A Only certain questions in the past tense are formed with *did*.
- B *Went* is given in a wrong form of the past tense.
- C *Went* should be in the infinitive/base form.
- D In this sentence the regular past ending is missing.

**5. Sarah and I likes to play football.**

- A The third person -s is required.
- B The subject *Sarah and I* are in plural.
- C After *Sarah and I* the verb requires a second person -s.
- D The verb *like* never takes an ending.

**6. Last Friday I went to the beach and jump into the lake.**

- A *Jump* should be in the irregular past tense.
- B *Jump* should be in the past perfect tense.
- C The irregular past tense requires the -ed ending.
- D *Jump* requires the regular past ending -ed.

**7. Missed I your birthday last month?**

- A Yes/no questions must contain the verb *to have*.
- B This yes/no question should start with the helping/auxiliary verb *to be*.
- C Certain questions in the past tense are formed with *did*.
- D The helping/auxiliary verb *did* is missing before *Missed* *I*.

**8. This guitar sounds perfectly.**

- A *Perfect* is an adjective that never takes the -ly ending.
- B In this case an adjective rather than an adverb should be used.
- C Verbs like *to sound* and *to look* are never followed by an adjective or an adverb.
- D This is an exception to the rule "Adjectives end in -ly".

**9. I'm sorry, I didn't wanted to lie to you.**

- A *Did* is not used together with a verb ending in -ed.
- B *Wanted* is a wrong past tense form of *to want*.
- C The negated past tense is formed with *not* + verb in the past tense.
- D *Didn't* should be replaced by the present tense.

**10. My best friend usually play a lot of sports.**

- A The verb following *My best friend* requires a second person -s.
- B *A lot of sports* is given in the third person singular.
- C The verb requires a third person -s.
- D The -ing ending should be added to the verb *play*.

**11. The boy is dressed beautiful.**

- A *Beautiful* should come before the verb.
- B Adverbs are mostly formed by adding -ly to the adjective.
- C The word order is wrong; the adverb should come before the verb.
- D In this case an adjective rather than an adverb is needed.

**12. Right now, with climate change, temperatures get higher.**

- A When speaking of general facts, the present progressive/ continuous is used.
- B The verb should be in passive voice.
- C When speaking of current developments or ongoing actions, the -ing form is used.
- D The present tense simple is used with the correct form of *to be* + the verb in the -ing form.

**13. In 1864, President Lincoln move into the White House.**

- A The verb form *move* requires a second person -s.
- B The irregular past tense requires the -ed ending.
- C *Move* requires a regular past ending.
- D The past perfect tense is required.

**14. The students learned not for the test.**

- A The helping/auxiliary verb *did* should come before *learned not*.
- B The negated past tense is formed with *not + verb* in the past tense.
- C The -ed ending is not needed here.
- D The negation is formed with *do* in the right tense + *not + infinitive/base form*.

**15. Now that it's lunchtime, people buy sandwiches.**

- A For general statements the present tense simple is used.
- B For general statements and habits the -ing form is used.
- C The present progressive/continuous is used when something is happening right now.
- D The present tense simple is used with the right form of *to be + the verb* in the -ing form.

**16. Did you studied a lot as a student?**

- A *Studied* is given in the wrong past tense form.
- B This yes/no question should start with the helping/auxiliary verb *to be*.
- C In this case the present perfect tense is required.
- D *Studied* should be given in the infinitive/base form.

**17. This girl never go to bed before midnight.**

- A The verb requires a third person -s.
- B The verb following *This girl* requires a second person -s.
- C *Bed* is given in the third person singular.
- D *This girl* is in plural.

**18. Could you please quick pass me the salt?**

- A The word order is wrong; the adverb must come before the verb.
- B In this case an adverb is needed, not an adjective.
- C The word *quick* is always used with the ending -ly.
- D Adjectives are formed by adding -ly.

### 11.7.1.2 German Version

#### GRAMMAR TEST 2

- Mein Code:**
- 2. und 3. Buchstabe deines Vornamens
  - der letzte Buchstabe des Vornamens deiner Mutter
  - Geburtsmonat (z.B. 03 für März)

#### TEIL A

Lies den Text und **unterstreiche** in jedem Satz **EIN Beispiel** für den Grammatikbegriff, der rechts angegeben ist. Die erste Zeile wurde bereits gemacht.

Lisa is telling Eva what her cat <u>has been doing</u> the last few days.	present perfect tense
Eva: What did your cat do while she was at home alone?	helping/auxiliary verb did
Lisa: Usually, when we are not home, she plays a lot with the toys that are lying around.	present progressive/continuous
So she runs around more and sleeps less.	third person -s
I imagine her as she is running around fast like she did when she was younger!	present tense simple
However, this time she behaved as if we were there.	regular past tense
She did not destroy stuff in the living room – or did she, mum?	negated past tense
I bet she waited anxiously for us all day long.	adverb

#### TEIL B

Lies den Text und finde darin für jeden der Grammatikbegriffe **EIN Beispiel**. **Unterstreiche das Beispiel im Text und trage es in die Liste ein.** Die erste Zeile wurde bereits gemacht.

present perfect tense	have (just) come
present tense simple	
third person -s	
present progressive/continuous	
negated past tense	
adverb	
regular past tense	
question in past tense	

'My name is Catherine and I have just come home from work. My husband's name is Tom, and he really enjoys cooking. Right now he is preparing Pizza with his friends. They are talking about our daughter Lisa. Last year we went on holiday to Greece and she spent so much time online! She did not understand why we repeatedly asked her to go outside. Did we forget to tell her that being inside all day is unhealthy? Our son Noel, on the other hand, loved exploring at the beach. He was slowly learning to swim and did not even want to go inside.'

**TEIL C**

In dieser Aufgabe sind **alle Sätze grammatisch falsch**. Der Teil des Satzes, der den Fehler enthält, ist unterstrichen.

- Es gibt nur **EINE richtige Antwort** für jeden der Sätze **1-18**.
- **Wähle** für jeden Satz die Aussage aus, die den Fehler am besten erklärt.

**Beispiel**

**He saw a elephant.**

- A Das Wort *elephant* braucht keinen Artikel.
- B *A* *elephant* muss durch *elephant* ersetzt werden.
- C A kann nicht verwendet werden, weil *elephant* mit einem Vokallaut beginnt.
- D Der bestimmte Artikel *the* sollte statt *a/an* verwendet werden.

----- **Los geht's!** -----

**1. Yesterday I really miss walking my dog.**

- A *Miss* ist ein irregular verb.
- B Die Verbform *miss* benötigt ein third person -s.
- C *Yesterday* gibt an, dass past tense verwendet werden muss.
- D Present perfect tense wird benötigt.

**2. Most teenagers read not the last Harry Potter.**

- A Negated past tense wird mit *not* + Verb in der past tense gebildet.
- B Vor *read not* wird das helping/auxiliary verb *did* benötigt.
- C Zwischen *Most teenagers* und *read not* fehlt ein helping/auxiliary verb.
- D Negation wird mit *do* (in der present oder past tense) + *not* + Infinitiv/Nennform gebildet.

**3. Parents are wanting the best for their children.**

- A Bei allgemeinen Aussagen verwendet man present tense simple.
- B Das Verb sollte in present perfect tense stehen.
- C Die -ing-Form verwendet man für generelle Aussagen und Gewohnheiten.
- D Present progressive/continuous verwendet man, wenn man von einem Wunsch spricht.

**4. Did you went to school yesterday?**

- A Nur gewisse Fragen in past tense werden mit *did* gebildet.
- B *Went* steht in der falschen past tense-Form.
- C *Went* muss im Infinitiv/Nennform stehen.
- D In diesem Satz fehlt die regular past-Endung.

**5. Sarah and I likes to play football.**

- A Third person -s wird gebraucht.
- B Das Subjekt *Sarah and I* ist im Plural/Mehrzahl.
- C Nach *Sarah and I* braucht das Verb ein second person -s.
- D Das Verb *like* nimmt nie eine Endung.

**6. Last Friday I went to the beach and jump into the lake.**

- A Jump sollte in irregular past tense stehen.
- B Jump sollte in past perfect tense stehen.
- C Irregular past tense verlangt die Endung -ed.
- D Jump braucht die regular past-Endung -ed.

**7. Missed I your birthday last month?**

- A Yes/no questions müssen das Verb *to have* beinhalten.
- B Diese yes/no question sollte mit dem helping/auxiliary verb *to be* beginnen.
- C Gewisse Fragen in der past tense werden mit *did* gebildet.
- D Das helping/auxiliary verb *did* fehlt vor *Missed* I.

**8. This guitar sounds perfectly.**

- A *Perfect* ist ein Adjektiv, an das nie die Endung -ly gehängt wird.
- B Hier benötigt man ein Adjektiv, und kein Adverb.
- C Verben wie *to sound* und *to look* werden nie von einem Adjektiv oder Adverb gefolgt.
- D Das ist eine Ausnahme der Regel "Adjektive haben die Endung -ly".

**9. I'm sorry, I didn't wanted to lie to you.**

- A *Did* wird nicht gemeinsam mit einem Verb mit der Endung -ed verwendet.
- B *Wanted* ist eine falsche past tense-Form von *to want*.
- C Negated past tense wird mit *not* + Verb in der past tense gebildet.
- D *Didn't* sollte durch die present tense ersetzt werden.

**10. My best friend usually play a lot of sports.**

- A Nach *My best friend* braucht das Verb ein second person -s.
- B *A lot of sports* steht in der third person singular.
- C Das Verb braucht ein third person -s.
- D An das Verb *play* sollte die Endung -ing angehängt werden.

**11. The boy is dressed beautiful.**

- A *Beautiful* sollte vor dem Verb stehen.
- B Adverbien werden meistens durch Anhängen von -ly an das Adjektiv gebildet.
- C Die Satzstellung ist falsch; das Adverb muss vor dem Verb stehen.
- D Hier benötigt man ein Adjektiv, und kein Adverb.

**12. Right now, with climate change, temperatures get higher.**

- A Wenn man von allgemeinen Fakten spricht, verwendet man present progressive/continuous.
- B Das Verb sollte in Passiv stehen.
- C Wenn man von einer aktuellen Entwicklung oder einer andauernden Handlung spricht, verwendet man die -ing-Form.
- D Present tense simple verwendet man mit der richtigen Form von *to be* + dem Verb in der -ing-Form.

**13. In 1864, President Lincoln move into the White House.**

- A Die Verbform *move* benötigt ein second person -s.
- B Irregular past tense verlangt die Endung -ed.
- C *Move* braucht eine regular past-Endung.
- D Past perfect tense wird benötigt.

**14. The students learned not for the test.**

- A Vor *learned not* wird das helping/auxiliary verb *did* benötigt.
- B Negated past tense wird mit *not + Verb* in der past tense gebildet.
- C Die Endung -ed wird hier nicht benötigt.
- D Negation wird mit *do* in der richtigen Zeit + *not + Infinitiv/Nennform* gebildet.

**15. Now that it's lunchtime, people buy sandwiches.**

- A Bei allgemeinen Aussagen verwendet man present tense simple.
- B Für generelle Aussagen und Gewohnheiten verwendet man die -ing-Form.
- C Present progressive/continuous wird verwendet, wenn etwas gerade jetzt passiert.
- D Present tense simple verwendet man mit der richtigen Form von *to be* + dem Verb in der -ing-Form.

**16. Did you studied a lot as a student?**

- A *Studied* steht in der falschen past tense-Form.
- B Diese yes/no question sollte mit dem helping/auxiliary verb *to be* beginnen.
- C Hier benötigt man present perfect tense.
- D *Studied* muss im Infinitiv/Nennform stehen.

**17. This girl never go to bed before midnight.**

- A Das Verb braucht ein third person -s.
- B Nach *This girl* braucht das Verb ein second person -s.
- C *Bed* steht in der third person singular.
- D *This girl* steht im Plural/Mehrzahl.

**18. Could you please quick pass me the salt?**

- A Die Satzstellung ist falsch; das Adverb muss vor dem Verb stehen.
- B Hier benötigt man ein Adverb, und kein Adjektiv.
- C Das Wort *quick* wird immer mit der Endung -ly verwendet.
- D Adjektive werden durch Anhängen von -ly gebildet.

### 11.7.1.3 Swedish Version

#### GRAMMAR TEST 2

- Min kod:**
- den 2:a och 3:e bokstaven i ditt förnamn
  - den sista bokstaven i din mammas förnamn
  - födelsemånad (t ex 03 för mars)

#### DEL A

Läs texten och **stryk under ETT exempel** i varje mening för varje grammatiskt begrepp som finns till höger. Första raden är redan gjord.

Lisa is telling Eva what her cat <u>has been doing</u> the last few days.	perfekt
Eva: What did your cat do while she was at home alone?	hjälperverbet <i>did</i>
Lisa: Usually, when we are not home, she plays a lot with the toys that are lying around. So she runs around more and sleeps less.	progressiv (= pågående) form presens tredje person -s
I imagine her as she is running around fast like she did when she was younger!	enkel presens
However, this time she behaved as if we were there.	regelbunden imperfekt/preteritum
She did not destroy stuff in the living room – or did she, mum?	negerad imperfekt/preteritum
I bet she waited anxiously for us all day long.	adverb

#### DEL B

Läs texten och leta efter ETT exempel för varje grammatiskt begrepp till vänster. **Stryk under exemplet i texten och skriv in det på listan.**

perfekt	have (just) come
enkel presens	
tredje person -s	
progressiv (= pågående) form presens	
negerad imperfekt/ preteritum	
adverb	
regelbunden imperfekt/ preteritum	
fråga i imperfekt/ preteritum	

'My name is Catherine and I have just come home from work. My husband's name is Tom, and he really enjoys cooking. Right now he is preparing Pizza with his friends. They are talking about our daughter Lisa. Last year we went on holiday to Greece and she spent so much time online! She did not understand why we repeatedly asked her to go outside. Did we forget to tell her that being inside all day is unhealthy? Our son Noel, on the other hand, loved exploring at the beach. He was slowly learning to swim and did not even want to go inside.'

## DEL C

I den här uppgiften är **alla meningar grammatiskt felaktiga**. Den del av meningen som innehåller felet är markerad med understrucken text.

- ➔ Det finns bara **ETT rätt alternativ** för varje mening 1-18!
- ➔ Välj det alternativ som förklarar felet bäst genom att **ringa in rätt svar**.

**Exempel**

**He saw a elephant.**

- A Ordet *elephant* behöver ingen artikel.
- B *A elephant* måste bytas ut mot *elephant*.
- C Man ska inte använda *a* eftersom *elephant* börjar med ett vokalljud.
- D Den bestämda artikeln *the* ska användas i stället för *a/an*.

----- Då kör vi! ☺ -----

**1. Yesterday I really miss walking my dog.**

- A *Miss* är ett oregelbundet verb.
- B Verbformen *miss* kräver tredje person -s.
- C Ordet *Yesterday* visar att man måste använda imperfekt/preteritum.
- D Perfekt behövs.

**2. Most teenagers read not the last Harry Potter.**

- A Negerad imperfekt/preteritum bildas med *not + verb i imperfekt/preteritum*.
- B Framför *read not* behövs hjälpverbet *did*.
- C Ett hjälpverb behövs mellan *Most teenagers* och *read not*.
- D Negation bildas med *do* (i presens eller imperfekt/preteritum) + *not + infinitiv*.

**3. Parents are wanting the best for their children.**

- A För generella påståenden använder man enkel presens.
- B Verbet ska stå i perfekt.
- C -ing formen använder man för generella påståenden och vanor.
- D Progressiv (= pågående) form presens används när man pratar om en önskan.

**4. Did you went to school yesterday?**

- A Bara vissa frågor i imperfekt/preteritum bildas med *did*.
- B *Went* är inkorrekt form av imperfekt/preteritum.
- C *Went* ska stå i infinitiv.
- D Det fattas regelbunden ändelse i imperfekt/preteritum.

**5. Sarah and I likes to play football.**

- A Här behövs tredje person -s.
- B Subjektet *Sarah and I* är plural.
- C Efter *Sarah and I* sätts verbet i andra person -s.
- D Verbet *like* får aldrig en ändelse.

**6. Last Friday I went to the beach and jump into the lake.**

- A Jump ska sättas i oregelbunden imperfekt/preteritum.
- B Jump ska stå i pluskvamperfekt.
- C Oregelbunden imperfekt/preteritum kräver ändelsen -ed.
- D Jump behöver regelbunden ändelsen i imperfekt/preteritum -ed.

**7. Missed I your birthday last month?**

- A Ja/nej frågor måste ha verbet *to have*.
- B Den här ja/nej frågan ska börja med hjälperbvet *to be*.
- C En del frågor i imperfekt/preteritum bildas med *did*.
- D Framför Missed I fattas hjälperbvet *did*.

**8. This guitar sounds perfectly.**

- A Perfect är ett adjektiv som aldrig får ändelsen -ly.
- B Här behövs ett adjektiv, och inte ett adverb.
- C Verb som *to sound* och *to look* följs aldrig av ett adjektiv eller ett adverb.
- D Det här är ett undantag till regeln "adjektiv har ändelsen -ly".

**9. I'm sorry, I didn't wanted to lie to you.**

- A Did används inte tillsammans med verb på ändelsen -ed.
- B Wanted är inkorrekt imperfekt/preteritum form av *to want*.
- C Negerad imperfekt/preteritum bildas med *not* + verb i imperfekt/preteritum.
- D Didn't ska bytas ut mot presens.

**10. My best friend usually play a lot of sports.**

- A Efter My best friend sätts verbet i andra person -s.
- B A lot of sports står i tredje person singular.
- C Verbet måste sättas i tredje person -s.
- D Man måste lägga till ändelsen -ing på verbet *play*.

**11. The boy is dressed beautiful.**

- A Beautiful ska komma före verbet.
- B Adverb bildas för det mestta genom att lägga till -ly på adjektivet.
- C Ordföljden är fel; adverbet måste komma före verbet.
- D Här behövs ett adjektiv, och inte ett adverb.

**12. Right now, with climate change, temperatures get higher.**

- A När man pratar om allmänna fakta ska man använda progressiv (= pågående) form presens.
- B Verbet ska stå i passiv form.
- C När man pratar om en aktuell utveckling eller en pågående handling ska man använda -ing formen.
- D Enkel presens bildas med rätt form av *to be* + verbet i -ing formen.

**13. In 1864, President Lincoln move into the White House.**

- A Verbformen *move* kräver andra person -s.
- B Oregelbunden imperfekt/preteritum kräver ändelsen -ed.
- C *Move* behöver en regelbunden ändelse i imperfekt/preteritum.
- D Här behövs pluskvamperfekt.

**14. The students learned not for the test.**

- A Framför *learned not* behövs hjälpverbet *did*.
- B Negerad imperfekt/preteritum bildas med *not* + verb i imperfekt/preteritum.
- C -ed ändelsen behövs inte här.
- D Negation bildas med *do* i rätt tempus + *not* + infinitiv.

**15. Now that it's lunchtime, people buy sandwiches.**

- A För generella påståenden använder man enkel presens.
- B För generella påståenden och vanor använder man -ing formen.
- C Pågående form presens använder man när någonting händer just nu.
- D Enkel presens bildas med rätt form av *to be* + verbet i -ing formen.

**16. Did you studied a lot as a student?**

- A *Studied* är inkorrekt form av imperfekt/preteritum.
- B Den här ja/nej frågan ska börja med hjälpverbet *to be*.
- C Här behövs perfekt.
- D *Studied* ska stå i infinitiv.

**17. This girl never go to bed before midnight.**

- A Verbet måste sättas i tredje person -s.
- B Efter *This girl* sätts verbet i andra person -s.
- C *Bed* står i tredje person singular.
- D *This girl* står i plural.

**18. Could you please quick pass me the salt?**

- A Ordföljden är fel; adverbet måste komma före verbet.
- B Här behövs ett adverb, och inte ett adjektiv.
- C Ordet *quick* används alltid med -ly ändelsen.
- D Adjektiv bildas genom att lägga till -ly.

### 11.7.2 The Terminology List

#### 11.7.2.1 German Version



### Hilfsliste

Englisch	Deutsch
<b>helping/auxiliary verb</b>	Hilfsverb
<b>irregular past tense</b>	unregelmäßige Mitvergangenheit
<b>irregular verb</b>	unregelmäßiges Verb
<b>negated past tense</b>	verneinte Mitvergangenheit
<b>negation</b>	Verneinung
<b>past perfect tense</b>	Vorvergangenheit
<b>past tense</b>	Mitvergangenheit
<b>present perfect tense</b>	Perfekt
<b>present progressive/continuous</b>	Verlaufsform der Gegenwart
<b>present tense</b>	Gegenwart
<b>present tense simple</b>	einfache Gegenwart
<b>question in past tense</b>	Frage in Mitvergangenheit
<b>regular past tense</b>	regelmäßige Mitvergangenheit
<b>second person -s</b>	zweite Person -s
<b>third person -s</b>	dritte Person -s
<b>third person singular</b>	dritte Person Einzahl
<b>yes/no question</b>	Ja-/Nein-Frage

## 11.7.2.2 Swedish Version

**ORDLISTA**

Svenska	Engelska
<b>hjälpverb</b>	helping/auxiliary verb
<b>oregelbunden imperfekt/preteritum</b>	irregular past tense
<b>oregelbundet verb</b>	irregular verb
<b>negerad imperfekt/preteritum</b>	negated past tense
<b>pluskvamperfekt</b>	past perfect tense
<b>imperfekt/preteritum</b>	past tense
<b>perfekt</b>	present perfect tense
<b>progressiv (=pågående) form presens</b>	present progressive/continuous
<b>presens</b>	present tense
<b>enkel presens</b>	present tense simple
<b>fråga i imperfekt/preteritum</b>	question in past tense
<b>regelbunden imperfekt/preteritum</b>	regular past tense
<b>andra person -s</b>	second person -s
<b>tredje person -s</b>	third person -s
<b>tredje person singular</b>	third person singular
<b>ja/nej fråga</b>	yes/no question

### 11.7.3 The Rating Scheme of the MKT<sup>83</sup>

	Section	2 pts	1 pts	Missing value <sup>84</sup>
Third person -s	<b>Part A<sup>85</sup>:</b> <i>So she runs around more and sleeps less.</i>	<i>runs, runs around, runs around more, runs sleeps, she runs, she runs around, she runs sleeps, sleeps, so she runs, she sleeps</i>	<i>runs sleeps less, she runs sleeps less, sleeps less, around sleeps</i>	<i>more and sleeps less, runs around more and sleeps less, so she runs around more, so she runs around more and sleeps</i>
Regular past tense	<b>Part B</b>	<i>enjoys, enjoys cooking, he (really) enjoys, he enjoys, he enjoys cooking, he really enjoys, he really enjoys cooking, really enjoys, really enjoys cooking</i>	/	/
Adverbs (vs. adjectives)	<b>Part C</b>	5. B 10. C 17. A	/	/
	<b>Part A:</b> <i>However, this time she behaved as if we were there.</i>	<i>behaved, she behaved, this time she behaved</i>	<i>This time she behaved as if</i>	/
	<b>Part B</b>	<i>asked, asked her, asked her to, asked her to go, asked to go outside, loved, loved exploring, we (repeatedly) asked</i>	<i>Our son, on the other hand, loved exploring at the beach</i>	/
	<b>Part C</b>	1. C 6. D 13. C	/	/
	<b>Part A:</b> <i>I bet she waited anxiously for us all day long.</i>	<i>all day long, anxiously, day long, long, anxiously long</i>	<i>bet she waited anxiously, she waited anxiously for us, waited anxiously for us all day long, waited anxiously, for us all day long, anxiously for</i>	<i>I bet she waited anxiously for us all day long</i>
	<b>Part B</b>	<i>all day, outside, really, repeatedly, slowly</i>	<i>being inside, he was slowly, repeatedly asked, time online, to go outside, we repeatedly asked, we repeatedly</i>	<i>spent so much time online</i>

<sup>83</sup> Zero points were allocated if options other than the ones listed were selected. All responses listed containing brackets () were written down by students as such, i.e., with the brackets.

<sup>84</sup> Actually missing values, more than one item being selected, and student responses containing whole sentences were also counted as missing values, in addition to the ones listed in the column.

<sup>85</sup> For the terminology employed in parts A and B, the text of part B, and the single-choice items of part C, see 11.7.1.

Section	2 pts	1 pts	Missing value <sup>84</sup>
<b>Part C</b>	8. B 11. B 18. B	/	/
<b>Part A [PC]:</b> <i>Usually, when we are not home, she plays a lot with the toys that are lying around.</i>	<i>are lying, are lying around, that are lying around</i>	<i>toys that are lying around, lying, lying around</i>	<i>usually are lying</i>
<b>Part A [PS]:</b> <i>I imagine her as she is running around fast like she did when she was younger!</i>	<i>I imagine, imagine her, imagine</i>	/	
<b>Part B [PC]</b>	<i>are talking, are telling, he is preparing, he is preparing Pizza, is preparing, is preparing pizza, right now he is preparing, right now he is preparing pizza with his friends, they are talking, they are talking about</i>	<i>preparing, preparing pizza, talking, talking about, talking about our daughter, they (are) talking, is (preparing)</i>	/
<b>Part B [PS]</b>	<i>(really) enjoys cooking, enjoys cooking, he (really) enjoys, He enjoys cooking, he really enjoys cooking, he really enjoys cooking, his name is tom, husband's name is, husband's name is Tom, is (1<sup>st</sup> or 2<sup>nd</sup> instance in text), is Tom, my husband's name is, my husband's name is Tom, my name is, my name is Catherine, name is, name is Tom, really (enjoys) cooking, really enjoys, really enjoys cooking, name (is) tom</i>	/	<i>tom (enjoys) cooking</i>
<b>Part C</b>	3. A 12. C 15. C	/	/

Present simple vs. continuous

	<b>Section</b>	<b>2 pts</b>	<b>1 pts</b>	<b>Missing value<sup>84</sup></b>
<b>Negated <i>did</i></b>	<b>Part A:</b> <i>She did not destroy stuff in the living room – or did she, mum?</i>	<i>did not destroy, did not destroy stuff, she did not destroy, she did not destroy stuff, she did not destroy stuff in the living room</i>	<i>destroy, did not, she did not, she did not, did (1<sup>st</sup> instance in text)</i>	/
	<b>Part B</b>	<i>did not (even) want, did not even want, did not even want to go, did not understand, did not understand why, did not want, didn't understand, she did not understand, she didn't understand</i>	<i>did (1<sup>st</sup> instance in text), did not, not understand, she did not</i>	<i>she did not understand why we repeatedly asked her to go outside</i>
	<b>Part C</b>	2. D 9. A 14. D	/	/
<b>Interrogative <i>did</i></b>	<b>Part A:</b> <i>What did your cat do while she was at home alone?</i>	<i>did</i>	<i>What did your, What did your cat, What did, did your cat</i>	<i>did while</i>
	<b>Part B</b>	<i>Did forget, Did we forget, Did forget, Did we forget, Did we forget to tell</i>	<i>Did, Did we, forget</i>	/
	<b>Part C</b>	4. C 7. C 16. D	/	/

## 11.8 The C-Test

### 11.8.1 The Test Sheet<sup>86</sup>

#### ENGLISH PROFICIENCY TEST

➤ Fill in the gaps with the missing letters. Passage 0 has been done for you.

#### Passage 0: Matilda

Matilda is a clever little girl. She reads all the books in the local library before she even starts school. She can multiply by numbers in her head quickly. But her parents are not interested in her. They like movies and TV, and they do not like books!

#### Passage 1: Marley & Me

For the next three days, I played with Marley. I lay on the floor and he climbed on me. He followed me everywhere, and he tried to chew on everything. When Jenny came back from Disney World, she played with Marley, though. She helped him a lot. She got up in the night and took him outside. Most of all, she gave him food. Marley ate three large bowls of puppy food every day.

#### Passage 2: Pirates of the Caribbean

From high above the ship's deck, a pirate looked across the ocean. He saw nothing except the two ships they travelled with. The Caribbean was calm. Everything was quiet. So why did he feel so worried? He looked around. This time he could see something. Was a ship sailing towards them? Worse, was it an East India Trading Company ship? He knew about the Company agents. They killed pirates.

#### Passage 3: The Time Machine

The most important person in this book – we know him only as the Time Traveller – has built his own time machine and has gone forwards into the future, to the year 802,701. He expected to find a world with more intelligent people, better machines and a much better way of living. Perhaps we expect the same too, because most people and find about time travel shocking the future in this way. Instead, he described a world where people live simple lives.

#### Passage 4: USA in the 1950s

Until the evening of 4 October 1957, the US President, Dwight D. Eisenhower, was confident that he led the world's greatest nation. In the USA, the early 1950s are known as the Eisenhower years. Many Americans remember these years as a time of wealth and happiness. The USA was the richest nation in the world and it was growing richer all the time. Almost everyone American could hope to own a house and a car. [...] But then some news arrived that shook America's belief in itself: 'The Russians are in space! The Russians are in space!'

<sup>86</sup> In the present study, only passages 1–5 were used in the data evaluation, as passage 5 was too difficult for the target group and only few students attempted filling it in. Originally, the study was designed to include two target age groups, 13–14 and 15–16, which is why passage 5 was integrated in the C-test.

### **Passage 5: Brave New World**

It is 600 years in the future, and life on Earth has developed into a perfect society – a Brave New World, wh\_\_\_\_\_ humans a\_\_\_\_ bred a\_\_\_\_ conditioned scienti\_\_\_\_\_ to cre\_\_\_\_\_ a soc\_\_\_\_\_ in wh\_\_\_\_ people ha\_\_\_\_ peaceful, reaso\_\_\_\_\_ happy li\_\_\_\_, but n\_\_\_\_ individual fre\_\_\_\_\_ or oppor\_\_\_\_\_ for pas\_\_\_\_\_. There a\_\_\_\_, of cou\_\_\_\_\_, many bene\_\_\_\_ to th\_\_\_\_ kind o\_\_\_\_ society. F\_\_\_\_ example, there is no disease, suffering or pain. Everybody has work and nobody is dissatisfied with their position in a socially stable society.

### **Passage 6: Are We Living in a Post-Happiness World?**

According to the World Happiness Report, which ranks 156 countries based on inhabitants' perception and well-being, happiness in the United States is declining. Americans sa\_\_\_\_ they we\_\_\_\_ less con\_\_\_\_\_ in 2018 th\_\_\_\_ a ye\_\_\_\_ earlier, ran\_\_\_\_ No. 19 beh\_\_\_\_ Australia a\_\_\_\_ Canada. T\_\_\_\_ 24-hour ne\_\_\_\_ cycle, comb\_\_\_\_ with t\_\_\_\_ onslaught o\_\_\_\_ natural disa\_\_\_\_\_, social uphe\_\_\_\_ and poli\_\_\_\_ strife, has le\_\_\_\_ Americans exha\_\_\_\_\_. Worse, t\_\_\_\_ agitation sh\_\_\_\_ no sign of abating; psychologists suggest anxiety is on the rise.

(Bryant, 2008; Cartledge & Huxley, 2008; Disney Enterprises, 2009; Grogan, 2005; Holson, 2019; Maule & Wells, 2008)

#### **11.8.2 The List of Accepted Responses**

<b>Passage 1</b>					
1 lay	2 the	3 as, and	4 climbed	5 me	6 followed
7 everywhere	8 he	9 to	10 on	11 when	12 came
13 from	14 she	15 with	16 too	17 helped, held	18 and
19 him	20 got				
<b>Passage 2</b>					
1 saw	2 except	3 two	4 that	5 traveled	6 the
7 was	8 everything	9 quiet	10 why	11 he	12 so
13 he	14 again	15 time	16 could	17 something	18 ship
19 toward(s)	20 worse				
<b>Passage 3</b>					
1 expected, ex- pects	2 find	3 world	4 more	5 people	6 machines
7 much	8 way	9 living	10 we	11 them, this, that	12 because
13 books	14 films	15 time	16 show	17 future	18 this, that
19 instead	20 discovered				

<b>Passage 4</b>					
1 the	2 the	3 are	4 as	5 years	6 remember
7 years	8 time	9 wealth	10 happiness	11 was	12 richest
13 in	14 world	15 it	16 growing	17 all, at	18 time
19 every	20 could				
<b>Passage 5</b>					
1 where	2 are	3 and	4 scientifically	5 create	6 society
7 which	8 have	9 reasonable	10 lives	11 no	12 freedom
13 opportu-nity	14 passion	15 are	16 course	17 benefits	18 this, that
19 of	20 for				
<b>Passage 6</b>					
1 said	2 were	3 content	4 than	5 year	6 ranking
7 behind	8 and	9 the	10 news	11 combined	12 the
13 of	14 disasters	15 upheaval	16 political	17 left	18 exhausted
19 the, that, this	20 shows				

## 11.9 The Learning Experiences Questionnaire (LEQ)

### 11.9.1 English Translation



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Me, myself & English

This questionnaire is about English used in your spare time and at school. It is not a test, so please respond to the questions **by yourself, spontaneously, and honestly** – there are no wrong answers! I am interested in what **you** really do and think.

**Always** write CLEARLY and in LARGE LETTERS / NUMBERS.

Please fill in your ID code here:

- My code:**
- 2<sup>nd</sup> and 3<sup>rd</sup> letter of your first name
  - the last letter of your mother's first name
  - birth month (e.g. 03 for March)

#### 1. English spare time activities

I am interested in what you do in your **spare time** (= outside your lessons) **in English**.  
 ➤ This is only about the contact with English in your spare time that is not related to your classes (so no homework, preparation for presentations, reading assignments ...)!)

##### Do you usually read in English in your spare time?

(Almost) never <input type="radio"/>	A few times a year <input type="radio"/>	Once or a few times a month <input type="radio"/>	Once or a few times a week <input type="radio"/>	(Almost) daily <input type="radio"/>
---	--	---	--	---

If you read in English in your spare time...

For how many years/months have you been reading regularly in English?

Years   Months

For how long did you read in English in your spare time last week?

Think of a **regular** week in which you went to school.

(1) Comics/texts in which mainly pictures tell the story (e.g. manga, comics, memes, etc.)

(2) Texts, in which mainly the text tells the story (e.g. books, newspaper articles, Wikipedia, emails, texts on Instagram, etc.)

Hours   Minutes   Hours   Minutes

##### Do you usually write in English in your spare time?

(Almost) never <input type="radio"/>	A few times a year <input type="radio"/>	Once or a few times a month <input type="radio"/>	Once or a few times a week <input type="radio"/>	(Almost) daily <input type="radio"/>
---	--	---	--	---

If you write in English in your spare time...

For how many years/months have you been writing in English regularly?

Years   Months

For how long did you write in English in your spare time last week?

Think of a **regular** week in which you went to school.

(1) With someone (e.g. chat, WhatsApp, email, etc.)

(2) By yourself (e.g. diary, stories, etc.)

Hours <input type="text"/> <input type="text"/>	Minutes <input type="text"/> <input type="text"/>	Hours <input type="text"/> <input type="text"/>	Minutes <input type="text"/> <input type="text"/>
---	---	---	---

**Do you usually listen to English music in your spare time?**

(Almost) never <input type="radio"/>	A few times a year <input type="radio"/>	Once or a few times a month <input type="radio"/>	Once or a few times a week <input type="radio"/>	(Almost) daily <input type="radio"/>
---	--	---	--	---

**If you listen to English music in your spare time...**

For how many years/months have you been listening to English music regularly?

Years <input type="text"/> <input type="text"/>	Months <input type="text"/> <input type="text"/>
---	--

For how long did you listen to English music in your spare time last week?

Hours <input type="text"/> <input type="text"/>	Minutes <input type="text"/> <input type="text"/>
---	---

Think of a **regular week** in which you went to school.

**Do you usually listen to English in your spare time (e.g. podcasts, radio, audiobooks, etc.)?**

(Almost) never <input type="radio"/>	A few times a year <input type="radio"/>	Once or a few times a month <input type="radio"/>	Once or a few times a week <input type="radio"/>	(Almost) daily <input type="radio"/>
---	--	---	--	---

**If you listen to English (except for music) in your spare time...**

For how many years/months have you been listening to English regularly?

Years <input type="text"/> <input type="text"/>	Months <input type="text"/> <input type="text"/>
---	--

For how long did you listen to English in your spare time last week?

Hours <input type="text"/> <input type="text"/>	Minutes <input type="text"/> <input type="text"/>
---	---

Think of a **regular week** in which you went to school.

**Do you usually speak English in your spare time?**

(Almost) never <input type="radio"/>	A few times a year <input type="radio"/>	Once or a few times a month <input type="radio"/>	Once or a few times a week <input type="radio"/>	(Almost) daily <input type="radio"/>
---	--	---	--	---

**If you speak English in your spare time...**

For how many years/months have you been speaking English regularly?

Years <input type="text"/> <input type="text"/>	Months <input type="text"/> <input type="text"/>
---	--

Think of a **regular week** in which you went to school.

For how long did you speak to English in your spare time last week?

(1) in person with someone who you meet

(2) by yourself (e.g. when you prepare a presentation, speak to yourself (aloud), etc.)

Hours <input type="text"/> <input type="text"/>	Minutes <input type="text"/> <input type="text"/>	Hours <input type="text"/> <input type="text"/>	Minutes <input type="text"/> <input type="text"/>
---	---	---	---

(3) **with someone remotely** (e.g. on telephone, Skype, Facetime, etc.)

Hours   Minutes

**Do you usually sing in English in your spare time (e.g. singing along, singing yourself, karaoke)?**

(Almost) never <input type="radio"/>	A few times a year <input type="radio"/>	Once or a few times a month <input type="radio"/>	Once or a few times a week <input type="radio"/>	(Almost) daily <input type="radio"/>
---	--	---	--	---

If you sing in English in your spare time...

For how many years/months have you been singing in English regularly?

Years   Months

For how long did you sing in English in your spare time last week?

Think of a **regular week** in which you went to school.

Hours   Minutes

**Do you usually watch things in English in your spare time (e.g. TV, series, movies, YouTube videos, etc.)?**

(Almost) never <input type="radio"/>	A few times a year <input type="radio"/>	Once or a few times a month <input type="radio"/>	Once or a few times a week <input type="radio"/>	(Almost) daily <input type="radio"/>
---	--	---	--	---

If you watch things in English in your spare time...

For how many years/months have you been watching things in English regularly?

Years   Months

For how long did you watch things in English in your spare time last week?

Think of a **regular week** in which you went to school.

(1) with English subtitles

Hours   Minutes

(2) with subtitles in a different language

Hours   Minutes

(3) without subtitles

Hours   Minutes

**Do you usually game in English in your spare time (e.g. video games, online gaming, etc.)?**

(Almost) never <input type="radio"/>	A few times a year <input type="radio"/>	Once or a few times a month <input type="radio"/>	Once or a few times a week <input type="radio"/>	(Almost) daily <input type="radio"/>
---	--	---	--	---

If you game in English in your spare time...

For how many years/months have you been gaming in English regularly?

Years   Months

For how long did you game in English in your spare time last week?

Think of a **regular week** in which you went to school.

(4) **by yourself** (e.g. in mobile apps, as a single player on the computer, online without any contact with other gamers, etc.)

Hours

Minutes

(5) **with others** (e.g. as a multiplayer online, etc.)

Hours

Minutes

**Do you usually do other things in English in your spare time?**

Yes, namely: \_\_\_\_\_  
 No

If you do other things in English in your spare time...

For how many years/months have you been doing it regularly?

Years

Months

For how long did you do it in your spare time last week?

Hours

Minutes

Is there anything else I should know about your use of English in your spare time?

---

---

**2. English abroad**

**Have you been on holiday in an English-speaking country (except for (language) camps)?**

Yes  
 No

if you ticked yes

How long (in total)?

Week(s)

Day(s)

**Have you ever lived in an English-speaking country?**

Yes  
 No

if you ticked yes

Year(s)

Month(s)

Week(s)

**Have you been to a different country (not English-speaking) where you spoke English?**

Yes  
 No

if you ticked yes

Year(s)

Month(s)

Week(s)

**Have you been on a language trip, in a camp, or at a competition, etc., where you spoke English?**

Yes  
 No

if you ticked yes

Month(s)

Week(s)

Day(s)

**3. Englisch at school**

**How old were you when you started studying English in school?**

\_\_\_\_\_ years

**How would you define "grammar"?**

Explain in your own words what "grammar" means.

**How much time did you spend last week studying English in your spare time (e.g. for homework, to prepare for exams, etc.)?**

Hours   Minutes

Think of a **regular week** in which you went to school.

	(Almost) never	A few times a year	A few times a semester	A few times a month	(Almost) every English lesson
<b>How often do you do the following things in your English classes?</b> ➤ Tick just one box per line.					
We practice grammar (e.g. reformulating sentences, completing clozes, correcting texts...).	1	2	3	4	5
We read (e.g. books, texts from the course book, texts from the internet...).	1	2	3	4	5
We watch something (e.g. video clips, films, documentaries, theater plays...).	1	2	3	4	5
We listen to something (e.g. listening tasks, radio emissions, songs, podcasts...).	1	2	3	4	5
We speak about or revise grammar rules.	1	2	3	4	5
We write (e.g. creative texts, formal texts, answering questions...).	1	2	3	4	5
We speak English (e.g. discussions, role plays, presentations, conversations with the teacher...).	1	2	3	4	5
We speak about or write down different words (e.g. defining or explaining words, inserting them in clozes...).	1	2	3	4	5
Other activities: _____	1	2	3	4	5
<b>Do you agree with the statements?</b> ➤ Tick just one box per line.					
In our English classes, we talk about grammar when it turns out to be problematic for us.	1	2	3	4	5
Grammar teaching is a reaction to our mistakes.	1	2	3	4	5
Our teacher focuses in spoken English (e.g. discussions, presentations) mainly on content.	1	2	3	4	5
Grammar is dealt with on the side rather than as a lesson's main topic.	1	2	3	4	5
We work on grammatical features systematically, one after another	1	2	3	4	5
Our teacher finds it important that we speak grammatically correctly also in spoken English (e.g. discussions, presentations).	1	2	3	4	5
Grammar is dealt with superficially rather than in depth.	1	2	3	4	5
It's the lessons' goal to study or revise a grammar chapter.	1	2	3	4	5
I develop a feel for grammar (e.g. endings, tenses) when using English in my spare time.	1	2	3	4	5
By using English in my spare time, I learn grammar rules, i.e. how English words and phrases are constructed.	1	2	3	4	5
English instruction helps me learn English grammar rules.	1	2	3	4	5
I develop a feel for English through instruction.	1	2	3	4	5
I use English according to feel, i.e. intuitively.	1	2	3	4	5
I use English with the help of grammar rules.	1	2	3	4	5

**4. You & Your Family**

<b>Gender:</b>	<input type="radio"/> Girl	<input type="radio"/> Boy	<input type="radio"/> other / prefer not to answer
<b>Birth year:</b> _____	<b>Country of birth:</b> _____	<b>First language:</b> _____	
<b>Do you use languages other than [German/Swedish] and English regularly (outside your language classes)?</b>			
<input type="radio"/> Yes, namely: _____			
<input type="radio"/> No			
<b>Do you have dyslexia?</b>	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> I don't know
<b>For how long have you lived in [Austria/Sweden]?</b>			
Years	<input type="text"/> <input type="text"/>	Months	<input type="text"/> <input type="text"/>
<b>What is your parents' highest degree in education?<sup>1</sup></b>		<b>Mother/parent 1</b>	<b>Father/parent 2</b>
No specific education or training		<input type="radio"/>	<input type="radio"/>
Obligatory school		<input type="radio"/>	<input type="radio"/>
Upper secondary education		<input type="radio"/>	<input type="radio"/>
Tertiary education		<input type="radio"/>	<input type="radio"/>
<i>I don't know.</i>		<input type="radio"/>	<input type="radio"/>
<b>Als was arbeiten deine Eltern?</b>		<b>Mother/parent 1</b>	<b>Father/parent 2</b>
1. What is their profession?			
<i>Don't want to or cannot answer.</i>		<input type="radio"/>	<input type="radio"/>
2. Where do they work and what do they normally do at work?			
<i>Don't want to or cannot answer.</i>		<input type="radio"/>	<input type="radio"/>

Thank you for participating! 😊

<sup>1</sup> The categories of *no specific education or training*, *obligatory school*, and *tertiary education* were provided for students in Austria and Sweden. In Austria, upper secondary education counted two options, (1) *vocational education without A-levels*, and (2) *upper secondary education with A-levels*. In Sweden, this level corresponded to a single category, *upper secondary high school*.

### 11.9.2 German Version



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Me, myself & English

In diesem Fragebogen geht es um Englisch in Freizeit und Schule. Es ist kein Test, also beantworte die Fragen bitte **alleine, spontan und ehrlich** – es gibt keine falschen Antworten! Mich interessiert, was **du** wirklich machst und denkst.

Schreibe **immer** DEUTLICH und mit GROßen BUCHSTABEN / ZIFFERN.

Bitte trage deinen ID-Code hier ein:

- Mein Code:**
- 2. und 3. Buchstabe deines Vornamens
  - der letzte Buchstabe des Vornamens deiner Mutter
  - Geburtsmonat (z.B. 03 für März)

#### 1. Englische Freizeitaktivitäten

Mich interessiert, was du **in deiner Freizeit** (= außerhalb des Schulunterrichts) **auf Englisch** machst.  
 ➤ Es geht hier nur um Kontakte mit Englisch in deiner Freizeit, die du nicht für den Schulunterricht machen musst (also keine Hausübungen, Referatsvorbereitungen, Leseaufgaben ...).

<b>Liest du für gewöhnlich in deiner Freizeit auf Englisch?</b>					
(Fast) nie <input type="radio"/>	Ein paar Mal pro Jahr <input type="radio"/>	Einmal oder ein paar Mal pro Monat <input type="radio"/>	Einmal oder ein paar Mal pro Woche <input type="radio"/>	(Fast) täglich <input type="radio"/>	
<b>Wenn du in deiner Freizeit auf Englisch liest...</b>					
Seit wie vielen Jahren/Monaten liest du in deiner Freizeit regelmäßig auf Englisch?					
Jahre <input type="text"/> <input type="text"/>	Monate <input type="text"/> <input type="text"/>				
Wie lange hast du letzte Woche in deiner Freizeit auf Englisch gelesen?			Denk an eine <b>normale Woche</b> , in der du Schule hattest.		
(1) Comics/Texte, in denen hauptsächlich Bilder die Geschichte erzählen (z.B. Manga, Comics, Memes, usw.)			(2) Texte, in denen hauptsächlich der Text selbst die Geschichte erzählt (z.B. Bücher, Zeitungsartikel, Wikipedia, Email, Texte auf Facebook usw.)		
Stunden <input type="text"/> <input type="text"/>	Minuten <input type="text"/> <input type="text"/>	Stunden <input type="text"/> <input type="text"/>	Minuten <input type="text"/> <input type="text"/>		

#### Schreibst du für gewöhnlich in deiner Freizeit auf Englisch?

(Fast) nie <input type="radio"/>	Ein paar Mal pro Jahr <input type="radio"/>	Einmal oder ein paar Mal pro Monat <input type="radio"/>	Einmal oder ein paar Mal pro Woche <input type="radio"/>	(Fast) täglich <input type="radio"/>	
<b>Wenn du in deiner Freizeit auf Englisch schreibst...</b>					
Seit wie vielen Jahren/Monaten schreibst du in deiner Freizeit regelmäßig auf Englisch?					
Jahre <input type="text"/> <input type="text"/>	Monate <input type="text"/> <input type="text"/>				

Wie lange hast du letzte Woche in deiner Freizeit auf Englisch geschrieben?

Denk an eine **normale Woche**, in der du Schule hattest.

(1) mit jemandem (z.B. Chat, SMS, WhatsApp, Email, usw.)?

Stunden

Minuten

(2) alleine (z.B. Tagebuch, Geschichten, usw.)?

Stunden

Minuten

**Hörst du für gewöhnlich in deiner Freizeit Musik auf Englisch?**

(Fast) nie

Ein paar Mal pro Jahr

Einmal oder ein paar Mal pro Monat

Einmal oder ein paar Mal pro Woche

(Fast) täglich

**Wenn du in deiner Freizeit Musik auf Englisch hörst...**

Seit wie vielen Jahren/Monaten hörst du in deiner Freizeit regelmäßig Musik auf Englisch?

Jahre

Monate

Wie lange hast du letzte Woche in deiner Freizeit Musik auf Englisch gehört?

Denk an eine **normale Woche**, in der du Schule hattest.

Stunden

Minuten

**Hörst du für gewöhnlich in deiner Freizeit Englisch (z.B. Podcasts, Radio, Hörbücher, usw.)?**

(Fast) nie

Ein paar Mal pro Jahr

Einmal oder ein paar Mal pro Monat

Einmal oder ein paar Mal pro Woche

(Fast) täglich

**Wenn du in deiner Freizeit Englisch hörst (außer Musik) ...**

Seit wie vielen Jahren/Monaten hörst du dir in deiner Freizeit regelmäßig Dinge auf Englisch an (z.B. Podcasts, Radio, Hörbücher, usw.)?

Jahre

Monate

Wie lange hast du dir letzte Woche in deiner Freizeit Dinge auf Englisch angehört (z.B. Podcasts, Radio, Hörbücher, usw.)?

Denk an eine **normale Woche**, in der du Schule hattest.

Stunden

Minuten

**Sprichst du für gewöhnlich in deiner Freizeit Englisch?**

(Fast) nie

Ein paar Mal pro Jahr

Einmal oder ein paar Mal pro Monat

Einmal oder ein paar Mal pro Woche

(Fast) täglich

**Wenn du in deiner Freizeit Englisch sprichst...**

Seit wie vielen Jahren/Monaten sprichst du in deiner Freizeit regelmäßig Englisch?

Jahre

Monate

<p>Wie lange hast du letzte Woche in deiner Freizeit Englisch gesprochen?</p> <p>(1) persönlich mit jemandem, den du triffst          Stunden <input type="text"/> Minuten <input type="text"/></p> <p>(2) alleine (z.B. wenn du eine Präsentation übst, (laut) mit dir selber sprichst, usw.)          Stunden <input type="text"/> Minuten <input type="text"/></p> <p>(3) mit jemandem auf Distanz (z.B. telefonisch, über Skype, Facetime, usw.)          Stunden <input type="text"/> Minuten <input type="text"/></p>		<p>Denk an eine <b>normale Woche</b>, in der du Schule hattest.</p>								
<p><b>Singst du für gewöhnlich in deiner Freizeit auf Englisch (mitsingen oder selber singen, z.B. Karaoke)?</b></p> <table border="0" style="width: 100%;"> <tr> <td style="width: 25%; text-align: center;">(Fast) nie <input type="radio"/></td> <td style="width: 25%; text-align: center;">Ein paar Mal pro Jahr <input type="radio"/></td> <td style="width: 25%; text-align: center;">Einmal oder ein paar Mal pro Monat <input type="radio"/></td> <td style="width: 25%; text-align: center;">Einmal oder ein paar Mal pro Woche <input type="radio"/></td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">(Fast) täglich <input type="radio"/></td> <td></td> </tr> </table> <p><b>Wenn du in deiner Freizeit auf Englisch singst...</b></p> <p>Seit wie vielen Jahren/Monaten singst du in deiner Freizeit regelmäßig auf Englisch?</p> <p>Jahre <input type="text"/> Monate <input type="text"/></p>			(Fast) nie <input type="radio"/>	Ein paar Mal pro Jahr <input type="radio"/>	Einmal oder ein paar Mal pro Monat <input type="radio"/>	Einmal oder ein paar Mal pro Woche <input type="radio"/>			(Fast) täglich <input type="radio"/>	
(Fast) nie <input type="radio"/>	Ein paar Mal pro Jahr <input type="radio"/>	Einmal oder ein paar Mal pro Monat <input type="radio"/>	Einmal oder ein paar Mal pro Woche <input type="radio"/>							
		(Fast) täglich <input type="radio"/>								
<p>Wie lange hast du letzte Woche in deiner Freizeit auf Englisch gesungen?</p> <p>Stunden <input type="text"/> Minuten <input type="text"/></p>		<p>Denk an eine <b>normale Woche</b>, in der du Schule hattest.</p>								
<p><b>Siehst du dir für gewöhnlich in deiner Freizeit Dinge auf Englisch an (z.B. TV-Programme, Serien, Filme, YouTube-Videos, usw.)?</b></p> <table border="0" style="width: 100%;"> <tr> <td style="width: 25%; text-align: center;">(Fast) nie <input type="radio"/></td> <td style="width: 25%; text-align: center;">Ein paar Mal pro Jahr <input type="radio"/></td> <td style="width: 25%; text-align: center;">Einmal oder ein paar Mal pro Monat <input type="radio"/></td> <td style="width: 25%; text-align: center;">Einmal oder ein paar Mal pro Woche <input type="radio"/></td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">(Fast) täglich <input type="radio"/></td> <td></td> </tr> </table> <p><b>Wenn du dir in deiner Freizeit Dinge auf Englisch ansiehst...</b></p> <p>Seit wie vielen Jahren/Monaten siehst du dir in deiner Freizeit regelmäßig Dinge auf Englisch an?</p> <p>Jahre <input type="text"/> Monate <input type="text"/></p>			(Fast) nie <input type="radio"/>	Ein paar Mal pro Jahr <input type="radio"/>	Einmal oder ein paar Mal pro Monat <input type="radio"/>	Einmal oder ein paar Mal pro Woche <input type="radio"/>			(Fast) täglich <input type="radio"/>	
(Fast) nie <input type="radio"/>	Ein paar Mal pro Jahr <input type="radio"/>	Einmal oder ein paar Mal pro Monat <input type="radio"/>	Einmal oder ein paar Mal pro Woche <input type="radio"/>							
		(Fast) täglich <input type="radio"/>								
<p>Wie lange hast du dir letzte Woche in deiner Freizeit Dinge auf Englisch angesehen?</p> <p>(1) <u>mit englischen Untertiteln</u>          Stunden <input type="text"/> Minuten <input type="text"/></p> <p>(2) <u>mit Untertiteln auf einer anderen Sprache</u> (nicht auf Englisch)          Stunden <input type="text"/> Minuten <input type="text"/></p> <p>(3) <u>ohne Untertitel</u>          Stunden <input type="text"/> Minuten <input type="text"/></p>		<p>Denk an eine <b>normale Woche</b>, in der du Schule hattest.</p>								

**Spielst du für gewöhnlich Spiele auf Englisch (z.B. Computerspiele, online Gaming, usw.)?**

(Fast) nie <input type="radio"/>	Ein paar Mal pro Jahr <input type="radio"/>	Einmal oder ein paar Mal pro Monat <input type="radio"/>	Einmal oder ein paar Mal pro Woche <input type="radio"/>	(Fast) täglich <input type="radio"/>
-------------------------------------	---	---	---	---

**Wenn du in deiner Freizeit Spiele auf Englisch spielst...****Seit wie vielen Jahren/Monaten spielst du in deiner Freizeit regelmäßig Spiele auf Englisch?**Jahre  Monate  

Wie lange hast du letzte Woche in deiner Freizeit auf Englisch gespielt?

Denk an eine **normale Woche**, in der du Schule hattest.**1) alleine** (z.B. in Handy-Apps, als Singleplayer am PC, online ohne Kontakt mit anderen Spielern, usw.)**2) mit Anderen** (z.B. als Multiplayer am PC, usw.)Stunden  Minuten  Stunden  Minuten  **Machst du für gewöhnlich in deiner Freizeit noch andere Dinge auf Englisch?** Ja, nämlich: \_\_\_\_\_  
 Nein**Wenn du in deiner Freizeit andere Dinge auf Englisch machst...****Seit wie vielen Jahren/Monaten machst du das in deiner Freizeit?**Jahre  Monate  

Wie lange hast du das letzte Woche in deiner Freizeit gemacht?

Stunden  Minuten  **Gibt es noch etwas Wissenswertes über deine Verwendung von Englisch in der Freizeit?** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## 2. Englisch im Ausland

**Warst du in einem englischsprachigen Land auf Urlaub (außer (Sprach-)Camps)?**

O Ja  
O Nein



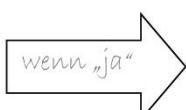
Wie lange (insgesamt)?

Woche(n)

Tag(e)

**Hast du in einem englischsprachigen Land gelebt?**

O Ja  
O Nein



Jahre(e)

Monat(e)

Woche(n)

**Warst du in einem anderen Land (nicht englischsprachig), wo du Englisch gesprochen hast?**

O Ja  
O Nein



Jahre(e)

Monat(e)

Woche(n)

**Warst du auf einer Sprachreise, einem Camp, oder bei einem Wettbewerb etc., wo du Englisch gesprochen hast?**

O Ja  
O Nein



Monat(e)

Woche(n)

Tag(e)

## 3. Englisch in der Schule

**Wie alt warst du, als du angefangen hast, Englisch in der Schule zu lernen?**

\_\_\_\_\_ Jahre

**Was ist „Grammatik“ für dich?**

Beschreibe in deinen eigenen Worten, was „Grammatik“ ist.

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**Wie lange hast du letzte Woche in deiner Freizeit Englisch gelernt (z.B. für Hausaufgaben, zur Prüfungsvorbereitung, usw.)?**

Stunden

Minuten

Denk an eine **normale Woche**,  
in der du Schule hattest.

<b>Wie oft macht ihr folgende Dinge im Englischunterricht?</b> ➤ Kreuze nur ein Feld pro Zeile an.					
	(Fast) nie	Ein paar Mal pro Jahr	Ein paar Mal pro Semester	Ein paar Mal pro Monat	(Fast) jede Englischstunde
Wir üben Grammatik (z.B. Sätze umformen, Lückentexte ausfüllen, Texte verbessern).	1	2	3	4	5
Wir lesen (z.B. Bücher, Texte aus dem Schulbuch, Seiten im Internet...).	1	2	3	4	5
Wir schauen uns Dinge auf Englisch an (z.B. Videos, Filme, Dokumentationen, Theaterstücke...).	1	2	3	4	5
Wir hören uns etwas an (z.B. Hörübungen, englische Radiosendungen, Lieder, Podcasts...).	1	2	3	4	5
Wir sprechen über und/oder wiederholen Grammatikregeln.	1	2	3	4	5
Wir schreiben (z.B. kreative Texte, formelle Texte, Antworten auf Fragen...).	1	2	3	4	5
Wir sprechen Englisch (z.B. Diskussionen, Rollenspiele, Präsentationen, Gespräche mit dem/der LehrerIn...).	1	2	3	4	5
Wir sprechen über Vokabeln oder schreiben diese auf (z.B. Wörter definieren, erklären, in Lückentexte einsetzen...).	1	2	3	4	5
Andere Aktivitäten: _____	1	2	3	4	5
<b>Stimmst du den Aussagen zu?</b> ➤ Kreuze nur ein Feld pro Zeile an.	Stimme gar nicht zu	Stimme eher nicht zu	Stimme weder zu noch nicht zu	Stimme eher zu	Stimme voll zu
Im Englischunterricht sprechen wir nur dann über Grammatik, wenn wir Schwierigkeiten haben.	1	2	3	4	5
Grammatik wird dann unterrichtet, wenn wir Fehler gemacht haben.	1	2	3	4	5
Unser/e LehrerIn achtet im Gesprochenen (Diskussionen, Referate, usw.) hauptsächlich auf den Inhalt.	1	2	3	4	5
Wir lernen oder wiederholen Grammatikregeln der Reihe nach, eine nach der anderen.	1	2	3	4	5
Grammatik wird im Unterricht nebenbei statt als Hauptthema einer Stunde besprochen.	1	2	3	4	5
Auch im Gesprochenen (Diskussionen, Referate, usw.) ist es dem/der LehrerIn wichtig, dass wir grammatisch korrekt sprechen.	1	2	3	4	5
Grammatik wird im Unterricht oberflächlich statt ausführlich besprochen.	1	2	3	4	5
Es ist Ziel der Unterrichtsstunden, ein Grammatikkapitel zu lernen oder zu wiederholen.	1	2	3	4	5
Ich entwickle ein Gefühl für Grammatik (z.B. Endungen, Zeiten, etc.) wenn ich Englisch in meiner Freizeit verwende.	1	2	3	4	5
Durch den Gebrauch von Englisch in meiner Freizeit lasse ich, wie englische Wörter und Phrasen grammatisch richtig gebildet werden.	1	2	3	4	5
Der Englischunterricht hilft mir, englische Grammatikregeln zu lernen.	1	2	3	4	5
Durch den Englischunterricht entwickle ich ein Gefühl für die Sprache.	1	2	3	4	5
Ich verwende Englisch nach Gefühl (also intuitiv).	1	2	3	4	5
Ich verwende Englisch mithilfe von Grammatikregeln.	1	2	3	4	5

**4. Du & deine Familie**

<b>Geschlecht:</b>	<input type="radio"/> Mädchen	<input type="radio"/> Bub	<input type="radio"/> anderes / will ich nicht angeben
<b>Geburtsjahr:</b>			<b>Muttersprache:</b>
<b>Verwendest du andere Sprachen außer Deutsch und Englisch regelmäßig (außer im Sprachunterricht)?</b>			
<input type="radio"/> Ja, nämlich: _____			
<input type="radio"/> Nein			
<b>Hast du Legasthenie?</b> <input type="radio"/> Ja <input type="radio"/> Nein <input type="radio"/> weiß ich nicht			
<b>Wie viele Jahre/Monate lebst du schon in Österreich?</b>			
Jahre	<input type="text"/> <input type="text"/>	Monate	<input type="text"/> <input type="text"/>
<b>Was ist die höchste Ausbildung, die deine Eltern abgeschlossen haben?</b>		<b>Mutter/ Elternteil 1</b>	<b>Vater/ Elternteil 2</b>
Er oder sie hat keine Ausbildung abgeschlossen.		<input type="radio"/>	<input type="radio"/>
Pflichtschule (Volksschule + NMS/Gymnasium Unterstufe)		<input type="radio"/>	<input type="radio"/>
Berufsbildung ohne Matura (Fachschule, Handelsschule, Krankenpflegeschule, Lehre)		<input type="radio"/>	<input type="radio"/>
Höhere Schule mit Matura (Gymnasium Oberstufe, HAK, HTL, HLW)		<input type="radio"/>	<input type="radio"/>
Fachhochschule oder Universitätsstudium		<input type="radio"/>	<input type="radio"/>
<i>Ich weiß es nicht.</i>		<input type="radio"/>	<input type="radio"/>
<b>Als was arbeiten deine Eltern?</b>		<b>Mutter/Elternteil 1</b>	<b>Vater/Elternteil 2</b>
1. Was ist ihr/sein Beruf?			
<i>Will/Kann nicht antworten</i>		<input type="radio"/>	<input type="radio"/>
2. Wo arbeitet sie/er und was macht sie/er normalerweise in der Arbeit?			
<i>Will/Kann nicht antworten</i>		<input type="radio"/>	<input type="radio"/>

**Danke für's Mitmachen! 😊**

### 11.9.3 Swedish Version



Me, myself & English

Den här enkäten handlar om engelskan på fritiden och i skolan. Det är inget test, så svara **själv** på frågorna, och så **spontant** och **ärligt** du kan – det finns inga svar som är fel! För mig är det intressant att veta vad **du** verkligen gör och tycker.

Använd **alltid** STORA BOKSTÄVER / SIFFROR och SKRIV TYDLIGT!

Vänligen fyll i din personliga kod här:

- Min ID-kod:**
- den andra och tredje bokstaven i ditt förnamn
  - den sista bokstaven i din mammas förnamn
  - födelsemånad (t ex 03 för mars)

#### 1. Engelska fritidsaktiviteter

Jag intresserar mig för vad du gör **på engelska** på din **fritid** (= utanför skoldagen).

- *Det handlar endast om sådan kontakt med engelska på din fritid som inte har med skolan att göra (altså inga läxor eller annat skolarbete)!*

##### Brukar du läsa på engelska på din fritid?

(Nästan) aldrig <input type="radio"/>	Ett par gånger om året <input type="radio"/>	Någon eller några gånger i månaden <input type="radio"/>	Någon eller några gånger i veckan <input type="radio"/>	(Nästan) dagligen <input type="radio"/>
---	--	---	--	---

##### Om du läser på engelska på din fritid ...

Under hur många år / månader har du på din fritid läst regelbundet på engelska?

År

Månader

Under din fritid den senaste veckan, hur mycket har du läst text på engelska?

Tänk på en **vanlig vecka** när du har haft skola.

- (1) serier / text där bilder huvudsakligen används för att berätta historien (t ex manga, serieböcker, memes osv)

Timmars

Minuter

- (2) text där huvudsakligen själva texten berättar historien (t ex böcker, nyhetsartiklar, Wikipedia, email, text på Facebook osv)

Timmars

Minuter

##### Brukar du skriva på engelska på din fritid?

(Nästan) aldrig <input type="radio"/>	Ett par gånger om året <input type="radio"/>	Någon eller några gånger i månaden <input type="radio"/>	Någon eller några gånger i veckan <input type="radio"/>	(Nästan) dagligen <input type="radio"/>
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##### Om du skriver på engelska på din fritid ...

Under hur många år / månader har du på din fritid skrivit regelbundet på engelska?

År

Månader

Under din fritid den senaste veckan, hur mycket har du skrivit på engelska?

Tänk på en **vanlig vecka** när du har haft skola.

- (1) med någon annan (t ex chatt, sms, DM/Direct Message, email, osv)?      (2) för dig själv (t ex dagbok, berättelser, osv)?

Timmar  Minuter  Timmar  Minuter  **Brukar du lyssna på engelskspråkig musik på din fritid?**

(Nästan) aldrig <input type="radio"/>	Ett par gånger om året <input type="radio"/>	Någon eller några gånger i månaden <input type="radio"/>	Någon eller några gånger i veckan <input type="radio"/>	(Nästan) dagligen <input type="radio"/>
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**Om du lyssnar på engelskspråkig musik på din fritid ...**

Under hur många år / månader har du på din fritid lyssnat på engelskspråkig musik regelbundet?

År  Månader  

Under din fritid den senaste veckan, hur mycket har du lyssnat på engelskspråkig musik?

Tänk på en **vanlig vecka** när du har haft skola.Timmar  Minuter  **Brukar du lyssna på engelska på din fritid (t ex podcasts, radio, ljudböcker, osv)?**

(Nästan) aldrig <input type="radio"/>	Ett par gånger om året <input type="radio"/>	Någon eller några gånger i månaden <input type="radio"/>	Någon eller några gånger i veckan <input type="radio"/>	(Nästan) dagligen <input type="radio"/>
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**Om du lyssnar på engelska på din fritid (förutom musik) ...**

Under hur många år / månader har du på din fritid lyssnat regelbundet på engelska (t ex podcasts, radio, ljudböcker, osv)?

År  Månader  

Under din fritid den senaste veckan, hur mycket har du lyssnat på engelska (t ex podcasts, radio, ljudböcker, osv)?

Tänk på en **vanlig vecka** när du har haft skola.Timmar  Minuter  **Brukar du prata på engelska på din fritid?**

(Nästan) aldrig <input type="radio"/>	Ett par gånger om året <input type="radio"/>	Någon eller några gånger i månaden <input type="radio"/>	Någon eller några gånger i veckan <input type="radio"/>	(Nästan) dagligen <input type="radio"/>
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**Om du pratar på engelska på din fritid ...**

Under hur många år / månader har du på din fritid pratat regelbundet på engelska?

Tänk på en **vanlig vecka** när du har haft skola.År  Månader  

Under din fritid den senaste veckan, hur mycket har du pratat engelska...

- (1) med någon som du träffat och pratat med      (2) för dig själv (t ex om du över på ett tal, pratar personligen?)

Timmar <input type="text"/> <input type="text"/>	Minuter <input type="text"/> <input type="text"/>	Timmar <input type="text"/> <input type="text"/>	Minuter <input type="text"/> <input type="text"/>
(3) med någon på distans (t ex över telefon, Skype, Facetime, osv)?			
Timmar <input type="text"/> <input type="text"/>	Minuter <input type="text"/> <input type="text"/>		

**Brukar du sjunga på engelska på din fritid (sjunga med eller sjunga själv, t ex karaoke)?**

(Nästan) aldrig <input type="radio"/>	Ett par gånger om året <input type="radio"/>	Någon eller några gånger i månaden <input type="radio"/>	Någon eller några gånger i veckan <input type="radio"/>	(Nästan) dagligen <input type="radio"/>
---	--	---	--	---

**Om du sjunger på engelska på din fritid ...**

Under hur många år / månader har du på din fritid sjungit regelbundet på engelska?

År   Månader  

Under din fritid den senaste veckan, hur mycket har du sjungit på engelska?

Tänk på en **vanlig vecka** när du har haft skola.Timmar   Minuter  **Brukar du kolla på saker på engelska på din fritid (t ex tv-program, serier, filmer, YouTube-klipp, osv)?**

(Nästan) aldrig <input type="radio"/>	Ett par gånger om året <input type="radio"/>	Någon eller några gånger i månaden <input type="radio"/>	Någon eller några gånger i veckan <input type="radio"/>	(Nästan) dagligen <input type="radio"/>
---	--	---	--	---

**Om du kollar på saker på engelska på din fritid ...**

Under hur många år / månader har du på din fritid kollat på saker regelbundet på engelska?

År   Månader  

Under din fritid den senaste veckan, hur mycket har du kollat på saker på engelska?

Tänk på en **vanlig vecka** när du har haft skola.(1) med undertexter på engelska(2) med undertexter på ett annat språk (än engelska)Timmar   Minuter  Timmar   Minuter  (3) utan undertexterTimmar   Minuter  **Brukar du spela spel (dataspel, online-spel osv) på engelska på din fritid?**

(Nästan) aldrig <input type="radio"/>	Ett par gånger om året <input type="radio"/>	Någon eller några gånger i månaden <input type="radio"/>	Någon eller några gånger i veckan <input type="radio"/>	(Nästan) dagligen <input type="radio"/>
---	--	---	--	---

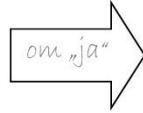
**Om du spelar spel på engelska på din fritid ...**

<p>Under hur många år / månader har du på din fritid spelat spel regelbundet på engelska?</p> <p>År <input type="text"/> <input type="text"/> Månader <input type="text"/> <input type="text"/></p>			
<p>Under din fritid den senaste veckan, hur mycket har du spelat spel på engelska?</p> <p>(1) <b>ensam</b> (t ex på mobilappar, single player på dator, online <u>utan</u> kontakt med andra, osv)</p> <p>(2) <b>med andra</b> (t ex multiplayer, osv)</p> <p>Timmar <input type="text"/> <input type="text"/> Minuter <input type="text"/> <input type="text"/> Timmar <input type="text"/> <input type="text"/> Minuter <input type="text"/> <input type="text"/></p>			
<p>Tänk på en <b>vanlig vecka</b> när du har haft skola.</p>			
<p><b>Brukar du göra något annat på engelska på din fritid?</b></p> <p><input type="radio"/> Ja, nämligen: _____</p> <p><input type="radio"/> Nej</p>			
<p><b>Om du gör annat på engelska på din fritid ...</b></p>			
<p>Under hur många år / månader har du gjort det regelbundet?</p> <p>År <input type="text"/> <input type="text"/> Månader <input type="text"/> <input type="text"/></p>			
<p>Under din fritid den senaste veckan, hur mycket har du gjort det?</p> <p>Timmar <input type="text"/> <input type="text"/> Minuter <input type="text"/> <input type="text"/></p>			
<p><b>Finnss det något annat som kan vara intressant att veta om hur du använder engelska på din fritid?</b> _____ _____</p>			

## 2. Engelska utomlands

**Har du varit i ett engelskspråkigt land på semester (ej språkläger)?**

O Ja  
O Nej



Hur länge (totalt sett)?

Veckor

Dagar

**Har du bott i ett engelskspråkigt land?**

O Ja  
O Nej



År

Månader

Veckor

**Har du varit i ett annat land (ej engelskspråkigt) där du har pratat engelska?**

O Ja  
O Nej



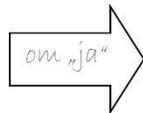
År

Månader

Veckor

**Har du varit på språkresa eller någon annan typ av läger eller tävling etc. där du har pratat engelska?**

O Ja  
O Nej



Månader

Veckor

Dagar

## 3. Engelska i skolan

**Hur gammal var du när du började lära dig engelska i skolan?**

\_\_\_\_\_ år

**Vad är "grammatik" för dig?**

Beskriv med egna ord vad „grammatik“ är.

**Under din fritid den senaste veckan, hur mycket har du pluggat inför engelsklektioner (t ex läxor eller prov)?**

Timmer

Minuter

Tänk på en **vanlig vecka**  
när du har haft skola.

Hur ofta händer dessa saker på engelskaktionerna? ➤ Kryssa bara i en ruta för varje rad.	(Nästan) aldrig	Ett par gånger om året	Ett par gånger per termin	Ett par gånger i månaden	(Nästan) varje engelskaktion
Vi övar grammatik ( <i>t ex formulera om meningar, fylla i lucktexter, rätta texter</i> ).	1	2	3	4	5
Vi läser ( <i>t ex böcker, texter ur läroboken, texter från internet...</i> ).	1	2	3	4	5
Vi tittar på olika saker ( <i>t ex videoklipp, filmer, dokumentärer, pjäser...</i> ).	1	2	3	4	5
Vi lyssnar på något ( <i>t ex hörövningar, engelska radioprogram, sånger, podcasts...</i> ).	1	2	3	4	5
Vi pratar om och/eller repeterar grammatikregler.	1	2	3	4	5
Vi skriver ( <i>t ex kreativa texter, formella texter, svarar på frågor...</i> ).	1	2	3	4	5
Vi pratar engelska ( <i>t ex. diskussioner, rollspel, presentationer, samtal med läraren</i> ).	1	2	3	4	5
Vi pratar om eller skriver upp olika ord ( <i>t ex definiera eller förklara ord, sätta in dem i lucktexter</i> ).	1	2	3	4	5
Andra aktiviteter: _____	1	2	3	4	5
Håller du med om dessa påståenden? ➤ Kryssa bara i en ruta för varje rad.	Håller inte alls med	Håller inte riktigt med	Håller varken med eller inte med	Håller lite med	Håller helt med
På lektionerna pratar vi bara om grammatik när vi har svårigheter med den.	1	2	3	4	5
Grammatik förklaras först när någon gjort fel.	1	2	3	4	5
Vår lärare fokuserar i muntligt språk (diskussion, presentation, osv) huvudsakligen på innehållet.	1	2	3	4	5
Vi lär oss eller repeterar grammatikregler i en viss turordning, en efter en.	1	2	3	4	5
Grammatik hamnar „vid sidan om“ på lektionerna, istället för att vara det huvudsakliga innehållet.	1	2	3	4	5
Aven i muntligt språk (diskussion, presentation, osv) är det viktigt för läraren att vi pratar i grammatiskt korrekt engelska.	1	2	3	4	5
Grammatik behandlas ytligt istället för ingående på lektionerna.	1	2	3	4	5
Det är lektionernas mål att lära sig eller att repetera ett grammatikkapitel.	1	2	3	4	5
Jag utvecklar en känsla för grammatik ( <i>t ex ändelser, tempus, osv</i> ) när jag använder engelska på min fritid.	1	2	3	4	5
Jag lär mig hur engelska ord och meningar bildas grammatiskt när jag använder engelska på min fritid.	1	2	3	4	5
Jag lär mig engelska grammatikregler med hjälp av engelskundervisningen.	1	2	3	4	5
Jag utvecklar en känsla för språket med hjälp av engelskundervisningen.	1	2	3	4	5
Jag använder engelska på känsla (alltså intuitivt).	1	2	3	4	5
Jag använder engelska med hjälp av grammatikregler.	1	2	3	4	5

**4. Du & din familj**

Kön:	<input type="radio"/> Flicka	<input type="radio"/> Pojke	<input type="radio"/> annat / vill ej uppge		
Födelseår:	_____	Födelseland:	_____	Modersmål:	_____
<b>Använder du något annat språk än svenska och engelska regelbundet (förutom språkval)?</b>					
O Ja, nämligen:	_____				
O Nej					
<b>Har du dyslexi?</b>	<input type="radio"/> Ja	<input type="radio"/> Nej	O Jag vet inte		
<b>Hur länge har du bott i Sverige?</b>					
År	<input type="checkbox"/>	<input type="checkbox"/>	Månader	<input type="checkbox"/>	<input type="checkbox"/>
<b>Vilken är den högsta utbildningen som dina föräldrar har avslutat?</b>			<b>Mamma / förälder 1</b>	<b>Pappa / förälder 2</b>	
Han eller hon har inte avslutat någon utbildning.			<input type="radio"/>	<input type="radio"/>	
Grundskoleutbildning			<input type="radio"/>	<input type="radio"/>	
Gymnasieutbildning			<input type="radio"/>	<input type="radio"/>	
Universitets- eller högskoleutbildning			<input type="radio"/>	<input type="radio"/>	
<i>Jag vet inte.</i>			<input type="radio"/>	<input type="radio"/>	
<b>Als was arbeiten deine Eltern?</b>			<b>Mamma / förälder 1</b>	<b>Pappa / förälder 2</b>	
1. Vad är hennes/hans yrke?					
<i>Vill/Kan inte svara</i>			<input type="radio"/>	<input type="radio"/>	
2. Var arbetar hon/han och vad brukar hon/han göra på jobbet?					
<i>Vill/Kan inte svara</i>			<input type="radio"/>	<input type="radio"/>	

Tack för din medverkan! 😊

## 11.10 The Teacher Questionnaire<sup>87</sup>

Dear teacher! This questionnaire is part of my study on implicit/explicit knowledge of Swedish and Austrian learners of English. Your answers are anonymous and will be treated strictly confidentially. Please respond to the questions spontaneously – there is no right or wrong – and answer the questions in terms of the class that is being tested in this project.

### How do you teach English?

#### 1) Background information

		don't want to specify
Age: _____		<input type="checkbox"/>
Gender: <input type="checkbox"/> female <input type="checkbox"/> male <input type="checkbox"/> other		<input type="checkbox"/>
I studied English in _____.		<input type="checkbox"/>
I have been teaching English for _____ years.		<input type="checkbox"/>
I teach in a school situated in a town of _____ inhabitants.		<input type="checkbox"/>
The school I teach at is ... <input type="checkbox"/> private <input type="checkbox"/> public <input type="checkbox"/> a free school.		<input type="checkbox"/>
I also teach other subjects (if any): _____.		<input type="checkbox"/>
I teach grades _____.		<input type="checkbox"/>

#### 2) Preliminary information about your class

		don't want to specify
The class taking part in the study consists of _____ boys and _____ girls.		<input type="checkbox"/>
They have _____ minutes of English a week.		<input type="checkbox"/>
I consider students' English in this class as ...		<input type="checkbox"/>
<input type="checkbox"/> average <input type="checkbox"/> weaker than average <input type="checkbox"/> stronger than average ... as compared to other classes I taught on that level.		<input type="checkbox"/>
I have been teaching this class for _____ school years / _____ months.		

#### 3) At what level of do you first teach the following structures?

	Grade(s)	School type (NMS, AHS, BHS, Grundskola, Gymnasium)	I don't teach this structure explicitly
3 <sup>rd</sup> person -s (He goes.)			<input type="checkbox"/>
Regular past (We walked.)			<input type="checkbox"/>
Adjective v. Adverb (e.g. The grade is bad; He did badly on the test.)			<input type="checkbox"/>
Simple v. progressive (e.g. I am watching a movie when suddenly the bell rings.)			<input type="checkbox"/>
Questions using did (e.g. Did you do it?)			<input type="checkbox"/>
Negation using did (e.g. He did not go there.)			<input type="checkbox"/>

<sup>87</sup> For one school, the sentence "Your answers are anonymous and will be treated strictly confidentially" in the introduction instead read "You are assigned a number, and your real name and the name of your school will not appear in any publication". This is because the education directorate of the given region asked for this wording. In the questionnaire approved of by the ethics board of the University of Vienna, the text was in German and in addition contained the information that the teachers' answers merely served the validation of the questionnaire. This is due to the fact that at that point of the project, the questionnaire was first going to be pilot-tested.

4) Please indicate to what degree you agree to the following statements. → Tick one box for each statement.	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
I discuss grammar rules explicitly in my English classes.					
First I give my students the grammar rule and then they can practice its use.					
The main purpose of my English classes is to enable pupils to use language with relative ease without thinking too much about mistakes.					
I teach grammar <i>when needed</i> , i.e. when students have difficulties.					
Familiarizing pupils with grammatical terms forms part of my teaching practices.					
I teach grammar by having pupils infer a rule from text.					
The focus of English lessons lies on learning how to communicate.					
I teach all the important grammatical structures no matter what.					
I supply my pupils with explicit grammar rules.					
I let my pupils derive grammar rules from examples.					
I present grammar rules upfront.					
My pupils acquire grammar automatically by being exposed to many examples of a grammatical structure.					
I only teach a given grammatical structure if learners make mistakes in it.					
When teaching grammar, I discuss metalanguage.					
I present a rule, we practice it, and in turn students (learn to) produce it in free spoken or written interaction.					
I do not explain a grammar feature if my students already seem to use it correctly.					
My pupils master grammar by encountering it incidentally in context (i.e. in sentences or a text).					

<sup>1</sup>metalanguage, or technical terms, are terms that refer to grammatical structures, such as *past tense*, *present tense*, *adjective*, *subject*, *infinitive*, etc.

## 11.11 Additional Descriptive Statistics

### 11.11.1 In-Class Activities

*Table 11.3 Pearson correlations of the frequency of occurrence of in-class activities across school types*

	Read	Listen	Watch	Write	Vocab	Speak	Gr. Practice
AHS	<b>Listen</b>	.10					
	<b>Watch</b>	.28*	.26*				
	<b>Write</b>	-.08	-.20	-.13			
	<b>Vocab</b>	-.25	.01	-.04	.09		
	<b>Speak</b>	.16	.15	.26*	.15	.18	
	<b>Gr. Practice</b>	.04	-.13	.28*	.16	.26*	.23
	<b>Gr. Rules</b>	.01	-.12	.37**	.01	.22	.15
AMS	<b>Listen</b>	.08					
	<b>Watch</b>	.18	-.13				
	<b>Write</b>	-.06	.06	.05			
	<b>Vocab</b>	.03	-.18	.36*	.29		
	<b>Speak</b>	.03	.38*	-.02	.10	-.08	
	<b>Gr. Practice</b>	.21	.00	.24	.17	.11	-.08
	<b>Gr. Rules</b>	.11	-.03	-.04	.10	.26	-.11
Sweden	<b>Listen</b>	.23*					
	<b>Watch</b>	.21*	.39**				
	<b>Write</b>	.13	.16	.17			
	<b>Vocab</b>	.15	.19	.17	.33**		
	<b>Speak</b>	.32**	.13	.02	.35**	.38**	
	<b>Gr. Practice</b>	.34**	.20	.07	.23*	.33**	.23*
	<b>Gr. Rules</b>	.25*	.22*	.06	.27*	.39**	.15

**Notes.** \* Correlation is significant at the .05 level, \*\* Correlation is significant at the .001 level (2-tailed). N for the individual combinations was 63-64 for AHS, 43-44 for AMS, and 85-90 for Sweden.

*Table 11.4 Descriptive statistics of the frequency of activities in class in Austria*

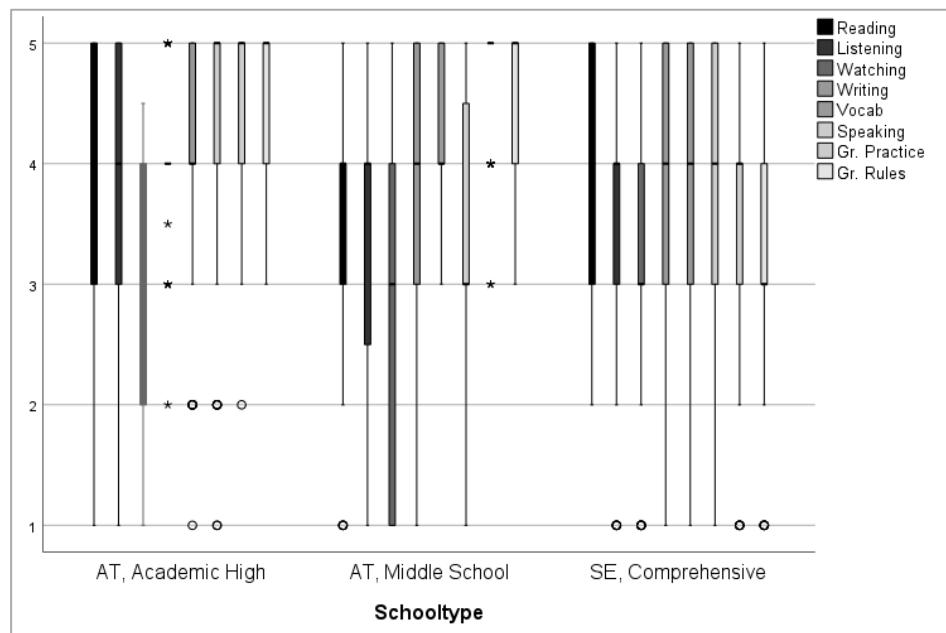
	<b>Read</b>	<b>Listen</b>	<b>Watch</b>	<b>Write</b>	<b>Vocab</b>
<b>Mean</b>	3.76	3.53	2.76	3.98	4.12
<b>95% CI, upper</b>	3.53	3.29	2.55	3.82	3.93
<b>95% CI, lower</b>	4.00	3.76	2.97	4.13	4.30
<b>Median</b>	4.00	4.00	3.00	4.00	4.00
<b>SD</b>	1.22	1.22	1.11	0.79	0.95
<b>Minimum</b>	1.00	1.00	1.00	1.00	1.00
<b>Maximum</b>	5.00	5.00	5.00	5.00	5.00

**Notes.** N = 106.

*Table 11.5 Descriptive statistics of the frequency of speaking and grammar activities in class in Austria*

	<b>Speak</b>	<b>Gr. Practice</b>	<b>Gr. Rules</b>
<b>Mean</b>	3.94	4.56	4.45
<b>95% CI, upper</b>	3.69	4.44	4.32
<b>95% CI, lower</b>	4.19	4.68	4.58
<b>Median</b>	4.50	5.00	5.00
<b>SD</b>	1.30	0.62	0.66
<b>Minimum</b>	1.00	2.00	3.00
<b>Maximum</b>	5.00	5.00	5.00

**Notes.** N = 106.

*Figure 11.1 Boxplots of the frequency of in-class activities across school types*

### 11.11.2 The Role of Form

Table 11.6 Descriptive statistics of focus-on-formS and focus-on-form in Austria

	Focus-on-formS	Focus-on-form
<b>Mean</b>	3.90	2.31
<b>95% CI, upper</b>	3.77	2.15
<b>95% CI, lower</b>	4.04	2.46
<b>Median</b>	4.00	2.33
<b>SD</b>	0.72	0.82
<b>Minimum</b>	2.00	1.00
<b>Maximum</b>	5.00	5.00

**Notes.** N = 108.

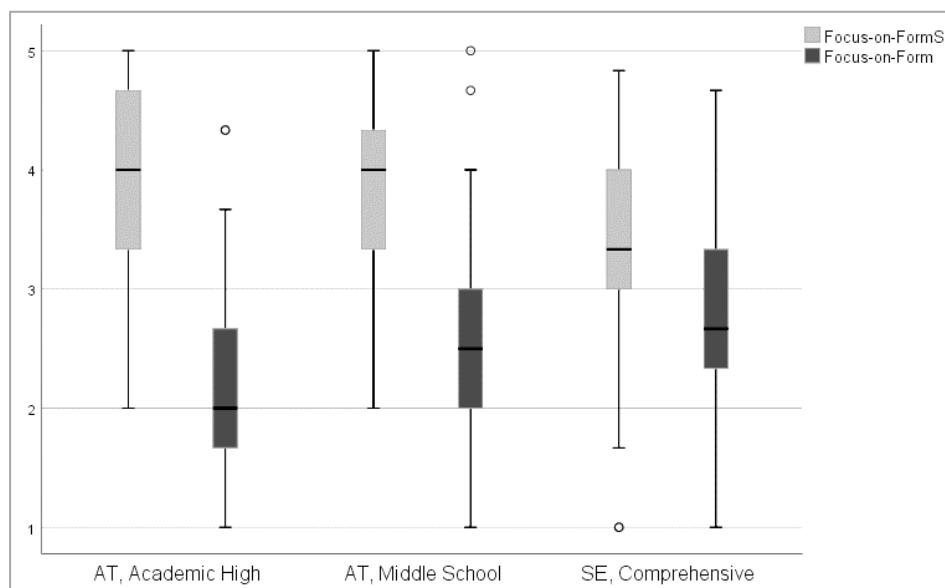


Figure 11.2 Boxplots of focus-on-formS and focus-on-form of the three school types

### 11.11.3 EE Frequency

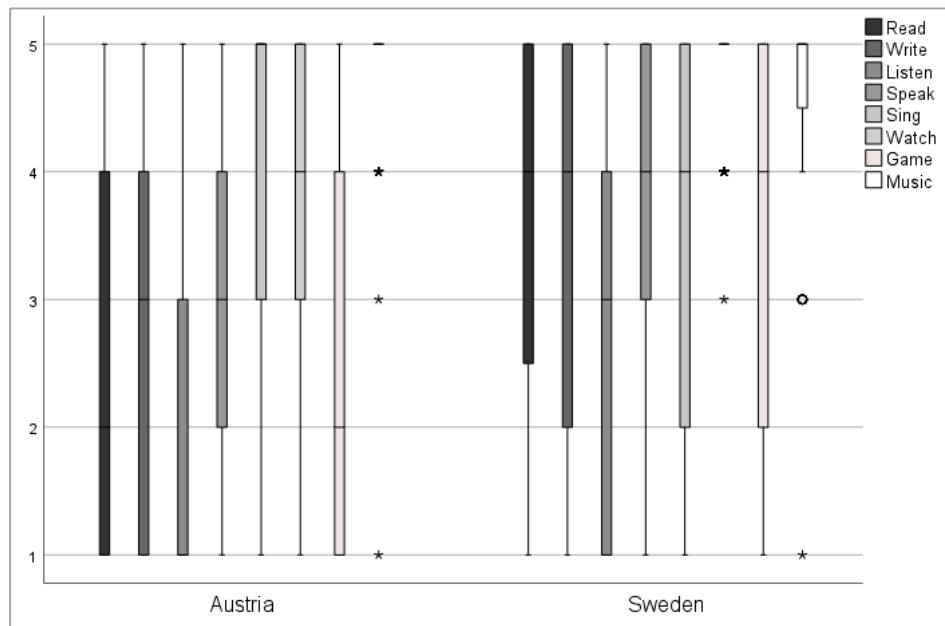


Figure 11.3 Boxplots of EE frequency, by country

Table 11.7 Pearson correlations of EE frequency according to activities, by country

	Read	Write	Listen	Speak	Sing	Watch	Game	Music	C-test	HISEI
Austria	<b>Write</b>	.48**								
	<b>Listen</b>	.45**	.33**							
	<b>Speak</b>	.60**	.67**	.39**						
	<b>Sing</b>	.003	.08	.01	.07					
	<b>Watch</b>	.42**	.42**	.19*	.44**	.03				
	<b>Game</b>	.24*	.26**	.17	.30**	-.13	.35**			
	<b>Music</b>	.11	.06	.14	.15	.35**	.02	.03		
	<b>C-test</b>	.28**	.25*	.23*	.27**	.04	.44**	.07	.09	
	<b>HISEI</b>	.06	-.00	.18	.11	.04	.22*	-.05	.10	.41**
	<b>Age</b>	-.04	.13	-.16	.06	-.05	-.00	.09	-.36**	-.29**
Sweden	<b>Write</b>	.55**								
	<b>Listen</b>	.16	.26*							
	<b>Speak</b>	.41**	.48**	.34**						
	<b>Sing</b>	.26*	.32**	.03	.27*					
	<b>Watch</b>	.27*	.41**	.19	.18	.02				
	<b>Game</b>	.25*	.30**	.20	.28**	-.22*	.28**			
	<b>Music</b>	.32**	.33**	.23*	.41**	.45**	.06	-.05		
	<b>C-test</b>	.18	.14	-.05	.20	-.07	.18	.05	.00	
	<b>HISEI</b>	.03	.01	.11	.10	.20	-.05	-.04	-.04	.11

	Read	Write	Listen	Speak	Sing	Watch	Game	Music	C-test	HISEI
Age	.31**	.14	-.06	-.04	-.07	.06	-.02	-.26*	.12	-.03

**Notes.** \* Correlation is significant at the .05 level, \*\* Correlation is significant at the .001 level (2-tailed). N for the individual combinations was 93-109 for Austria and 67-91 for Sweden.

Table 11.8 Descriptive statistics of EE frequency according to activities, by Austrian school types

	Read	Write	Listen	Speak	Sing	Watch	Game	Music	EE (sum) <sup>1</sup>	
<b>Austria, AHS</b>	<b>Mean</b>	2.83	2.76	2.35	3.22	3.97	4.06	2.49	4.84	2.83
	<b>95% CI, lower</b>	2.44	2.36	1.95	2.90	3.60	3.78	2.08	4.69	2.44
	<b>95% CI, upper</b>	3.21	3.16	2.75	3.54	4.34	4.35	2.91	4.99	3.21
	<b>Median</b>	3.00	3.00	1.00	3.00	5.00	4.00	2.00	5.00	3.00
	<b>SD</b>	1.53	1.58	1.59	1.26	1.48	1.13	1.64	0.60	1.53
	<b>Minimum</b>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	<b>Maximum</b>	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
<b>Austria, AMS</b>	<b>Mean</b>	2.32	3.02	1.89	3.11	3.86	3.48	2.64	4.93	2.32
	<b>95% CI, lower</b>	1.85	2.63	1.51	2.77	3.39	3.03	2.10	4.85	1.85
	<b>95% CI, upper</b>	2.79	3.41	2.26	3.46	4.34	3.93	3.18	5.01	2.79
	<b>Median</b>	2.00	3.00	1.00	3.00	5.00	4.00	1.50	5.00	2.00
	<b>SD</b>	1.55	1.28	1.22	1.15	1.56	1.49	1.78	0.25	1.55
	<b>Minimum</b>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	4.00	1.00
	<b>Maximum</b>	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00

**Notes.** N was 63 for AHS and 44 for AMS.

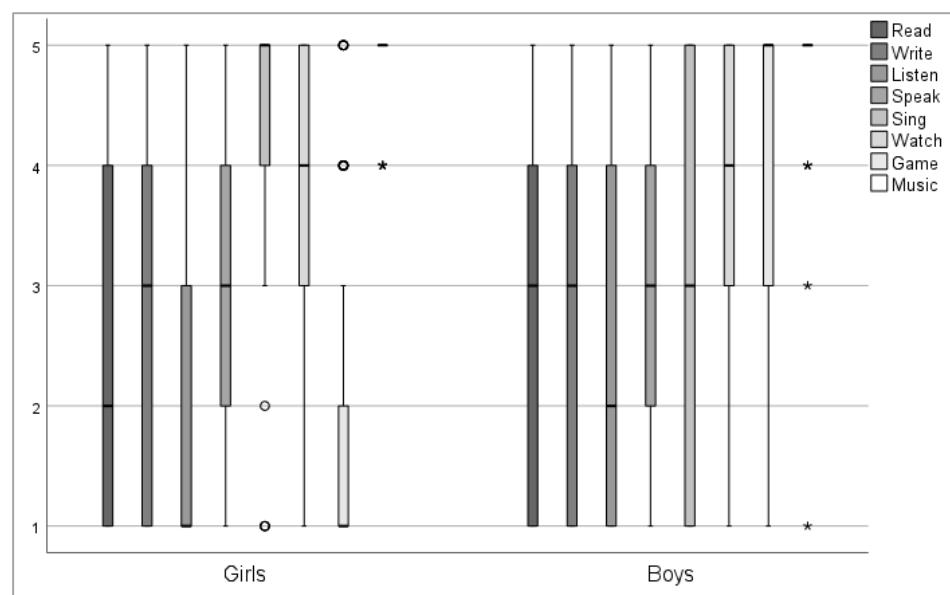


Figure 11.4 Boxplots of EE frequency, by gender in Austria

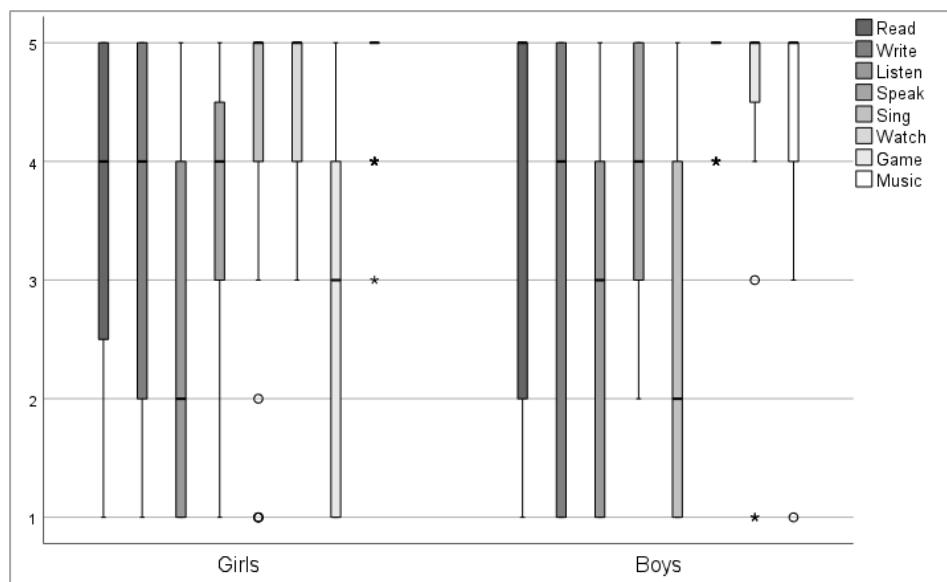


Figure 11.5 Boxplots of EE frequency, by gender in Sweden

Table 11.9 Pearson correlations of EE frequency according to activities, by country and gender

	Read	Write	Listen	Speak	Sing	Watch	Game	Music	C-test	HISEI
<b>Austria - Girls</b>	<b>Write</b>	.46**	--							
	<b>Listen</b>	.43**	.31**	--						
	<b>Speak</b>	.60**	.69**	.38**	--					
	<b>Sing</b>	.15	.15	.12	.07	--				
	<b>Watch</b>	.52**	.44**	.19	.51**	.11	--			
	<b>Game</b>	.26*	.37**	.08	.36**	.30*	.24*	--		
	<b>Music</b>	.04	.14	.14	.09	.18	.00	.07	--	
	<b>C-test</b>	.26*	.17	.27*	.32**	.07	.39**	-.01	-.01	--
	<b>HISEI</b>	.03	.02	.24	.04	.00	.15	-.33**	.17	.41**
<b>Austria - Boys</b>	<b>Age</b>	.04	.19	-.18	.16	-.07	.01	.19	-.01	-.24*
	<b>Write</b>	.55**	--							
	<b>Listen</b>	.46**	.40*	--						
	<b>Speak</b>	.62**	.65**	.44**	--					
	<b>Sing</b>	-.04	.03	.03	.06	--				
	<b>Watch</b>	.20	.40*	.19	.32	.05	--			
	<b>Game</b>	.15	.22	.19	.41*	.12	.62**	--		
	<b>Music</b>	.22	.01	.21	.23	.35*	.08	.26	--	
	<b>C-test</b>	.32	.42*	.17	.16	-.01	.55**	.28	.19	--
<b>EE</b>	<b>HISEI</b>	.13	-.06	.06	.26	.02	.40*	.57**	.07	.42*
	<b>Age</b>	-.20	.02	-.16	-.11	.09	-.05	-.25	-.58**	-.41*

	Read	Write	Listen	Speak	Sing	Watch	Game	Music	C-test	HISEI
Sweden - Girls	<b>Write</b>	.61**	--							
	<b>Listen</b>	.18	.23	--						
	<b>Speak</b>	.53**	.52**	.36*	--					
	<b>Sing</b>	.35*	.44**	.06	.40**	--				
	<b>Watch</b>	.36**	.45**	.15	.28*	.19	--			
	<b>Game</b>	.35*	.62**	.30*	.30*	.20	.28*	--		
	<b>Music</b>	.47**	.38**	.37**	.60**	.307*	.18	.19	--	
	<b>C-test</b>	.30	.19	-.09	.17	-.08	.21	.04	.08	--
	<b>HISEI</b>	.15	.06	.13	.26	.25	-.04	-.04	-.02	.25
	<b>Age</b>	.28*	.19	.01	.10	.07	.00	.09	.02	.21
Sweden - Boys	<b>Write</b>	.52**	--							
	<b>Listen</b>	.15	.33*	--						
	<b>Speak</b>	.27	.49**	.28	--					
	<b>Sing</b>	.41*	.22	.22	.44**	--				
	<b>Watch</b>	.10	.42*	.27	-.03	.03	--			
	<b>Game</b>	.10	.18	-.08	.16	.12	.25	--		
	<b>Music</b>	.34*	.31	.23	.42*	.42**	.08	.04	--	
	<b>C-test</b>	-.04	.09	-.02	.26	-.01	.07	-.02	-.03	--
	<b>HISEI</b>	-.09	-.05	.10	-.09	.17	-.05	.05	-.07	-.07
	<b>Age</b>	.40*	.12	-.18	-.21	-.12	.15	-.16	-.38*	-.04

**Notes.** \* Correlation is significant at the .05 level, \*\* Correlation is significant at the .001 level (2-tailed). N for the individual combinations was 68-73 (girls) and 30-36 (boys) for Austria and 37-51 (girls) and 29-38 (boys) for Sweden.

#### **11.11.4 Weekly EE**

Table 11.10 Pearson correlations of weekly EE according to activities, by country

	Read	Write	Listen	Speak	Sing	Watch	Game	Music	C-test	HISEI
Austria	<b>Write</b>	.25*								
	<b>Listen</b>	.54**	.13							
	<b>Speak</b>	.29**	.40**	.20*						
	<b>Sing</b>	.14	.46**	-.05	.39**					
	<b>Watch</b>	.44**	.54**	.13	.61**	.50**				
	<b>Game</b>	.39**	.10	.41**	.48**	-.04	.23*			
	<b>Music</b>	.31**	.27**	.04	.19	.41**	.30**	-.01		
	<b>C-test</b>	.29**	.05	.19	.15	-.04	.12	.07	.16	
	<b>HISEI</b>	.27**	-.06	.14	-.00	-.16	-.01	-.05	.03	.41**
	<b>Age</b>	-.10	.28**	-.10	.09	.10	.24*	-.01	-.07	-.29**

	Read	Write	Listen	Speak	Sing	Watch	Game	Music	C-test	HISEI
<b>Sweden</b>	<b>Write</b>	.76**								
	<b>Listen</b>	.03	.07							
	<b>Speak</b>	.19	.36**	.06						
	<b>Sing</b>	.32**	.37**	.09	.38**					
	<b>Watch</b>	.17	.35**	.26*	.35**	.24*				
	<b>Game</b>	.26*	.01	.19	.46**	-.07	.19			
	<b>Music</b>	.59**	.69**	.16	.28*	.54**	.39**	.03		
	<b>C-test</b>	.33**	.31*	-.15	.08	.34**	.29*	.10	.26*	
	<b>HISEI</b>	.02	-.08	-.05	-.27*	.23*	-.04	-.17	-.10	.11
	<b>Age</b>	.08	.13	.14	.13	.04	.20	.10	.04	.12
										-.03

**Notes.** \* Correlation is significant at the .05 level, \*\* Correlation is significant at the .001 level (2-tailed). N for the individual combinations was 93-105 for Austria and 67-87 for Sweden.

Table 11.11 Descriptive statistics of weekly EE per activity and in total, by Austrian school types

	Read	Write	Listen	Speak	Sing	Watch	Game	Music	EE (sum)
<b>Austria, AHS</b>	<b>Mean</b>	3.12	1.70	1.24	2.16	3.11	3.83	1.76	7.50
	<b>95% CI, lower</b>	1.76	0.91	0.45	1.27	1.83	2.71	0.93	4.79
	<b>95% CI, upper</b>	4.48	2.50	2.03	3.06	4.39	4.94	2.58	10.20
	<b>Median</b>	1.83	0.50	0.00	1.00	1.00	3.00	0.00	5.25
	<b>SD</b>	5.30	3.09	3.08	3.49	4.99	4.34	3.23	10.57
	<b>Minimum</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.83
	<b>Maximum</b>	35.00	17.00	16.00	16.33	30.00	22.83	14.00	70.00
<b>Austria, AMS</b>	<b>Mean</b>	3.44	2.19	1.05	2.13	3.73	3.76	3.91	7.89
	<b>95% CI, lower</b>	0.93	0.82	-0.10	0.32	1.90	2.06	1.44	5.15
	<b>95% CI, upper</b>	5.96	3.55	2.21	3.93	5.57	5.47	6.37	10.63
	<b>Median</b>	0.42	0.50	0.00	0.50	2.00	2.00	0.00	5.00
	<b>SD</b>	8.18	4.44	3.76	5.87	5.96	5.53	8.00	8.91
	<b>Minimum</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	<b>Maximum</b>	38.00	24.00	24.00	38.00	24.00	26.75	36.00	40.00

**Notes.** N was 61 for AHS and 43 for AMS.

*Table 11.12 Pearson correlations of weekly EE according to activities, by gender*

	Read	Write	Listen	Speak	Sing	Watch	Game	Music	C-test	HISEI	
Girls	<b>Write</b>	.76**	--								
	<b>Listen</b>	.13	.15	--							
	<b>Speak</b>	.27**	.33**	.15	--						
	<b>Sing</b>	.40**	.42**	.10	.45**	--					
	<b>Watch</b>	.35**	.49**	.30**	.41**	.44**	--				
	<b>Game</b>	.31**	.16	.34**	.54**	.22*	.39**	--			
	<b>Music</b>	.51**	.49**	.17	.13	.45**	.34**	.06	--		
	<b>C-test</b>	.17	.09	-.10	.12	.17	.05	-.05	.23*	--	
	<b>HISEI</b>	.16	-.01	-.02	.02	.04	.04	-.10	-.02	.22*	--
Boys	<b>Age</b>	-.07	.12	-.03	.17	.11	.06	.08	.04	.17	-.17
	<b>Write</b>	.43**	--								
	<b>Listen</b>	.32**	.02	--							
	<b>Speak</b>	.20	.53**	.09	--						
	<b>Sing</b>	.08	.08	-.03	.35**	--					
	<b>Watch</b>	.20	.26*	.13	.56**	.17	--				
	<b>Game</b>	.44**	.36**	.28*	.64**	.08	.37**	--			
	<b>Music</b>	.33**	.40**	-.03	.53**	.09	.13	.30*	--		
	<b>C-test</b>	.13	.08	.02	.01	-.06	-.06	.01	.11	--	
	<b>HISEI</b>	.14	-.15	.19	-.28*	.11	.06	.00	-.17	.05	--
	<b>Age</b>	-.11	-.16	-.02	-.09	-.03	-.03	-.17	-.05	.08	-.16

**Notes.** \* Correlation is significant at the .05 level, \*\* Correlation is significant at the .001 level (2-tailed). N for the individual combinations was 107-124 for girls and 64-72 for boys.

*Table 11.13 Pearson correlations of weekly EE according to activities, by country and gender*

	Read	Write	Listen	Speak	Sing	Watch	Game	Music	C-test	HISEI	
Austria - Girls	<b>Write</b>	.30*	--								
	<b>Listen</b>	.54**	.30*	--							
	<b>Speak</b>	.49**	.42**	.21	--						
	<b>Sing</b>	.19	.45**	.02	.46**	--					
	<b>Watch</b>	.51**	.63**	.24*	.76**	.61**	--				
	<b>Game</b>	.50**	.19	-.08	.14	.13	.21	--			
	<b>Music</b>	.37**	.23	.20	.19	.37**	.31**	.10	--		
	<b>C-test</b>	.24*	.02	.25*	.28*	-.01	.11	-.08	.19	--	
	<b>HISEI</b>	.29*	-.06	.25*	.21	-.22	-.10	-.26*	.00	.41**	--
	<b>Age</b>	-.09	.42**	-.03	.15	.16	.30*	.17	-.05	-.24*	-.20

	Read	Write	Listen	Speak	Sing	Watch	Game	Music	C-test	HISEI
<b>Austria - Boys</b>	<b>Write</b>	.05	--							
	<b>Listen</b>	.71**	.10	--						
	<b>Speak</b>	.17	.63**	.21	--					
	<b>Sing</b>	-.10	.44**	-.01	.58**	--				
	<b>Watch</b>	.30	.02	.07	.38*	-.06	--			
	<b>Game</b>	.57**	.49**	.46**	.75**	.30	.42*	--		
	<b>Music</b>	.10	.48**	.01	.50**	.38*	.40*	.39*	--	
	<b>C-test</b>	.40*	.21	.20	-.02	-.31	.16	.23	.08	--
	<b>HISEI</b>	.23	-.16	.10	-.16	-.23	.21	.10	.10	.42*
<b>Sweden - Girls</b>	<b>Age</b>	-.12	-.05	-.22	.02	.13	.10	-.21	-.03	-.41*
	<b>Write</b>	.92**	--							
	<b>Listen</b>	-.02	.08	--						
	<b>Speak</b>	.21	.27	.11	--					
	<b>Sing</b>	.54**	.41**	.12	.53**	--				
	<b>Watch</b>	.26	.38**	.28	.16	.31*	--			
	<b>Game</b>	.19	.10	.39**	.71**	.26	.39**	--		
	<b>Music</b>	.70**	.72**	.21	.12	.63**	.54**	.06	--	
	<b>C-test</b>	.37*	.34*	-.10	-.06	.43**	.36*	.21	.33	--
<b>Sweden - Boys</b>	<b>HISEI</b>	.03	-.06	-.23	-.14	.25	-.01	-.18	-.04	.25
	<b>Age</b>	.10	.20	.15	.36*	.18	.23	.31*	.13	.21
	<b>Write</b>	.49**	--							
	<b>Listen</b>	.14	-.01	--						
	<b>Speak</b>	.19	.53**	-.04	--					
	<b>Sing</b>	.15	.00	-.05	.23	--				
	<b>Watch</b>	.07	.26	.20	.65**	.32	--			
	<b>Game</b>	.35*	.30	.17	.58**	.00	.25	--		
	<b>Music</b>	.41*	.40*	-.07	.58**	-.01	.06	.30	--	

**Notes.** \* Correlation is significant at the .05 level, \*\* Correlation is significant at the .001 level (2-tailed).

N for the individual combinations was 68-73 (girls) and 30-36 (boys) for Austria and 37-51 (girls) and 29-38 (boys) for Sweden.

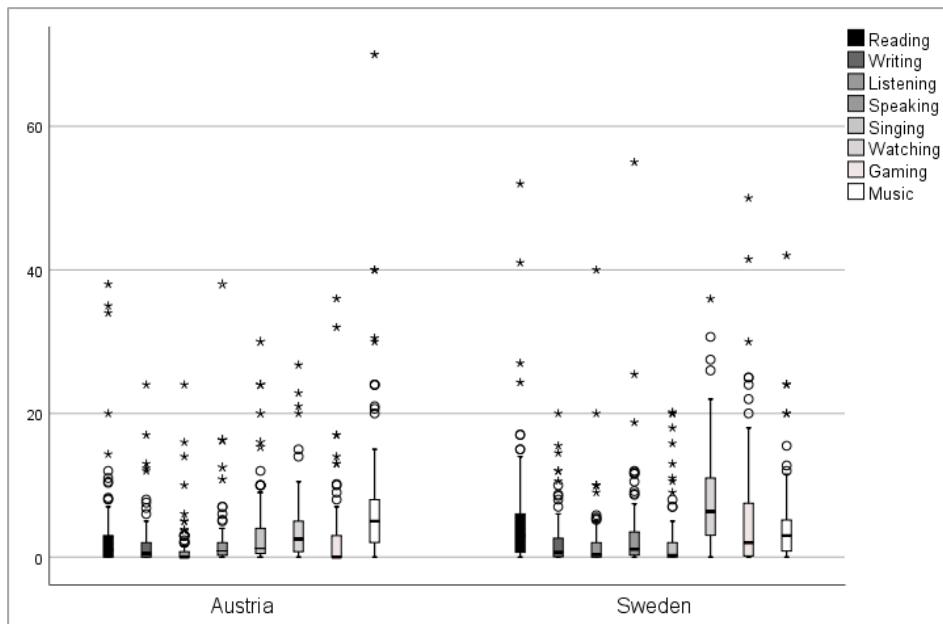


Figure 11.6 Boxplots of weekly EE, by country

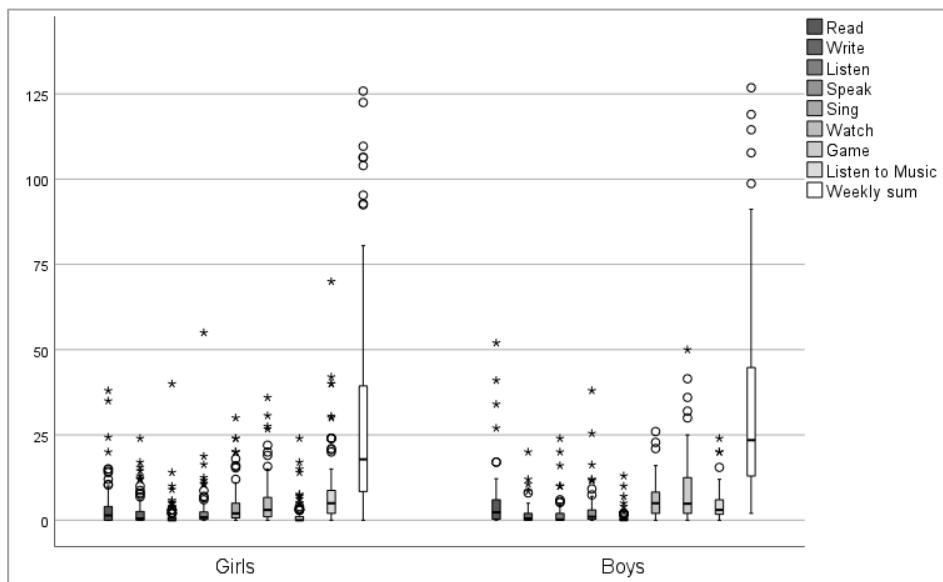


Figure 11.7 Boxplots of weekly EE, by gender

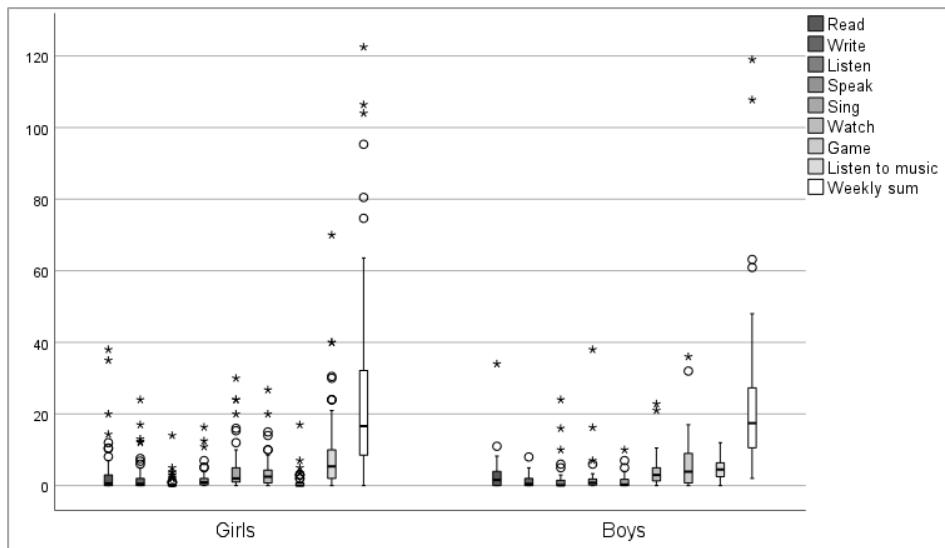


Figure 11.8 Boxplots of weekly EE, by gender in Austria

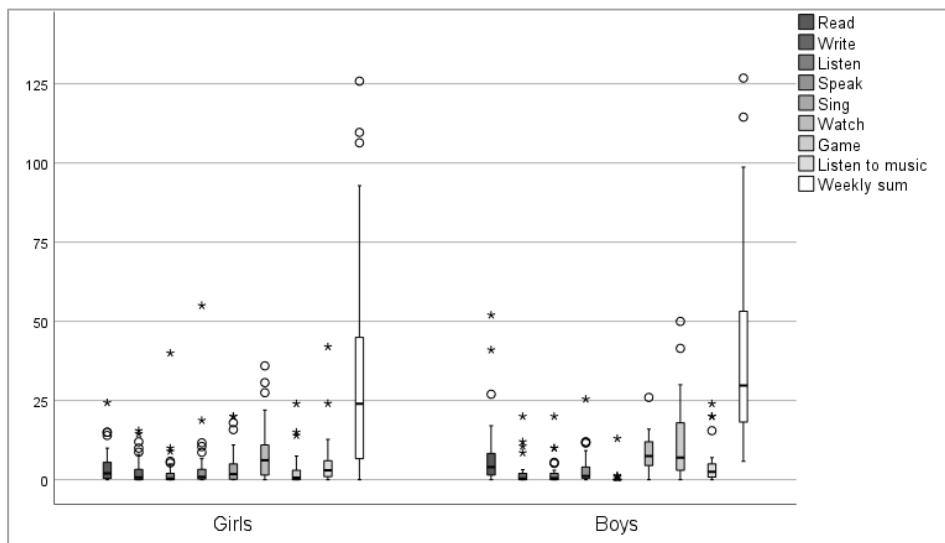


Figure 11.9 Boxplots of weekly EE, by gender in Sweden

### 11.11.5 EE Onset

Table 11.14 Pearson correlations of EE onset according to activities and country

	Read	Write	Listen	Speak	Sing	Watch	Game	Music	C-test
<b>Austria</b>	<b>Write</b>	.45**							
	<b>Listen</b>	.33	.67**						
	<b>Speak</b>	.42**	.59**	.36*					
	<b>Sing</b>	.13	.41**	.09	.41**				
	<b>Watch</b>	.37*	.54**	.65**	.42**	.20			
	<b>Game</b>	.54**	.56**	.13	.23	.12	.26		
	<b>Music</b>	.26	.33*	.32	.31**	.54**	.38**	.14	
	<b>C-test</b>	-.15	-.02	-.05	.10	.08	-.08	-.02	.06
	<b>HISEI</b>	.08	.07	.14	-.03	-.03	.09	.04	.10
<b>Sweden</b>	<b>Write</b>	.43**							
	<b>Listen</b>	.35*	.58**						
	<b>Speak</b>	.41**	.55**	.28					
	<b>Sing</b>	.30	.21	.24	.39**				
	<b>Watch</b>	.43**	.55**	.37*	.53**	.13			
	<b>Game</b>	.04	.49**	.25	.40**	-.26	.54**		
	<b>Music</b>	.51**	.36**	.46**	.32**	.37**	.40**	.16	
	<b>C-test</b>	-.11	-.25	-.33	-.33*	-.28	-.30*	-.24	-.20
	<b>HISEI</b>	.06	-.06	.03	.09	-.12	.05	.35*	-.12

**Notes.** \* Correlation is significant at the .05 level, \*\* Correlation is significant at the .001 level (2-tailed). N for the individual combinations was 19-107 for Austria and 27-88 for Sweden.

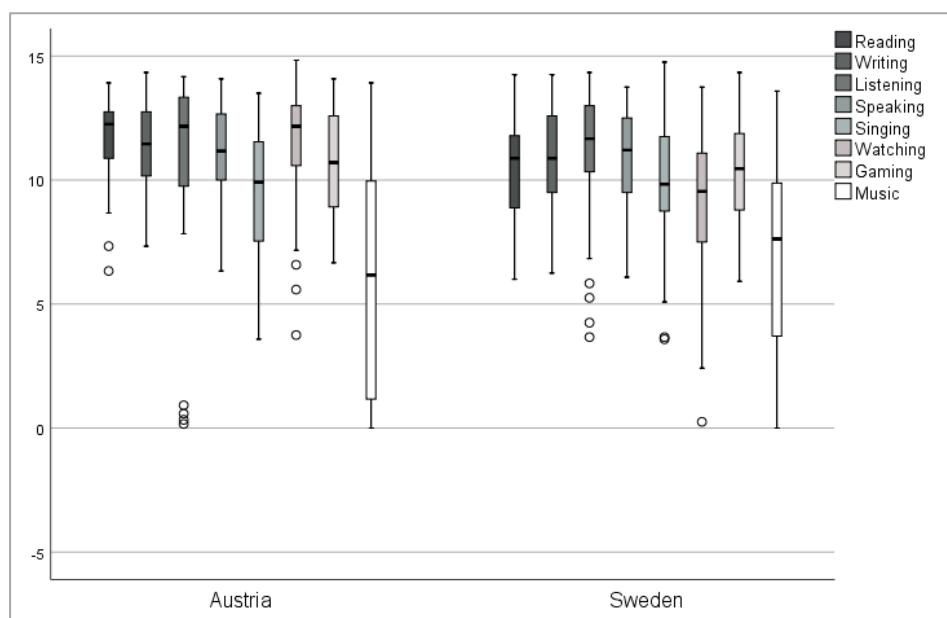


Figure 11.10 Boxplots of age of EE onset across countries

Table 11.15 Descriptive statistics of age of EE onset across activities, by country and gender

	Read	Write	Listen	Speak	Sing	Watch	Game	Music	
Girls (Austria)	<b>Mean</b>	11.73	11.50	11.54	11.28	9.10	11.87	11.30	5.86
	<b>95% CI, lower</b>	11.17	11.03	10.12	10.76	8.34	11.43	10.28	4.84
	<b>95% CI, upper</b>	12.29	11.98	12.97	11.80	9.86	12.31	12.33	6.89
	<b>Median</b>	12.21	11.50	12.33	11.08	9.83	12.33	11.08	5.92
	<b>SD</b>	1.61	1.51	3.05	1.79	2.95	1.67	1.99	4.35
	<b>Minimum</b>	6.33	7.33	0.33	6.33	3.58	5.58	6.67	0.00
	<b>Maximum</b>	13.92	13.83	13.92	13.92	13.50	14.00	14.08	13.92
Girls (Sweden)	<b>N (%) excluded<sup>1</sup></b>	39 (53.4)	32 (43.8)	53 (72.6)	25 (34.2)	13 (17.8)	15 (20.5)	56 (76.7)	1 (1.4)
	<b>Mean</b>	10.83	11.35	11.15	11.18	9.49	9.93	10.92	6.92
	<b>95% CI, lower</b>	10.18	10.74	10.05	10.56	8.68	9.30	10.27	5.87
	<b>95% CI, upper</b>	11.49	11.96	12.24	11.81	10.30	10.56	11.57	7.97
	<b>Median</b>	11.13	11.46	11.71	11.83	9.46	10.25	11.00	7.71
	<b>SD</b>	1.94	1.74	2.47	1.87	2.60	2.16	1.59	3.63
	<b>Minimum</b>	6.00	7.67	3.67	6.08	3.58	3.67	7.67	0.00
Boys (Austria)	<b>Maximum</b>	14.25	14.25	13.83	13.33	14.75	13.50	13.75	13.58
	<b>N (%) excluded<sup>1</sup></b>	15 (29.4)	17 (33.3)	29 (56.9)	14 (27.5)	9 (17.6)	3 (5.9)	26 (51)	3 (5.9)
	<b>Mean</b>	11.44	11.10	9.51	11.17	10.07	11.02	10.19	6.54
	<b>95% CI, lower</b>	10.58	10.23	6.92	10.45	8.88	10.13	9.39	5.02
	<b>95% CI, upper</b>	12.30	11.97	12.09	11.89	11.25	11.90	10.98	8.06
	<b>Median</b>	12.33	11.33	10.92	11.33	10.33	11.08	9.75	7.50
	<b>SD</b>	1.67	1.91	4.85	1.74	2.23	2.42	2.09	4.43
Boys (Sweden)	<b>Minimum</b>	7.33	7.58	0.17	7.58	4.50	3.75	6.75	0.00
	<b>Maximum</b>	13.50	14.33	14.17	14.08	12.58	14.83	13.67	12.58
	<b>N (%) excluded<sup>1</sup></b>	19 (52.8)	15 (41.7)	20 (55.6)	11 (30.6)	20 (55.6)	5 (13.9)	7 (19.4)	1 (2.8)
	<b>Mean</b>	9.99	9.93	10.78	10.23	10.96	7.89	9.51	6.41
	<b>95% CI, lower</b>	9.08	9.06	9.51	9.50	9.61	6.98	8.63	5.02
	<b>95% CI, upper</b>	10.91	10.81	12.05	10.95	12.32	8.80	10.40	7.80
	<b>Median</b>	9.92	9.96	11.63	10.92	11.50	8.08	9.17	7.33
	<b>SD</b>	2.11	2.08	2.86	1.97	2.34	2.76	2.19	4.03
	<b>Minimum</b>	6.25	6.25	4.25	6.50	6.50	0.25	5.92	0.00
	<b>Maximum</b>	13.58	13.33	13.67	12.83	13.75	12.83	13.75	13.33
	<b>N (%) excluded<sup>1</sup></b>	15 (39.5)	14 (36.8)	16 (42.1)	7 (18.4)	24 (63.2)	0 (0)	12 (31.6)	3 (7.9)

**Notes.** N was 34/36/17/23 for reading, 41/34/21/24 for writing, 20/22/16/22 for listening, 48/37/25/31 for speaking, 60/42/16/14 for singing, 58/48/31/38 for watching, 17/25/29/26 for gaming, and 72/48/35/35 for music among Austrian girls/Swedish girls/Austrian boys/Swedish boys respectively.

<sup>1</sup>This line indicates the number and percentage of students who had never started engaging in a given activity. These students are not included in the remainder of the data in this table.

Table 11.16 Descriptive statistics of age of EE onset across activities, by Austrian school types

	Read	Write	Listen	Speak	Sing	Watch	Game	Music	
<b>Austria, AHS</b>	<b>Mean</b>	11.69	11.87	11.26	11.48	10.05	11.81	10.81	7.41
	<b>95% CI, lower</b>	11.20	11.26	9.81	10.97	9.30	11.26	10.04	6.34
	<b>95% CI, upper</b>	12.19	12.48	12.72	11.99	10.80	12.35	11.58	8.48
	<b>Median</b>	12.25	12.25	12.25	11.67	10.75	12.33	10.71	8.88
	<b>SD</b>	1.49	1.69	3.60	1.71	2.67	2.03	1.91	4.29
	<b>Minimum</b>	6.33	7.33	0.17	6.33	3.67	3.75	7.33	0.00
	<b>Maximum</b>	13.92	14.33	14.17	14.08	13.50	14.83	14.08	13.92
<b>Austria, AMS</b>	<b>Mean</b>	11.47	10.83	9.01	10.86	7.78	11.18	10.32	4.12
	<b>95% CI, lower</b>	10.33	10.29	5.59	10.15	6.72	10.51	9.22	2.97
	<b>95% CI, upper</b>	12.61	11.38	12.43	11.56	8.84	11.85	11.43	5.26
	<b>Median</b>	12.21	10.54	9.96	10.25	8.00	11.08	10.46	3.50
	<b>SD</b>	1.97	1.46	4.78	1.81	2.56	1.90	2.36	3.72
	<b>Minimum</b>	7.33	7.58	0.58	7.58	3.58	6.58	6.67	0.00
	<b>Maximum</b>	13.58	13.67	13.58	13.92	12.08	14.00	13.58	11.75

**Notes.** N was 37/14 for reading, 32/30 for writing, 26/10 for listening, 45/28 for speaking, 51/25 for singing, 56/33 for watching, 26/20 for gaming, and 64/43 for music among AHS/AMS students respectively.

### 11.11.6 The Reported Effect of EE and Instruction

Table 11.17 Descriptive statistics of student-reported effect of EE and instruction, by Austrian school type

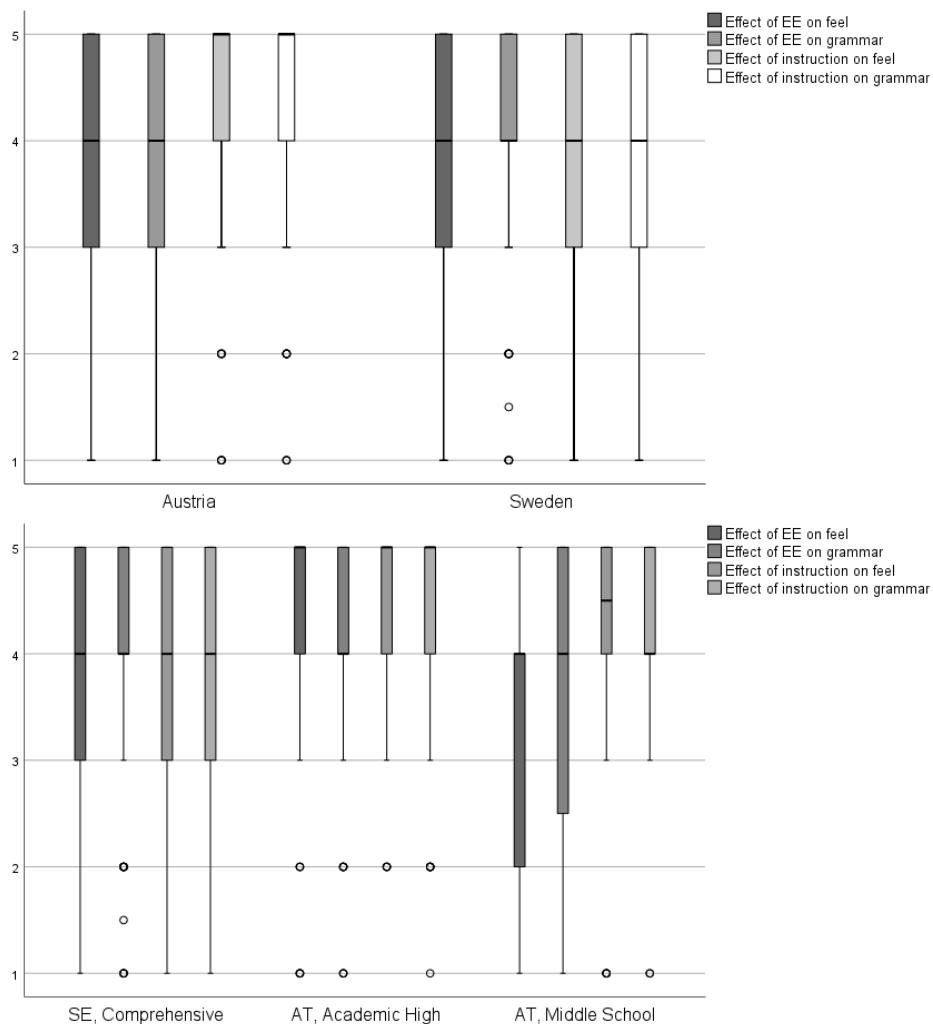
	Effect of EE		Effect of instruction	
	on feel	on rules	on feel	on rules
Austria, AHS	<b>Mean</b>	4.16	4.02	4.42
	<b>95% CI, upper</b>	3.86	3.73	4.20
	<b>95% CI, lower</b>	4.45	4.30	4.64
	<b>Median</b>	5.00	4.00	5.00
	<b>SD</b>	1.17	1.13	0.87
	<b>Minimum</b>	1.00	1.00	2.00
	<b>Maximum</b>	5.00	5.00	5.00
Austria, AMS	<b>Mean</b>	3.45	3.61	4.11
	<b>95% CI, upper</b>	3.08	3.21	3.75
	<b>95% CI, lower</b>	3.83	4.02	4.48
	<b>Median</b>	4.00	4.00	4.50
	<b>SD</b>	1.25	1.33	1.20
	<b>Minimum</b>	1.00	1.00	1.00
	<b>Maximum</b>	5.00	5.00	5.00

Note. N was 64 for AHS and 44 for AMS.

Table 11.18 Pearson correlations of student-reported effect of EE and instruction

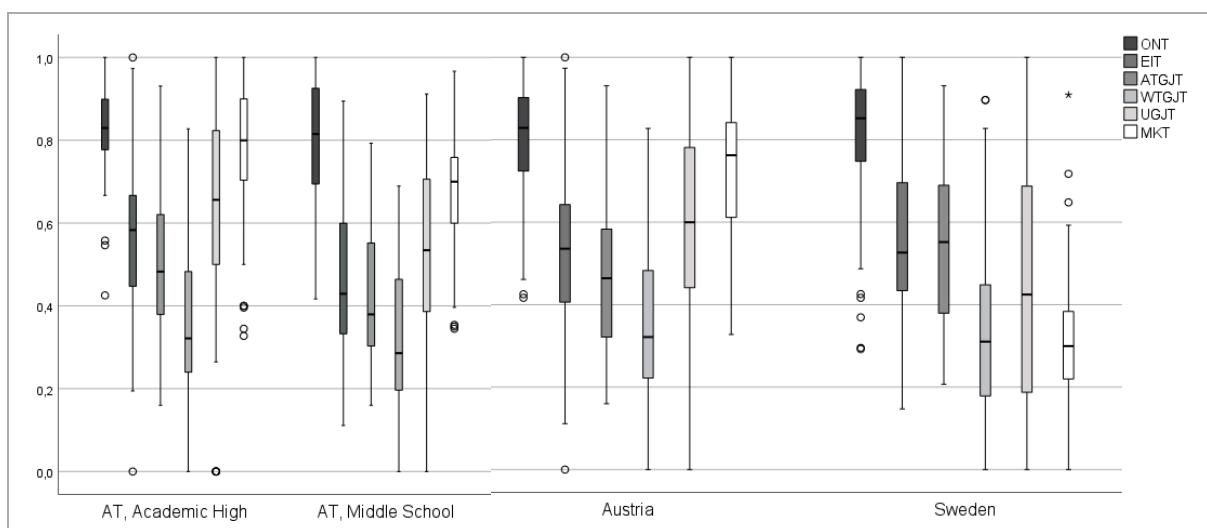
		EE on feel	EE on rules	Instruction on rules
AHS	EE on rules	.57**	--	
	Instruction on rules	.34**	.12	--
	Instruction on feel	.23	.17	.34**
AMS	EE on rules	.46**	--	
	Instruction on rules	.14	.20	--
	Instruction on feel	.06	.33*	.63**
Total	EE on rules	.54**		
	Instruction on rules	.17	.24*	
	Instruction on feel	.26**	.18	.46**
Sweden	EE on rules	.61**		
	Instruction on rules	.12	.35**	
	Instruction on feel	.34**	.51**	.51**

Notes. \* Correlation is significant at the .05 level, \*\* Correlation is significant at the .001 level (2-tailed). N for the individual combinations was 108 for Austria (64 for AHS, 44 for AMS) and 87-89 for Sweden.



*Figure 11.11 Boxplots of student-reported effect of EE and instruction, by country (top) and school type (bottom)*

### 11.11.7 Tapping into Automatized-Implicit and Explicit Knowledge



*Figure 11.12 Boxplots of student performance on the six grammar tests across countries and school types*

## **11.11.8 Linear Mixed Models**

### **11.11.8.1 Correlation Tables**

Table 11.19 Pearson correlations of continuous dependent and independent variables in the linear mixed effects models, by country

	ONT	EIT	ATGJT	WTGJT	UGJT	MKT	Total EE	Read	Write	Listen	Speak	Sing	Game	Watch	Music	C-test	HISEI
Read	.28*	.33**	.37**	.34**	.32**	.19	.61**	--									
Write	.20	.18	.27*	.33**	.24*	.13	.58**	.76**	--								
Listen	.13	.01	.13	.06	.13	.13	.44**	.03	.07	--							
Speak	.23	.11	.13	-.07	.10	-.06	.67**	.19	.36**	.06	--						
Sing	.17	-.01	.07	.12	.01	.17	.37**	.32**	.37**	.09	.38**	--					
Game	.27	.15	.28*	.15	.24*	.09	.62**	.17	.35**	.26*	.35**	.24*	--				
Watch	.27*	.45**	.44**	.05	.40**	.24*	.69**	.26*	.01	.19	.46**	-.07	.19	--			
Music	.17	.07	.19	.24*	.12	.11	.43**	.59**	.69**	.16	.28*	.54**	.39**	.02	--		
C-test	.35*	.36**	.46**	.37**	.52**	.49**	.16	.33**	.31*	-.15	.08	.34**	.29*	.10	.24*	--	
HISEI	.03	.11	.03	.00	.01	.09	-.16	.02	-.08	-.05	-.27*	.23*	-.04	-.17	-.10	.11	--
Age	.23	.08	.33**	.27*	.34**	.17	.22*	.08	.12	.14	.13	.04	.20	.09	.04	.12	-.03

**Notes.** \* Correlation is significant at the .05 level, \*\* Correlation is significant at the .001 level (2-tailed). .

N for the individual combinations was 63-108 for Austria and 47-89 for Sweden.

Table 11.20 Pearson correlations of continuous dependent and independent variables in the linear mixed effects models, by Austrian school types

	ONT	EIT	ATGJT	WTGJT	UGJT	MKT	Total EE	Read	Write	Listen	Speak	Sing	Game	Watch	Music	C-test	HISEI
EIT	.63**	--															
ATGJT	.47**	.49**	--														
WTGJT	.37*	.54**	.57**	--													
UGJT	.44**	.46**	.39**	.39**	--												
MKT	.21	.29*	.00	.05	.44**	--											
AHS	Total EE	.33*	.14	.24	.13	-.09	-.06	--									
Read	.21	.12	.12	.10	-.13	.07	.80**	--									
Write	.35*	.31*	.35**	.36**	.12	.21	.62**	.54**	--								
Listen	.05	.03	.00	.00	-.31*	-.37**	.45**	.49**	.21	--							
Speak	.29	.28*	.30*	.10	.12	.17	.72**	.39**	.62**	.06	--						
Sing	.30	.23	.09	.18	.18	.08	.51**	.31*	.44**	-.06	.58**	--					
Game	.28	.17	.17	.01	.08	.08	.77**	.49**	.56**	.06	.86**	.57**	--				

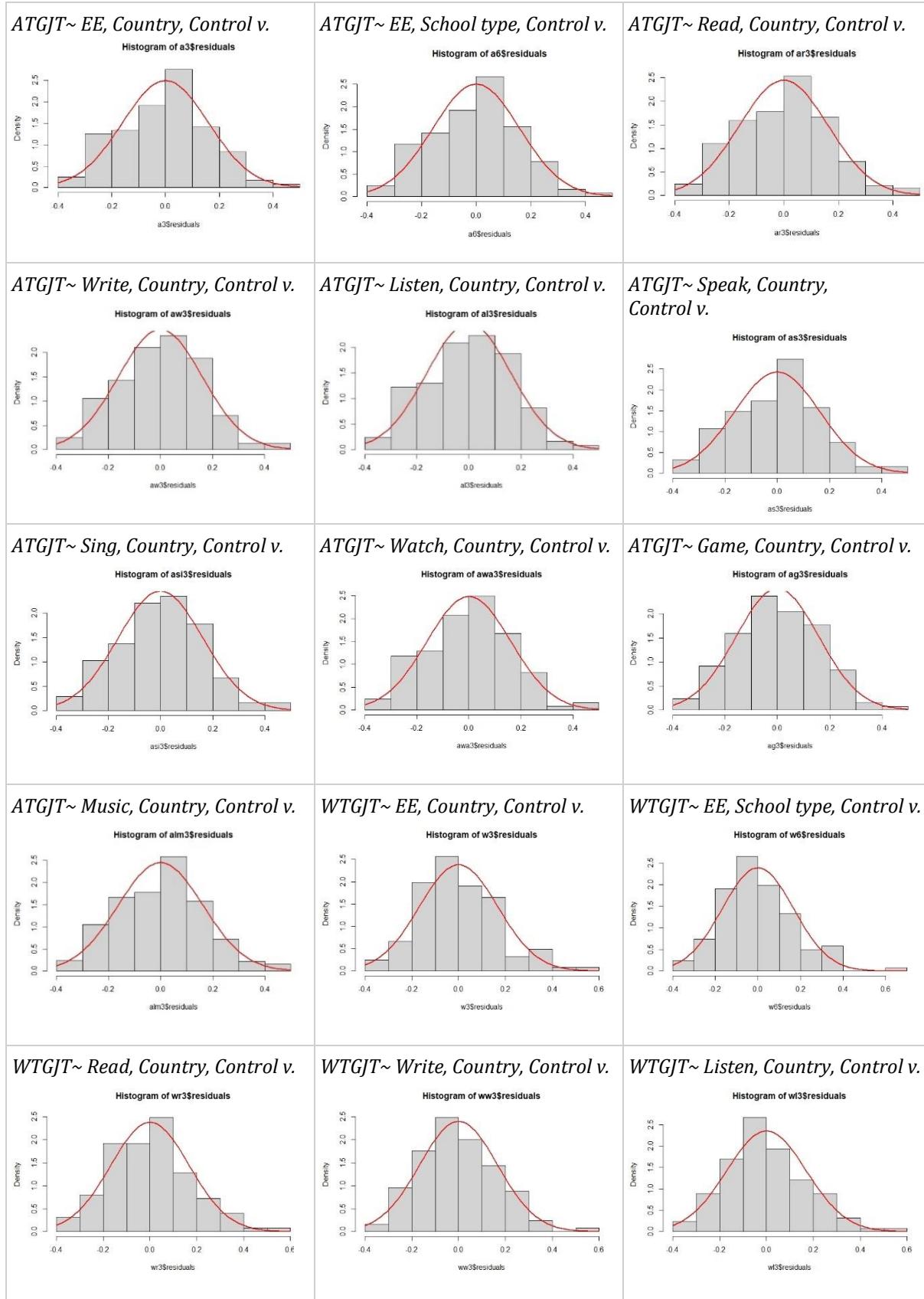
	ONT	EIT	ATGJT	WTGJT	UGJT	MKT	Total EE	Read	Write	Listen	Speak	Sing	Game	Watch	Music	C-test	HISEI
Watch	-.10	-.17	-.13	-.40**	-.07	-.06	.21	-.10	-.10	-.08	.12	-.15	.21	--			
Music	.12	.20	.23	.10	.19	.07	.42**	.45**	.25*	.10	.23	.49**	.24	-.08	--		
C-test	.57**	.43**	.36**	.32*	.44**	.31*	.37**	.27*	.34**	.09	.27*	.15	.18	.04	.21	--	
HISEI	-.02	.23	.05	-.02	.29*	.21	.20	.21	.24	.27*	.14	-.10	.07	.16	-.04	.19	--
Age	-.12	-.21	-.10	-.11	-.32*	-.11	-.03	-.07	.13	-.09	.13	.00	.12	.08	-.18	-.15	.00
EIT	.46**	--															
ATGJT	.46*	.60**	--														
WTGJT	.35	.19	.57**	--													
UGJT	.42*	.54**	.21	.01	--												
MKT	.18	.34*	.26	-.09	.61**	--											
Total EE	-.05	-.03	.09	.14	-.14	-.13	--										
Read	.21	.26	.32*	.22	.19	.30	.70**	--									
Write	-.21	-.19	-.11	.08	-.29	-.29	.51**	.06	--								
Listen	.18	.11	.21	.18	.08	.01	.64**	.58**	.05	--							
Speak	.08	-.15	-.01	.12	-.23	-.25	.66**	.23	.18	.36*	--						
Sing	-.58**	-.32*	-.15	-.04	-.327*	-.17	.41**	.01	.50**	-.04	.12	--					
Game	-.24	-.07	-.08	-.01	-.14	-.20	.68**	.40**	.56**	.24	.18	.38*	--				
Watch	.29	.08	.13	.09	-.04	-.14	.84**	.59**	.19	.70**	.77**	.02	.34*	--			
Music	-.36	.11	.18	.08	.14	.02	.28	.19	.30	-.03	.11	.27	.42**	.03	--		
C-test	.55**	.49**	.43**	.31*	.59**	.44**	.11	.34*	-.21	.29	-.01	-.21	-.01	.18	.13	--	
HISEI	.47*	.45**	.58**	.42**	.40*	.25	-.12	.32*	-.35*	.09	-.13	-.20	-.17	-.11	.15	.59**	--
Age	-.45*	-.13	-.09	-.01	-.43**	-.26	.15	-.14	.45**	-.11	.05	.23	.48**	-.11	.13	-.41**	-.33*

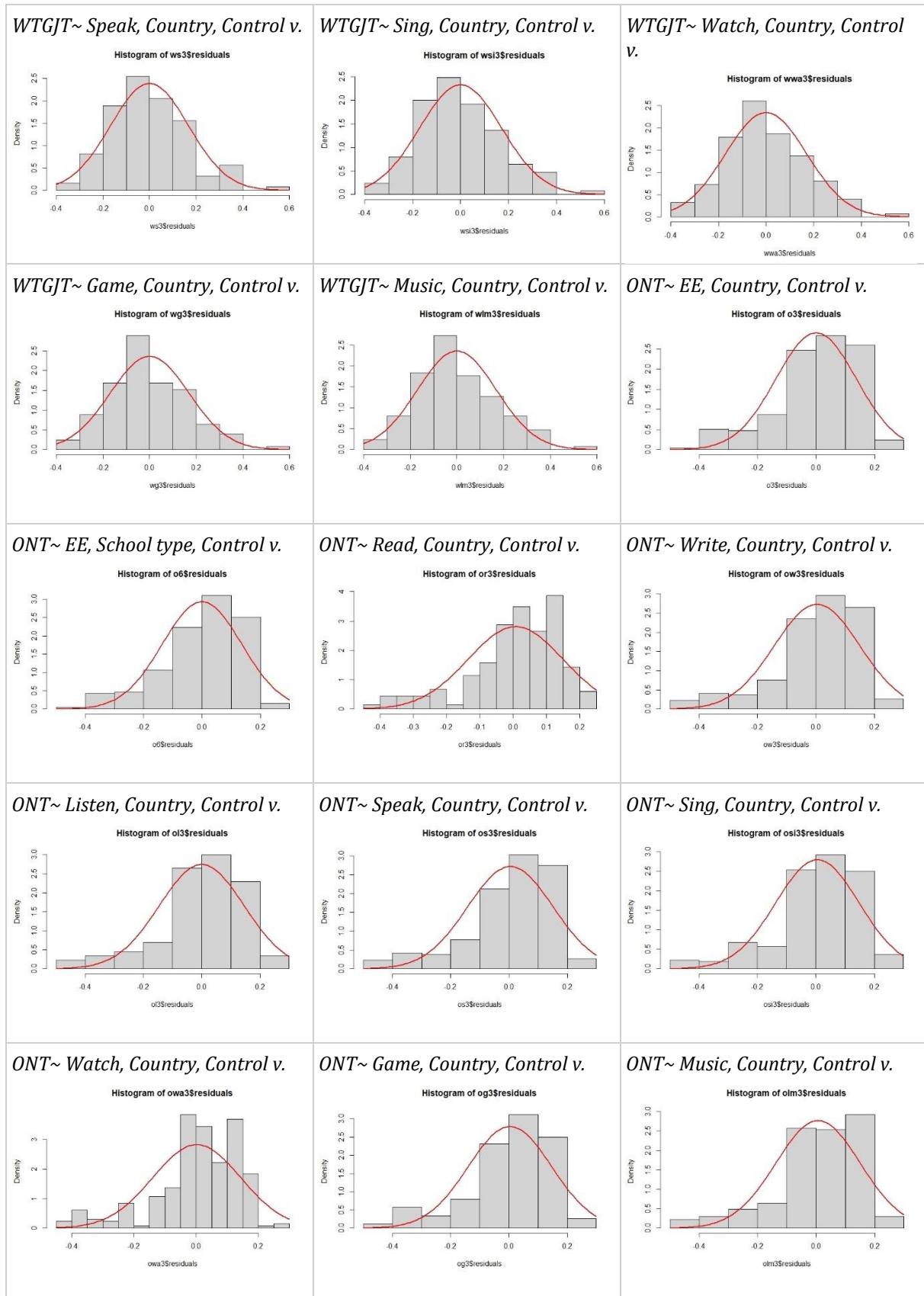
**Notes.** \* Correlation is significant at the .05 level, \*\* Correlation is significant at the .001 level (2-tailed).

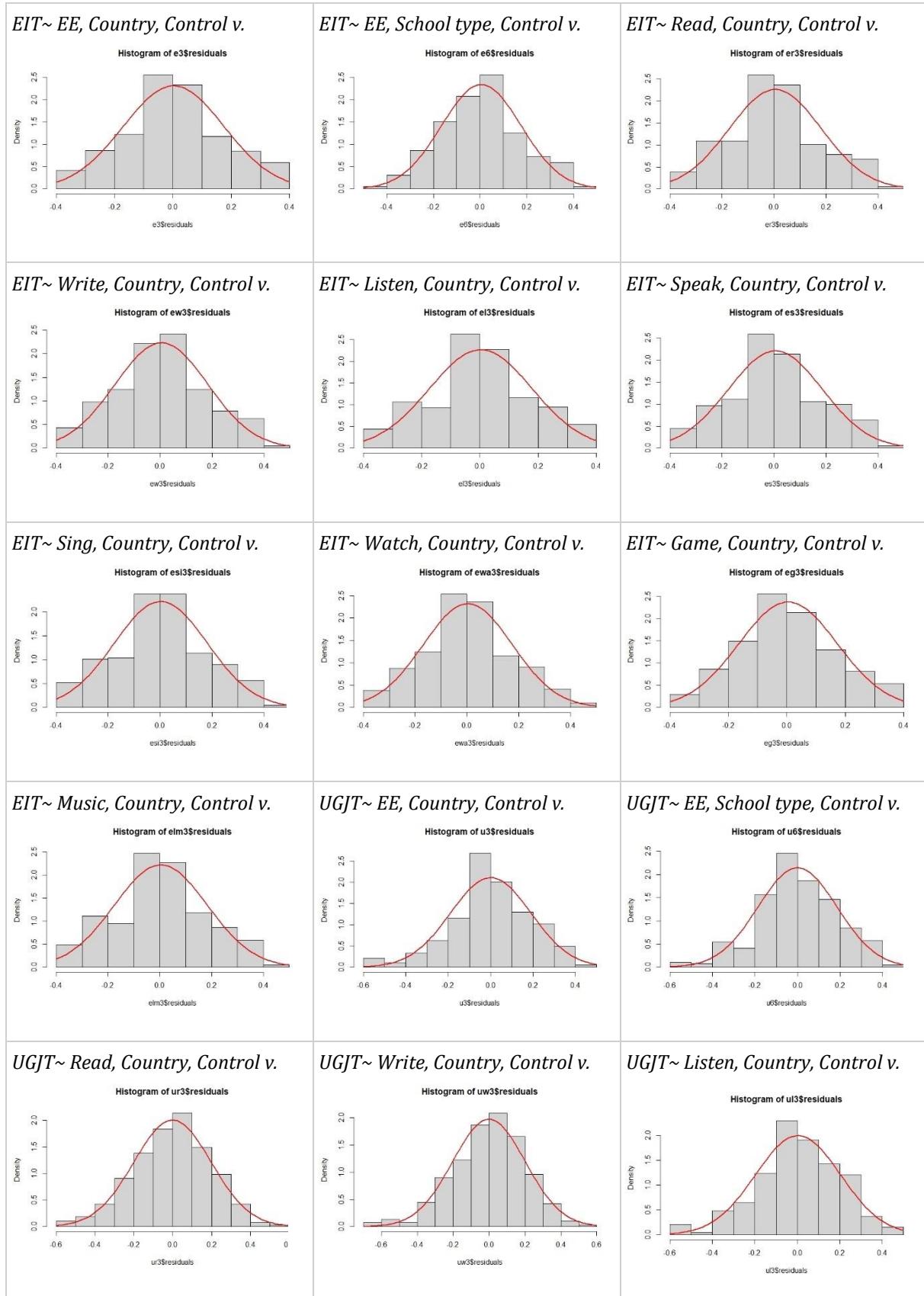
N for the individual combinations was 37-62 for AHS and 29-44 for AMS.

### 11.11.8.2 Assumption-Testing Graphs

Table 11.21 Histograms showing data distribution







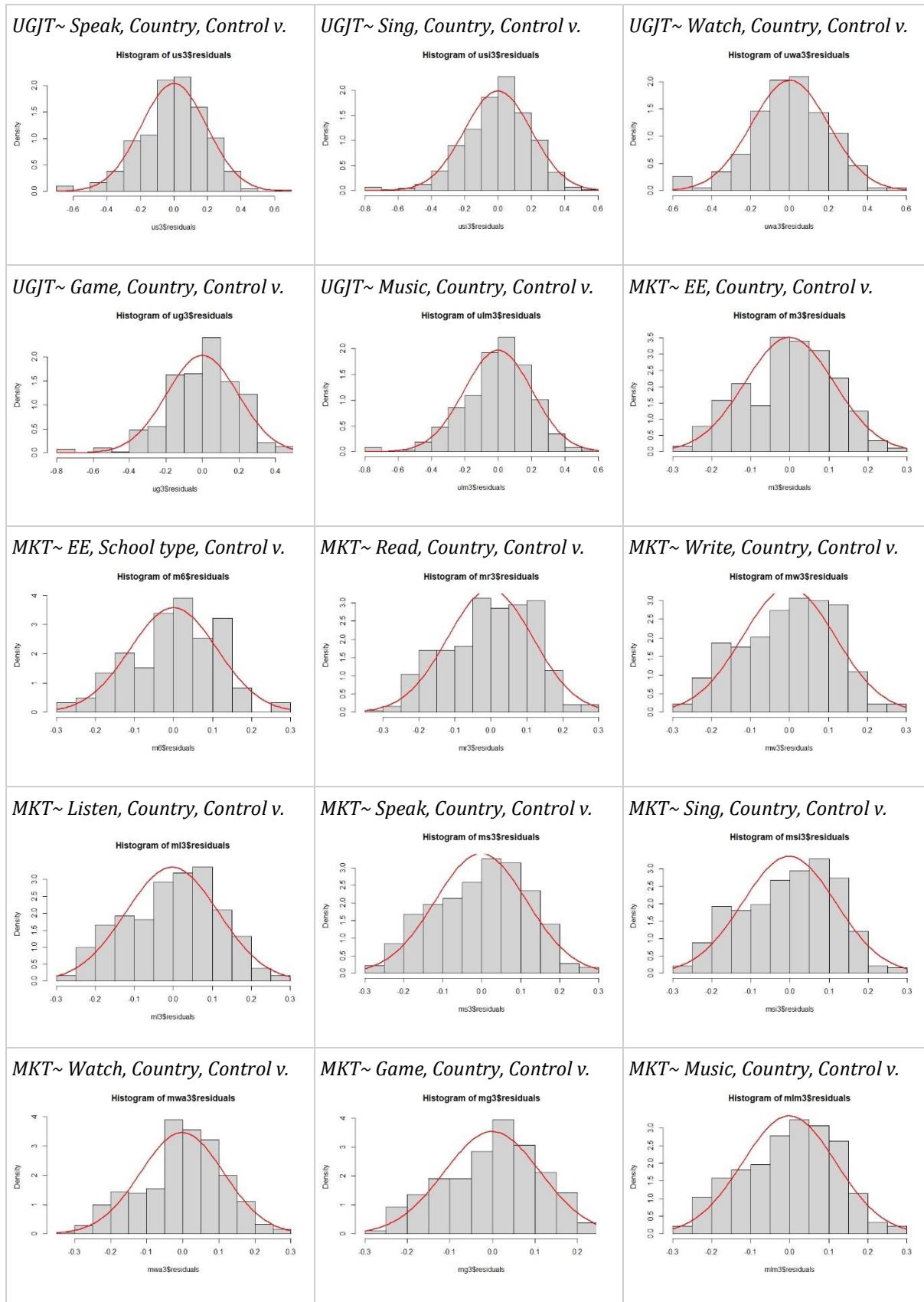
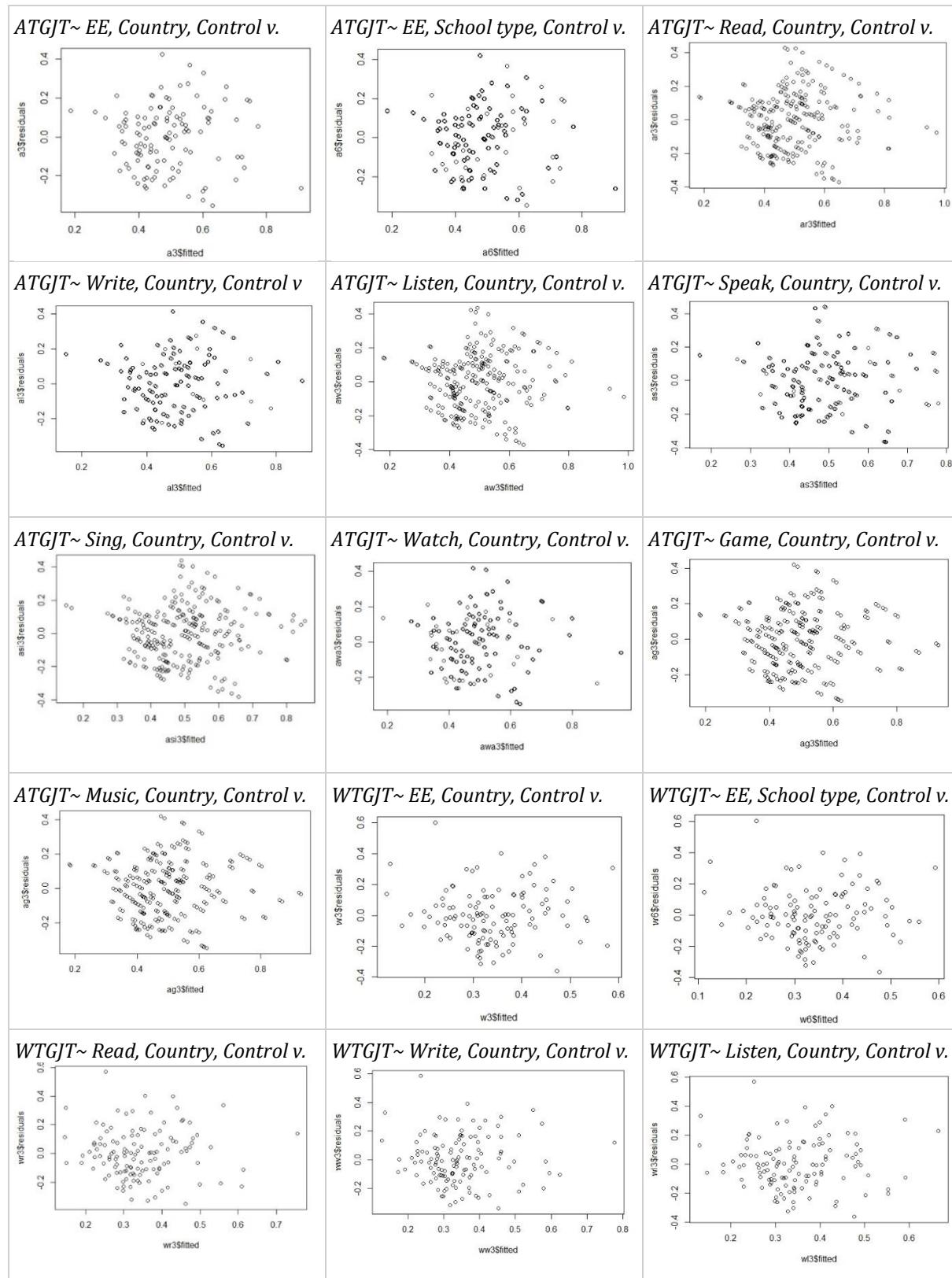
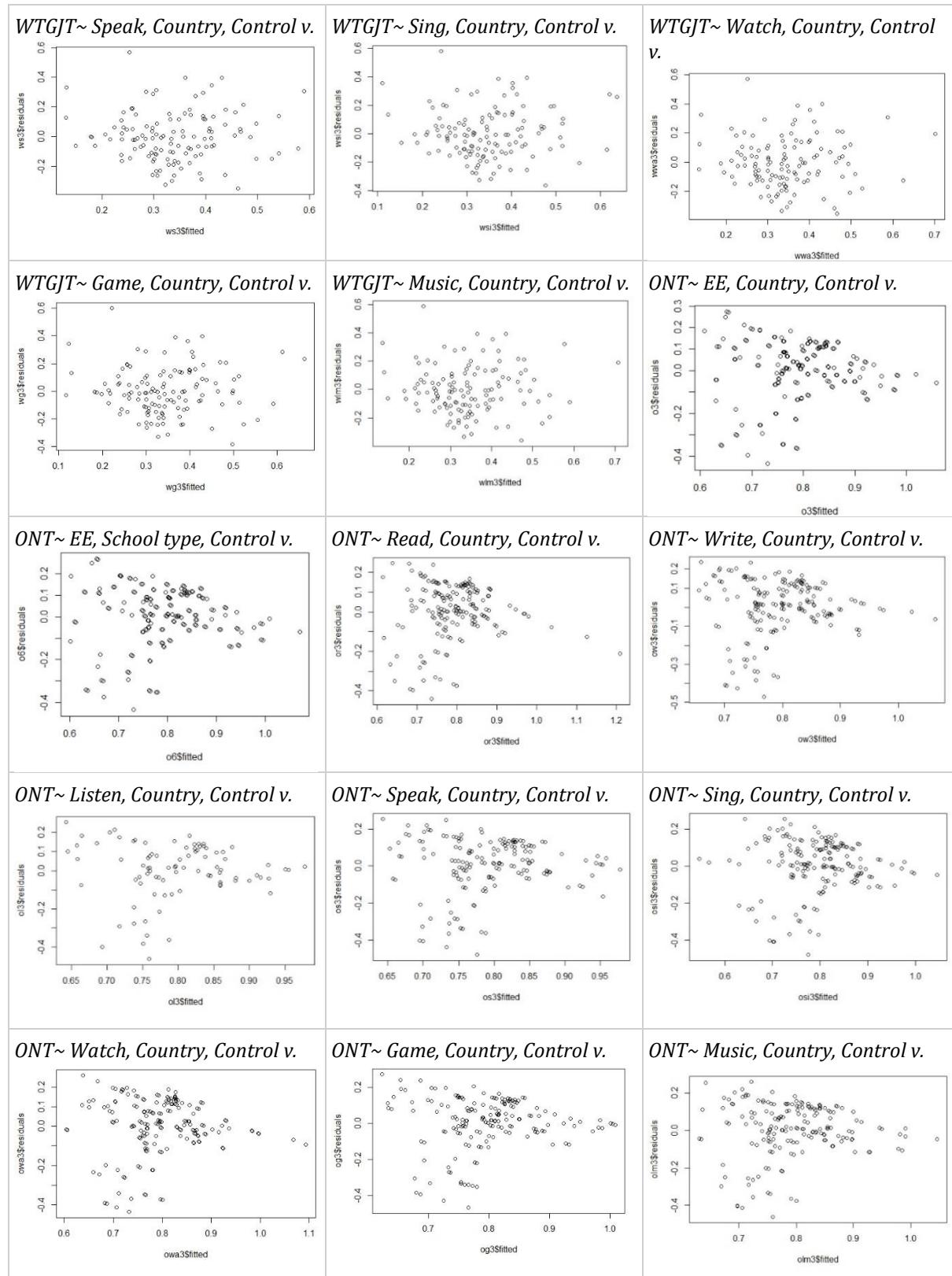
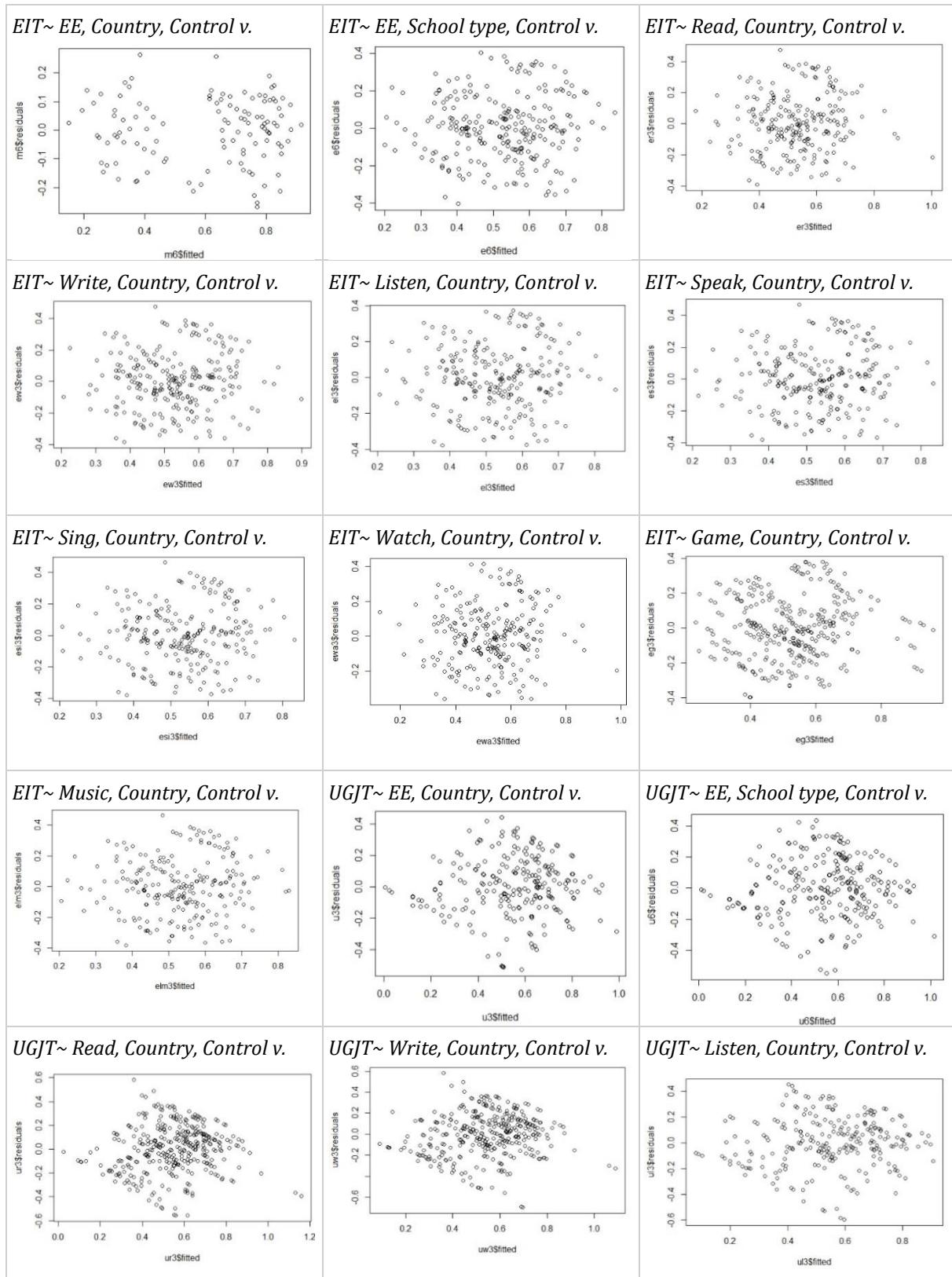
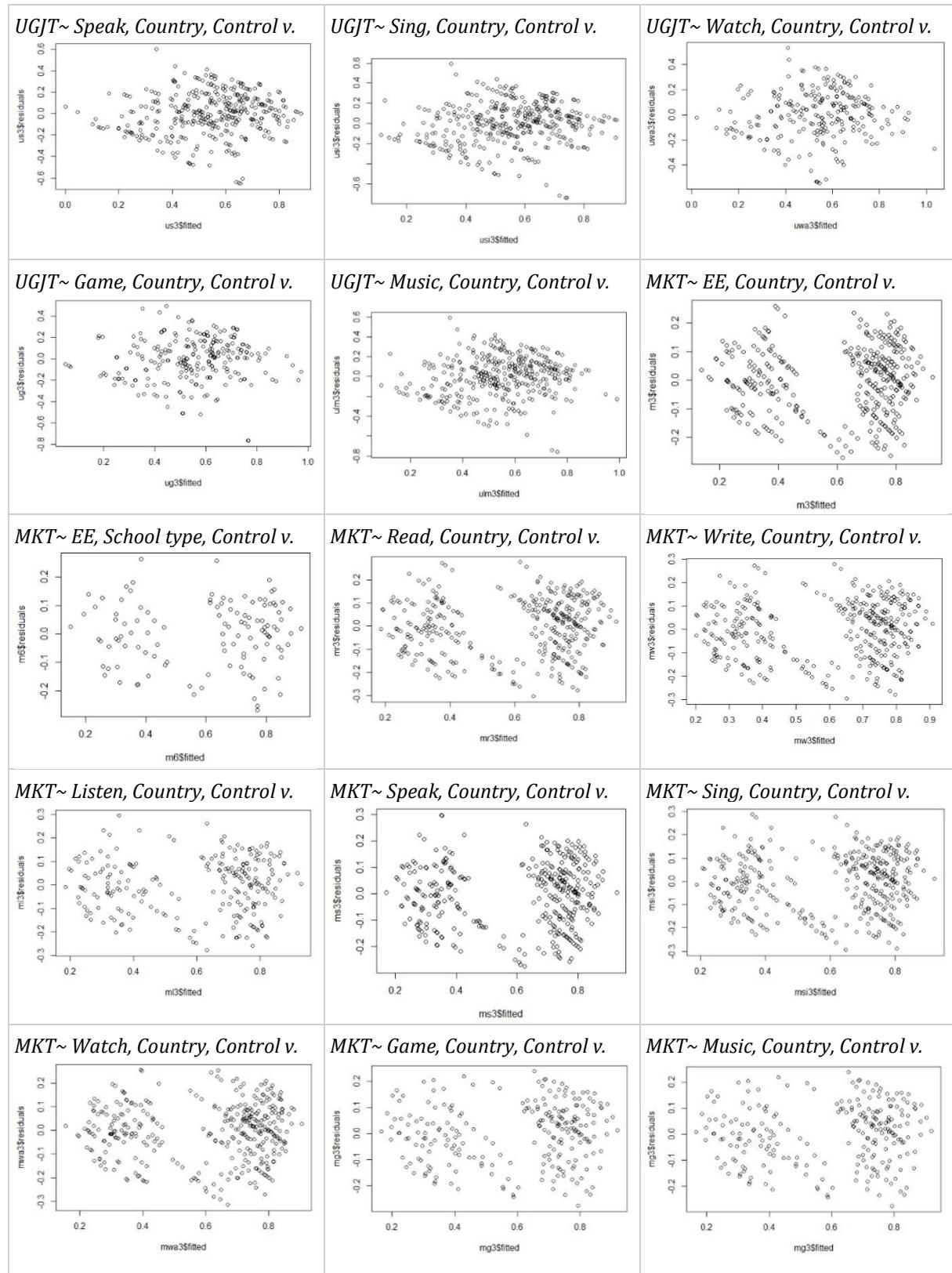


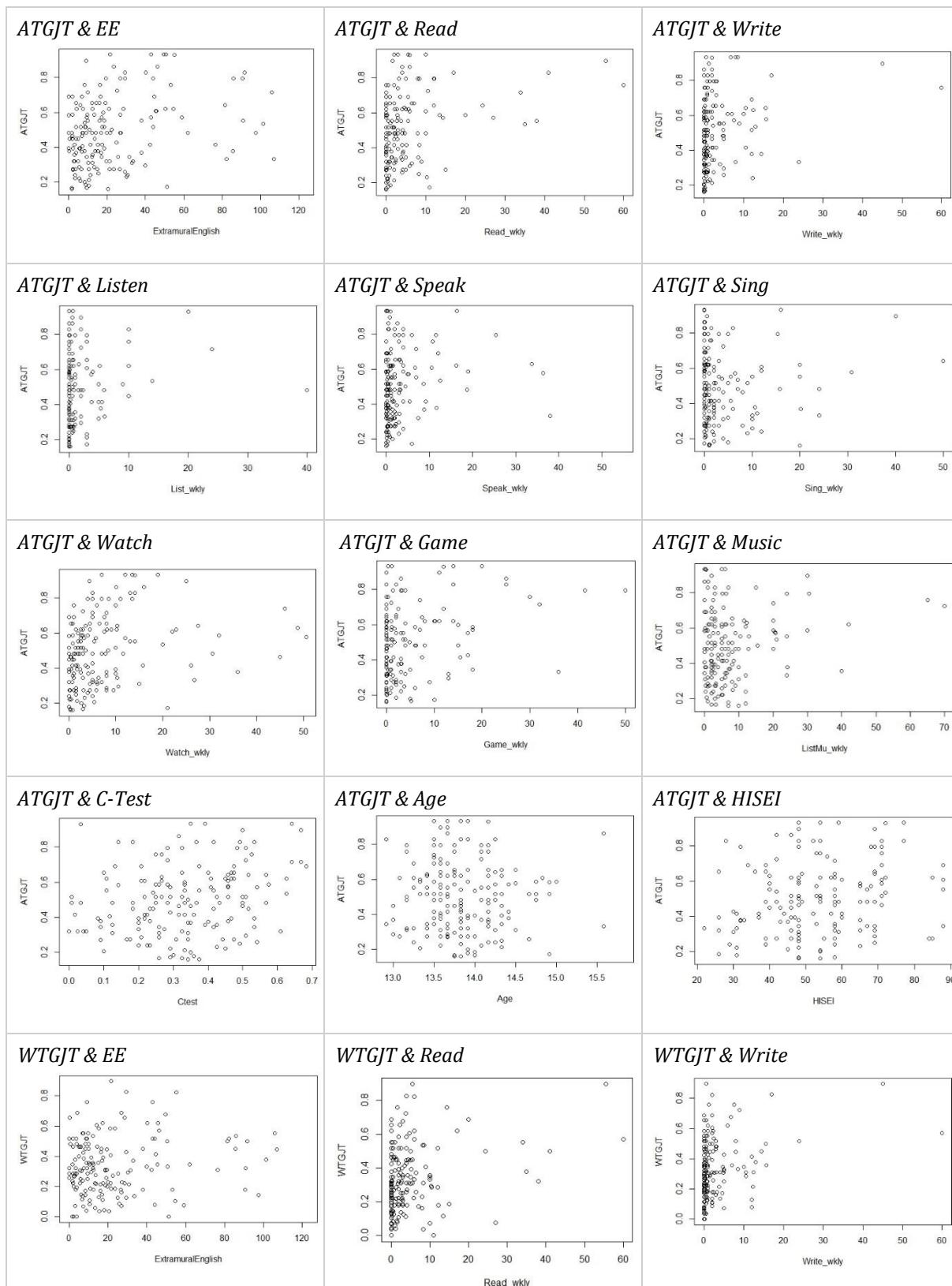
Table 11.22 Residuals vs. fits plots

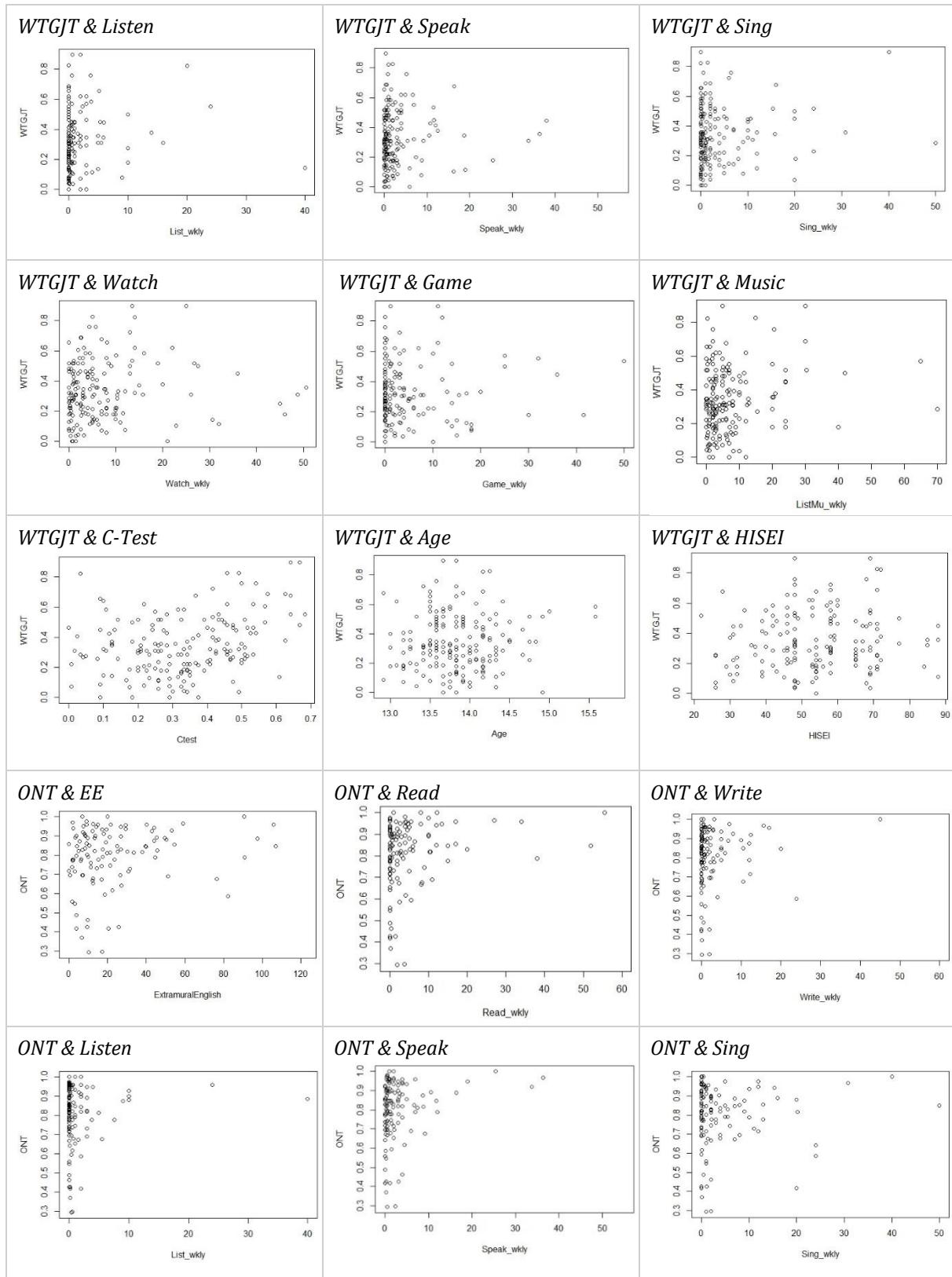


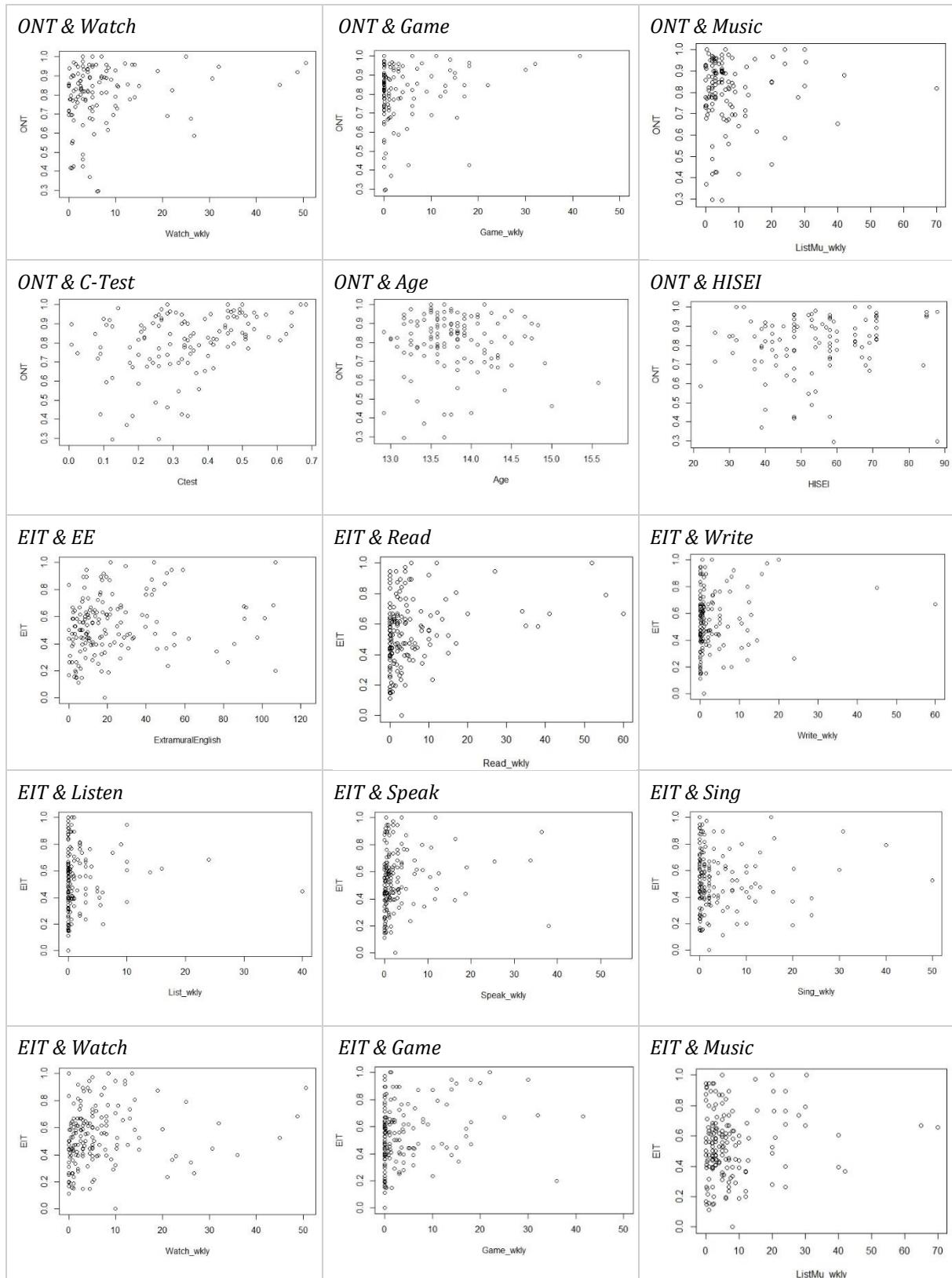


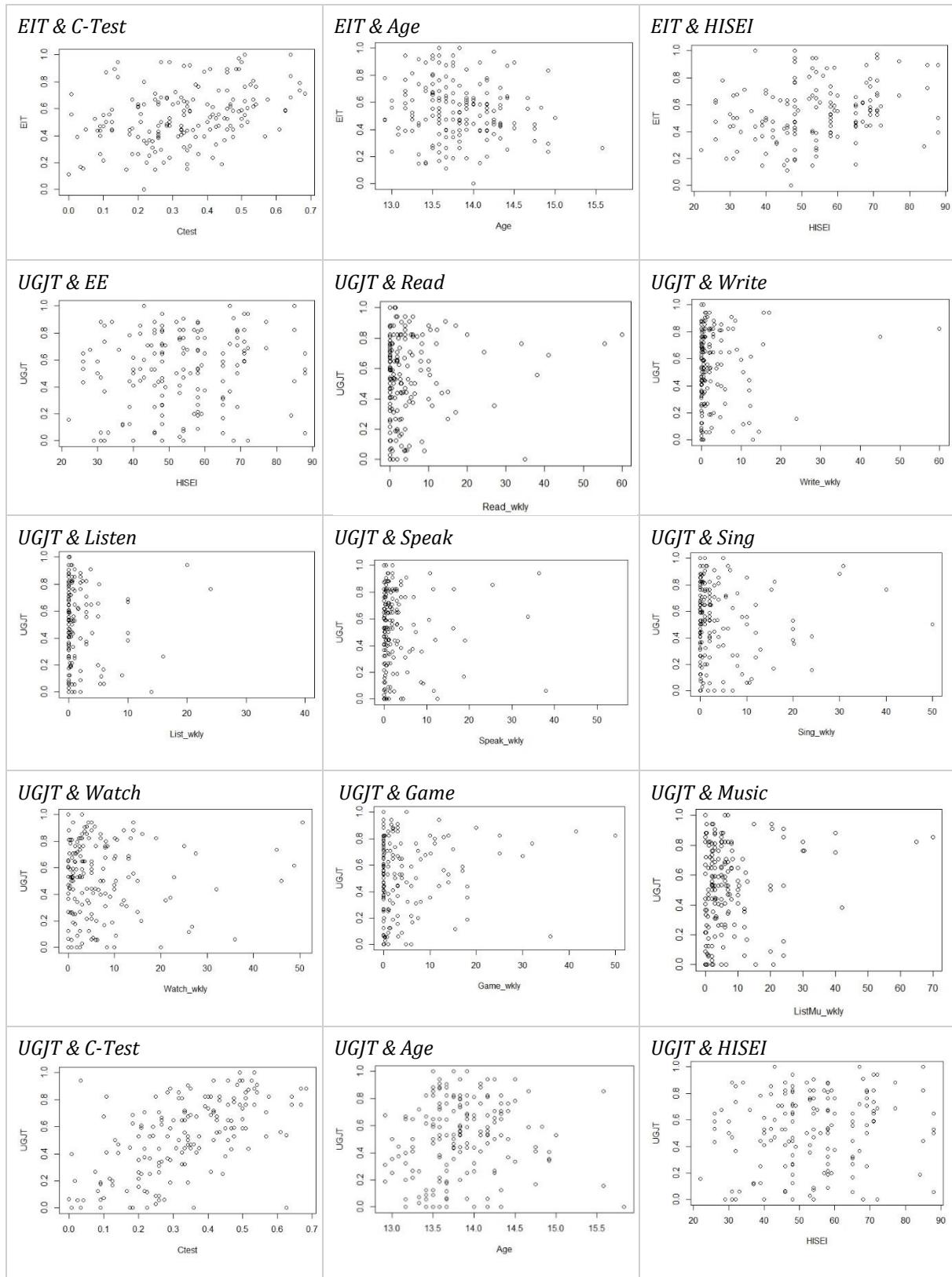


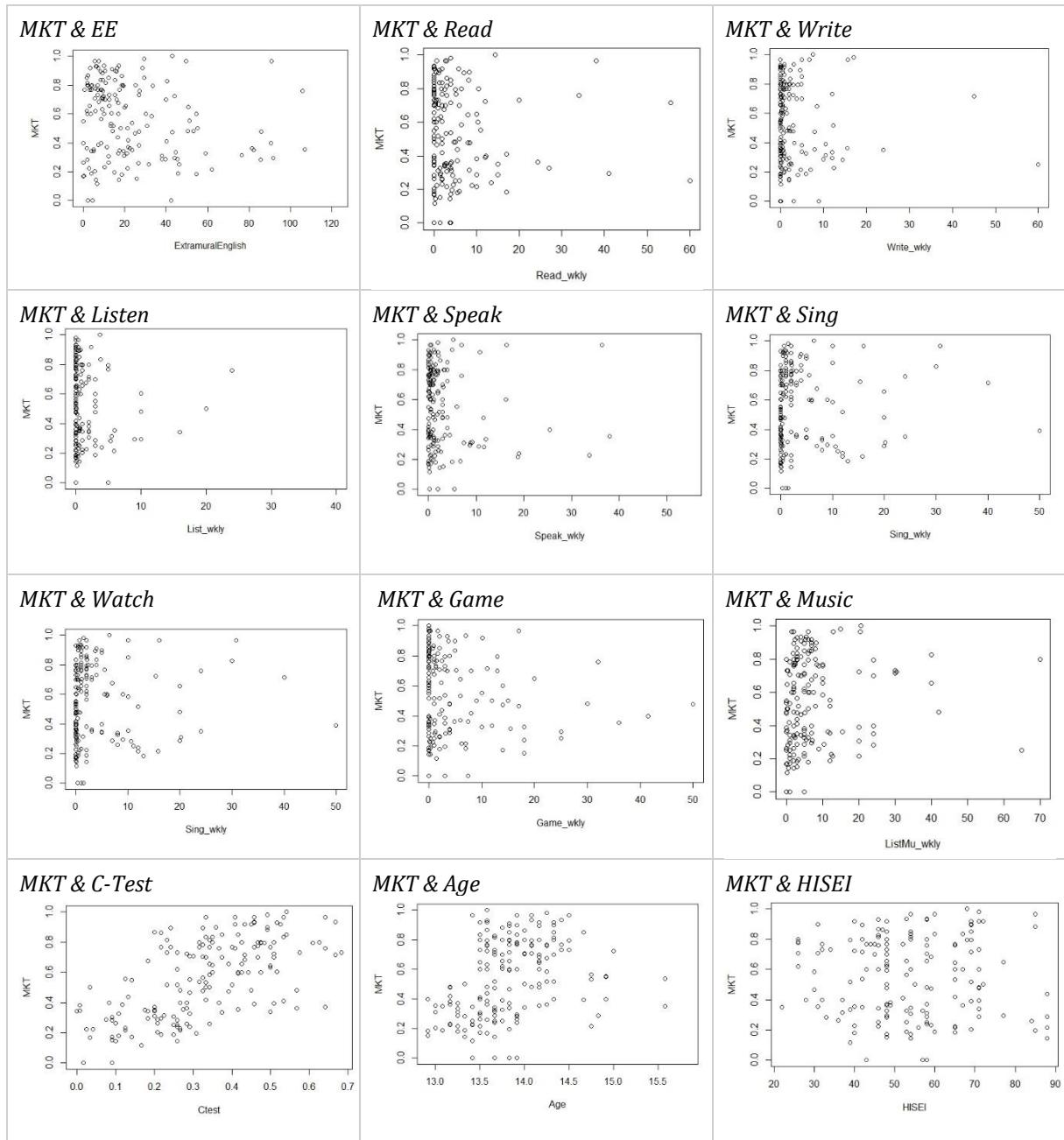


**Table 11.23** Scatterplots showing independent-dependent variable relationship









### 11.11.8.3 ‘Total EE’ Mixed Model Tables

*Table 11.24 Estimates and standard errors of the independent variables in the Total EE models of ONT*

<b>Step</b>	<b>ONT, by Country</b>			<b>ONT, by School Type</b>			
	<b>1</b>	<b>2</b>	<b>3</b>	<b>EE</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>EE</b>	.002** (.001)	.002+ (.001)	.004** (.001)	<b>EE</b>	.002** (.001)	.002+ (.001)	.004** (.001)
<b>Country (AT)</b>	.047 (.044)	-.007 (.061)	.080 (.072)	<b>School type (AHS)</b>	.066 (.052)	.015 (.071)	.063 (.089)
				<b>School type (AMS)</b>	.017 (.061)	.0002 (.079)	.098 (.090)
<b>C-test</b>	.425** (.149)	.478** (.144)	<b>C-test</b>		.406** (.151)	.482** (.146)	
<b>Dyslex (yes)</b>	.018 (.086)	-.0002 (.083)	<b>Dyslex (yes)</b>		.023 (.086)	.0002 (.083)	
<b>HISEI</b>	.0003 (.001)	.0003 (.001)	<b>HISEI</b>		.0004 (.001)	.0002 (.001)	
<b>Gender (boy)</b>	.027 (.037)	.033 (.036)	<b>Gender (boy)</b>		.028 (.037)	.034 (.036)	
<b>L1 (other)</b>	.003 (.059)	.001 (.057)	<b>L1 (other)</b>		.001 (.060)	.008 (.058)	
<b>Age</b>	-.021 (.049)	-.016 (.047)	<b>Age</b>		-.023 (.049)	-.017 (.048)	
<b>EE*AT</b>		-.004** (.002)	<b>EE*AHS</b>			-.003 (.003)	
			<b>EE*AMS</b>			-.005** (.002)	
<b>Constant</b>	.722** (.037)	.882 (.659)	.733 (.638)	<b>Constant</b>	.719** (.038)	.889 (.657)	.746 (.642)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ . N was 113 for steps 1 & 4 and 85 for steps 2-3 & 5-6.

*Table 11.25 Estimates and standard errors of the independent variables in the Total EE models of EIT*

<b>EIT, by Country</b>				<b>EIT, by School Type</b>			
<b>Step</b>	<b>1</b>	<b>2</b>	<b>3</b>		<b>4</b>	<b>5</b>	<b>6</b>
<b>EE</b>	.002** (.001)	.001 (.001)	.004* (.001)	<b>EE</b>	.002** (.001)	.001 (.001)	.003* (.001)
<b>Country (AT)</b>	.005 (.053)	-.029 (.072)	.060 (.076)	<b>School type (AHS)</b>	.045 (.054)	-.001 (.079)	.102 (.084)
				<b>School type (AMS)</b>	-.067 (.064)	-.070 (.089)	.009 (.092)
<b>C-test</b>		.558** (.150)	.599** (.146)	<b>C-test</b>		.539** (.151)	.584** (.148)
<b>Dyslex (yes)</b>		.113 (.090)	.107 (.088)	<b>Dyslex (yes)</b>		.112 (.090)	.108 (.088)
<b>HISEI</b>		.003* (.001)	.004** (.001)	<b>HISEI</b>		.003* (.001)	.003** (.001)
<b>Gender (boy)</b>		.033 (.036)	.035 (.036)	<b>Gender (boy)</b>		.034 (.036)	.033 (.036)
<b>L1 (other)</b>		.059 (.060)	.053 (.058)	<b>L1 (other)</b>		.055 (.060)	.043 (.059)
<b>Age</b>		-.049 (.051)	-.046 (.051)	<b>Age</b>		-.047 (.051)	-.043 (.051)
<b>EE*AT</b>			-.004* (.002)	<b>EE*AHS</b>			-.005* (.002)
				<b>EE*AMS</b>			-.003+ (.002)
<b>Constant</b>	.488** (.044)	.808 (.691)	.678 (.683)	<b>Constant</b>	.489** (.041)	.793 (.690)	.644 (.681)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ . N was 162 for steps 1 & 4 and 119 for steps 2-3 & 5-6.

*Table 11.26 Estimates and standard errors of the independent variables in the Total EE models of ATGJT*

<b>ATGJT, by Country</b>				<b>ATGJT, by School Type</b>			
<b>Step</b>	<b>1</b>	<b>2</b>	<b>3</b>		<b>4</b>	<b>5</b>	<b>6</b>
<b>EE</b>	.002** (.001)	.001+ (.001)	.003* (.001)	<b>EE</b>	.002** (.001)	.001+ (.001)	.003* (.001)
<b>Country (AT)</b>	-.047 (.045)	-.185** (.048)	-.117 (.061)	<b>School type (AHS)</b>	-.018 (.050)	-.175* (.051)	-.116 (.066)
				<b>School type (AMS)</b>	-.098 (.059)	-.197* (.053)	-.123 (.067)
<b>C-test</b>		.584** (.126)	.574** (.125)	<b>C-test</b>		.574** (.128)	.561** (.128)
<b>Dyslex (yes)</b>		.062 (.080)	.065 (.079)	<b>Dyslex (yes)</b>		.061 (.080)	.063 (.080)
<b>HISEI</b>		.001 (.001)	.002 (.001)	<b>HISEI</b>		.001 (.001)	.001 (.001)
<b>Gender (boy)</b>		.004 (.033)	.006 (.033)	<b>Gender (boy)</b>		.004 (.033)	.007 (.033)
<b>L1 (other)</b>		.046 (.052)	.043 (.052)	<b>L1 (other)</b>		.042 (.053)	.043 (.053)
<b>Age</b>		.067+ (.039)	.061 (.039)	<b>Age</b>		.068+ (.040)	.062 (.039)
<b>EE*AT</b>			-.003+ (.001)	<b>EE*AHS</b>			-.002 (.002)
				<b>EE*AMS</b>			-.003+ (.002)
<b>Constant</b>	.466** (.036)	-.628 (.536)	-.607 (.531)	<b>Constant</b>	.465** (.035)	-.641 (.538)	-.606 (.536)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ . N was 163 for steps 1 & 4 and 120 for steps 2-3 & 5-6.

*Table 11.27 Estimates and standard errors of the independent variables in the Total EE models of WTGJT*

<b>WTGJT, by Country</b>				<b>WTGJT, by School Type</b>			
<b>Step</b>	<b>1</b>	<b>2</b>	<b>3</b>		<b>4</b>	<b>5</b>	<b>6</b>
<b>EE</b>	.001*	.0004	-.001	<b>EE</b>	.001*	.0004	-.001
	(.001)	(.001)	(.001)		(.001)	(.001)	(.001)
<b>Country (AT)</b>	.024	-.116+	-.174*	<b>School type (AHS)</b>	.048	-.123+	-.167+
	(.045)	(.050)	(.063)		(.056)	(.053)	(.068)
				<b>School type (AMS)</b>	-.002	-.108	-.177+
					(.058)	(.055)	(.070)
<b>C-test</b>	.451**	.460**	<b>C-test</b>		.458**	.474**	
	(.131)	(.131)			(.133)	(.133)	
<b>Dyslex (yes)</b>	.024	.022	<b>Dyslex (yes)</b>		.025	.024	
	(.083)	(.083)			(.083)	(.083)	
<b>HISEI</b>	.001	.0005	<b>HISEI</b>		.001	.001	
	(.001)	(.001)			(.001)	(.001)	
<b>Gender (boy)</b>	-.094**	-.096**	<b>Gender (boy)</b>		-.094**	-.098**	
	(.034)	(.034)			(.035)	(.035)	
<b>L1 (other)</b>	.052	.055	<b>L1 (other)</b>		.054	.052	
	(.054)	(.054)			(.055)	(.055)	
<b>Age</b>	.085*	.090*	<b>Age</b>		.084*	.089*	
	(.041)	(.041)			(.041)	(.041)	
<b>EE*AT</b>	.002	<b>EE*AHS</b>			.001		
	(.001)				(.002)		
		<b>EE*AMS</b>			.003		
					(.002)		
<b>Constant</b>	.289**	-.931+	-.949+	<b>Constant</b>	.288**	-.922	-.953+
	(.038)	(.558)	(.556)		(.039)	(.561)	(.560)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ . N was 166 for steps 1 & 4 and 121 for steps 2-3 & 5-6.

*Table 11.28 Estimates and standard errors of the independent variables in the Total EE models of UGJT*

<b>UGJT, by Country</b>				<b>UGJT, by School Type</b>			
<b>Step</b>	<b>1</b>	<b>2</b>	<b>3</b>		<b>4</b>	<b>5</b>	<b>6</b>
<b>EE</b>	.001	-.001	.006**	<b>EE</b>	.001	-.001	.006**
	(.001)	(.001)	(.002)		(.001)	(.001)	(.002)
<b>Country (AT)</b>	.177	.061	.295*	<b>School type (AHS)</b>	.220	.089	.359*
	(.101)	(.130)	(.094)		(.120)	(.169)	(.116)
				<b>School type (AMS)</b>	.093	.012	.224
					(.149)	(.186)	(.118)
<b>C-test</b>	.672**	.731**	<b>C-test</b>		.664**	.720**	
	(.167)	(.154)			(.168)	(.154)	
<b>Dyslex (yes)</b>	-.092	-.157	<b>Dyslex (yes)</b>		-.085	-.152	
	(.103)	(.096)			(.103)	(.095)	
<b>HISEI</b>	.002	.002	<b>HISEI</b>		.002	.002+	
	(.001)	(.001)			(.001)	(.001)	
<b>Gender (boy)</b>	.060	.072+	<b>Gender (boy)</b>		.059	.067+	
	(.040)	(.039)			(.040)	(.039)	
<b>L1 (other)</b>	.161*	.174**	<b>L1 (other)</b>		.164*	.165*	
	(.067)	(.064)			(.067)	(.064)	
<b>Age</b>	-.037	-.014	<b>Age</b>		-.044	-.018	
	(.052)	(.048)			(.052)	(.049)	
<b>EE*AT</b>		-.009**	<b>EE*AHS</b>			-.011**	
		(.002)				(.002)	
			<b>EE*AMS</b>			-.008**	
						(.002)	
<b>Constant</b>	.387**	.654	.113	<b>Constant</b>	.388**	.760	.180
	(.071)	(.720)	(.662)		(.073)	(.725)	(.666)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ . N was 170 for steps 1 & 4 and 121 for steps 2-3 & 5-6.

*Table 11.29 Estimates and standard errors of the independent variables in the Total EE models of MKT*

<b>MKT, by Country</b>				<b>MKT, by School Type</b>			
<b>Step</b>	<b>1</b>	<b>2</b>	<b>3</b>		<b>4</b>	<b>5</b>	<b>6</b>
<b>EE</b>	.0004	-.001	.001	<b>EE</b>	.0004	-.001	.002+
	(.001)	(.001)	(.001)		(.001)	(.001)	(.001)
<b>Country (AT)</b>	.412**	.338**	.422**	<b>School type (AHS)</b>	.462**	.390**	.484**
	(.045)	(.053)	(.056)		(.040)	(.039)	(.049)
				<b>School type (AMS)</b>	.337**	.269**	.362**
					(.047)	(.042)	(.048)
<b>C-test</b>	.372**	.378**	<b>C-test</b>		.367**	.349**	
	(.096)	(.093)			(.093)	(.089)	
<b>Dyslex (yes)</b>	-.022	-.031	<b>Dyslex (yes)</b>		-.035	-.036	
	(.059)	(.057)			(.058)	(.056)	
<b>HISEI</b>	.001	.001	<b>HISEI</b>		.001	.001	
	(.001)	(.001)			(.001)	(.001)	
<b>Gender (boy)</b>	-.011	-.005	<b>Gender (boy)</b>		-.008	-.005	
	(.024)	(.024)			(.024)	(.024)	
<b>L1 (other)</b>	-.050	-.040	<b>L1 (other)</b>		-.060	-.054	
	(.039)	(.038)			(.039)	(.038)	
<b>Age</b>	.004	.002	<b>Age</b>		.011	.004	
	(.030)	(.029)			(.028)	(.028)	
<b>EE*AT</b>		-.003**	<b>EE*AHS</b>			-.004*	
		(.001)				(.002)	
			<b>EE*AMS</b>			-.003**	
						(.001)	
<b>Constant</b>	.314**	.169	.138	<b>Constant</b>	.308**	.069	.100
	(.035)	(.404)	(.392)		(.030)	(.387)	(.374)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ . N was 163 for steps 1 & 4 and 118 for steps 2-3 & 5-6.

#### 11.11.8.4 ‘Individual Activities’ Mixed Models Tables<sup>88</sup>

*Table 11.30 Estimates and standard errors of the independent variables in the EE reading models of ONT, EIT, and ATGJT*

<b>Steps</b>	<b>ONT</b>		<b>EIT</b>		<b>ATGJT</b>	
	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>
<b>Reading</b>	0.005*	0.007*	0.003	0.005+	0.002	0.003
	(0.002)	(0.003)	(0.002)	(0.002)	(0.002)	(0.002)
<b>Country (AT)</b>	-0.006	0.022	-0.026	0.005	-0.202*	-0.196*
	(0.063)	(0.070)	(0.074)	(0.079)	(0.051)	(0.055)
<b>C-test</b>	0.361*	0.360*	0.489*	0.503*	0.569**	0.571**
	(0.144)	(0.143)	(0.146)	(0.146)	(0.128)	(0.129)
<b>Dyslex (yes)</b>	-0.005	-0.009	0.100	0.105	0.056	0.057
	(0.085)	(0.085)	(0.091)	(0.091)	(0.081)	(0.082)
<b>HISEI</b>	0.0003	0.001	0.003*	0.004**	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
<b>Gender (boy)</b>	0.039	0.044	0.046	0.050	0.017	0.018
	(0.035)	(0.035)	(0.035)	(0.035)	(0.032)	(0.033)
<b>L1 (other)</b>	-0.012	-0.018	0.042	0.037	0.035	0.034
	(0.056)	(0.056)	(0.057)	(0.057)	(0.051)	(0.051)
<b>Age</b>	-0.002	-0.008	-0.043	-0.052	0.074+	0.072+
	(0.047)	(0.047)	(0.050)	(0.050)	(0.039)	(0.040)
<b>Reading*AT</b>		-0.005		-0.005		-0.001
		(0.005)		(0.004)		(0.004)
<b>Constant</b>	0.651	0.700	0.750	0.834	-0.680	-0.667
	(0.637)	(0.634)	(0.675)	(0.674)	(0.538)	(0.542)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ .

*Table 11.31 Estimates and standard errors of the independent variables in the EE reading models of WTGJT, UGJT, and MKT*

<b>Steps</b>	<b>WTGJT</b>		<b>UGJT</b>		<b>MKT</b>	
	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>
<b>Reading</b>	0.003	0.002	0.003	0.006*	0.001	0.002
	(0.002)	(0.002)	(0.002)	(0.003)	(0.001)	(0.002)
<b>Country (AT)</b>	-0.107+	-0.118+	0.075	0.144	0.339**	0.353**
	(0.047)	(0.051)	(0.112)	(0.115)	(0.053)	(0.054)
<b>C-test</b>	0.419**	0.416**	0.611**	0.650**	0.376**	0.385**
	(0.128)	(0.129)	(0.163)	(0.158)	(0.094)	(0.094)
<b>Dyslex (yes)</b>	0.012	0.012	-0.123	-0.111	-0.032	-0.031
	(0.082)	(0.082)	(0.104)	(0.101)	(0.060)	(0.060)

<sup>88</sup> N was 86-88 for ONT models, 120-123 for EIT models, 121-124 for ATGJT models, 122-125 for WTGJT models, 122-125 for UGJT models, and 119-122 for MKT models.

	<b>WTGJT</b>		<b>UGJT</b>		<b>MKT</b>
<b>HISEI</b>	0.0004	0.0003	0.002	0.003+	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
<b>Gender (boy)</b>	-0.091**	-0.093**	0.052	0.062	-0.019
	(0.033)	(0.034)	(0.040)	(0.039)	(0.024)
<b>L1 (other)</b>	0.067	0.069	0.143*	0.126*	-0.024
	(0.052)	(0.052)	(0.065)	(0.063)	(0.039)
<b>Age</b>	0.085*	0.087*	-0.018	-0.035	-0.004
	(0.040)	(0.040)	(0.051)	(0.050)	(0.030)
<b>Reading*AT</b>		0.002		-0.013**	-0.003
		(0.004)		(0.005)	(0.003)
<b>Constant</b>	-0.915+	-0.941+	0.389	0.543	0.256
	(0.547)	(0.550)	(0.709)	(0.688)	(0.410)
					(0.412)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ .

Table 11.32 Estimates and standard errors of the independent variables in the EE writing models of ONT, EIT, and ATGJT

	<b>ONT</b>		<b>EIT</b>		<b>ATGJT</b>	
<b>Steps</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>
<b>EE Writing</b>	0.002	0.003	0.003	0.003	0.004+	0.004
	(0.003)	(0.004)	(0.003)	(0.003)	(0.002)	(0.002)
<b>Country (AT)</b>	-0.031	-0.028	-0.023	-0.026	-0.194**	-0.198*
	(0.061)	(0.062)	(0.075)	(0.076)	(0.052)	(0.054)
<b>C-test</b>	0.450**	0.446**	0.517**	0.512**	0.577**	0.577**
	(0.143)	(0.145)	(0.141)	(0.142)	(0.122)	(0.123)
<b>Dyslex (yes)</b>	0.027	0.025	0.122	0.126	0.081	0.084
	(0.086)	(0.087)	(0.091)	(0.092)	(0.081)	(0.081)
<b>HISEI</b>	0.0003	0.0002	0.003**	0.004**	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
<b>Gender (boy)</b>	0.044	0.044	0.051	0.052	0.025	0.025
	(0.036)	(0.037)	(0.036)	(0.036)	(0.033)	(0.033)
<b>L1 (other)</b>	0.004	0.003	0.040	0.039	0.027	0.025
	(0.058)	(0.058)	(0.057)	(0.057)	(0.051)	(0.051)
<b>Age</b>	-0.019	-0.016	-0.059	-0.067	0.058	0.054
	(0.050)	(0.052)	(0.052)	(0.054)	(0.040)	(0.041)
<b>EE Writing*AT</b>		-0.002		0.003		0.002
		(0.007)		(0.006)		(0.006)
<b>Constant</b>	0.879	0.838	0.952	1.057	-0.490	-0.435
	(0.676)	(0.701)	(0.699)	(0.727)	(0.546)	(0.561)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ .

*Table 11.33 Estimates and standard errors of the independent variables in the EE writing models of WTGJT, UGJT, and MKT*

	WTGJT		UGJT		MKT	
Steps	2	3	2	3	2	3
<b>EE Writing</b>	0.005*	0.004	0.004	0.006*	0.001	0.001
	(0.002)	(0.002)	(0.003)	(0.003)	(0.002)	(0.002)
<b>Country (AT)</b>	-0.103+	-0.115+	0.078	0.101	0.335**	0.340**
	(0.047)	(0.048)	(0.121)	(0.108)	(0.052)	(0.052)
<b>C-test</b>	0.441**	0.446**	0.609**	0.627**	0.391**	0.390**
	(0.122)	(0.122)	(0.155)	(0.155)	(0.090)	(0.091)
<b>Dyslex (yes)</b>	0.038	0.043	-0.098	-0.116	-0.027	-0.030
	(0.082)	(0.082)	(0.103)	(0.103)	(0.060)	(0.060)
<b>HISEI</b>	0.001	0.001	0.002	0.002	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
<b>Gender (boy)</b>	-0.082*	-0.081*	0.060	0.058	-0.018	-0.018
	(0.034)	(0.033)	(0.040)	(0.040)	(0.024)	(0.024)
<b>L1 (other)</b>	0.060	0.057	0.138*	0.138*	-0.024	-0.022
	(0.052)	(0.052)	(0.065)	(0.065)	(0.039)	(0.039)
<b>Age</b>	0.070*	0.061	-0.041	-0.011	-0.007	-0.001
	(0.041)	(0.041)	(0.053)	(0.054)	(0.031)	(0.032)
<b>EE Writing*AT</b>		0.006		-0.011		-0.003
		(0.006)		(0.007)		(0.004)
<b>Constant</b>	-0.735	-0.613	0.707	0.277	0.296	0.224
	(0.554)	(0.564)	(0.724)	(0.740)	(0.419)	(0.432)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ .

*Table 11.34 Estimates and standard errors of the independent variables in the EE listening models of ONT, EIT, and ATGJT*

	ONT		EIT		ATGJT	
Steps	2	3	2	3	2	3
<b>EE Listening</b>	0.004	0.006	-0.002	0.0002	0.004	0.006
	(0.003)	(0.004)	(0.004)	(0.005)	(0.003)	(0.004)
<b>Country (AT)</b>	-0.050	-0.041	-0.052	-0.046	-0.214**	-0.206**
	(0.052)	(0.053)	(0.067)	(0.067)	(0.044)	(0.045)
<b>C-test</b>	0.496**	0.517**	0.610**	0.632**	0.646**	0.670**
	(0.134)	(0.136)	(0.137)	(0.141)	(0.117)	(0.120)
<b>Dyslex (yes)</b>	0.021	0.023	0.111	0.114	0.063	0.068
	(0.085)	(0.086)	(0.090)	(0.090)	(0.080)	(0.080)
<b>HISEI</b>	-0.0001	0.00004	0.003*	0.003*	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
<b>Gender (boy)</b>	0.034	0.041	0.036	0.039	0.008	0.011
	(0.037)	(0.037)	(0.035)	(0.036)	(0.032)	(0.033)
<b>L1 (other)</b>	0.003	-0.0004	0.065	0.061	0.044	0.040

	<b>ONT</b>		<b>EIT</b>		<b>ATGJT</b>
	(0.058)	(0.058)	(0.057)	(0.058)	(0.051)
<b>Age</b>	-0.005	-0.009	-0.039	-0.041	0.079*
	(0.048)	(0.048)	(0.050)	(0.050)	(0.039)
<b>EE Listen*AT</b>		-0.007		-0.005	-0.006
		(0.008)		(0.008)	(0.007)
<b>Constant</b>	0.707	0.742	0.696	0.713	-0.767
	(0.654)	(0.656)	(0.674)	(0.677)	(0.531)
					(0.533)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ .

Table 11.35 Estimates and standard errors of the independent variables in the EE listening models of WTGJT, UGJT, and MKT

	<b>WTGJT</b>		<b>UGJT</b>		<b>MKT</b>	
<b>Steps</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>
<b>EE Listening</b>	0.002	0.001	-0.001	0.026**	0.002	0.012*
	(0.003)	(0.004)	(0.006)	(0.010)	(0.004)	(0.006)
<b>Country (AT)</b>	-0.129*	-0.136*	0.051	0.137	0.334**	0.379**
	(0.045)	(0.046)	(0.113)	(0.082)	(0.050)	(0.043)
<b>C-test</b>	0.498**	0.477**	0.687**	0.816**	0.390**	0.442**
	(0.122)	(0.125)	(0.156)	(0.155)	(0.089)	(0.090)
<b>Dyslex (yes)</b>	0.026	0.022	-0.112	-0.098	-0.027	-0.006
	(0.084)	(0.084)	(0.104)	(0.102)	(0.060)	(0.059)
<b>HISEI</b>	0.0004	0.0004	0.002	0.002	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
<b>Gender (boy)</b>	-0.095**	-0.098**	0.051	0.053	-0.020	-0.017
	(0.034)	(0.034)	(0.041)	(0.040)	(0.024)	(0.024)
<b>L1 (other)</b>	0.068	0.071	0.149*	0.142*	-0.024	-0.021
	(0.053)	(0.053)	(0.066)	(0.064)	(0.039)	(0.038)
<b>Age</b>	0.087*	0.090*	-0.018	-0.015	-0.003	-0.012
	(0.040)	(0.041)	(0.052)	(0.049)	(0.030)	(0.029)
<b>EE Listen*AT</b>		0.005		-0.041**		-0.019*
		(0.008)		(0.012)		(0.008)
<b>Constant</b>	-0.949+	-0.975+	0.397	0.250	0.255	0.329
	(0.554)	(0.557)	(0.718)	(0.676)	(0.410)	(0.395)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ .

*Table 11.36 Estimates and standard errors of the independent variables in the EE speaking models of ONT, EIT, and ATGJT*

<b>Steps</b>	<b>ONT</b>		<b>EIT</b>		<b>ATGJT</b>	
	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>
<b>EE Speaking</b>	0.006 (0.005)	0.007 (0.006)	-0.002 (0.004)	-0.001 (0.007)	0.006+ (0.003)	0.008 (0.006)
<b>Country (AT)</b>	-0.015 (0.064)	-0.012 (0.066)	-0.042 (0.076)	-0.039 (0.079)	-0.210** (0.047)	-0.201** (0.050)
<b>C-test</b>	0.413** (0.150)	0.422** (0.154)	0.558** (0.148)	0.560** (0.149)	0.588** (0.125)	0.586** (0.125)
<b>Dyslex (yes)</b>	0.025 (0.086)	0.026 (0.087)	0.111 (0.092)	0.112 (0.093)	0.058 (0.081)	0.058 (0.081)
<b>HISEI</b>	0.0005 (0.001)	0.0004 (0.001)	0.003* (0.001)	0.003* (0.001)	0.002 (0.001)	0.002 (0.001)
<b>Gender (boy)</b>	0.040 (0.037)	0.039 (0.037)	0.050 (0.037)	0.050 (0.037)	0.012 (0.033)	0.012 (0.033)
<b>L1 (other)</b>	0.010 (0.059)	0.009 (0.060)	0.045 (0.060)	0.046 (0.060)	0.044 (0.053)	0.045 (0.053)
<b>Age</b>	-0.019 (0.049)	-0.018 (0.050)	-0.043 (0.052)	-0.043 (0.052)	0.073+ (0.039)	0.074+ (0.040)
<b>EE Speak*AT</b>		-0.003 (0.011)		-0.002 (0.008)		-0.003 (0.007)
<b>Constant</b>	0.864 (0.667)	0.856 (0.672)	0.750 (0.698)	0.749 (0.702)	-0.697 (0.540)	-0.710 (0.542)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ .

*Table 11.37 Estimates and standard errors of the independent variables in the EE speaking models of WTGJT, UGJT, and MKT*

<b>Steps</b>	<b>WTGJT</b>		<b>UGJT</b>		<b>MKT</b>	
	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>
<b>EE Speaking</b>	0.003 (0.003)	-0.005 (0.006)	-0.006 (0.004)	0.011 (0.007)	-0.005* (0.002)	-0.001 (0.004)
<b>Country (AT)</b>	-0.123* (0.047)	-0.149* (0.050)	0.073 (0.122)	0.112 (0.124)	0.350** (0.050)	0.356** (0.052)
<b>C-test</b>	0.453** (0.127)	0.461** (0.127)	0.673** (0.157)	0.690** (0.154)	0.375** (0.091)	0.376** (0.091)
<b>Dyslex (yes)</b>	0.023 (0.082)	0.017 (0.082)	-0.097 (0.102)	-0.097 (0.100)	-0.023 (0.059)	-0.024 (0.059)
<b>HISEI</b>	0.001 (0.001)	0.0005 (0.001)	0.002 (0.001)	0.002 (0.001)	0.001 (0.001)	0.001 (0.001)
<b>Gender (boy)</b>	-0.094** (0.034)	-0.094** (0.034)	0.062 (0.039)	0.069+ (0.039)	-0.013 (0.023)	-0.012 (0.024)
<b>L1 (other)</b>	0.054	0.055	0.156* (0.156*)	0.168* (0.168*)	-0.047 (0.047)	-0.046 (0.046)

	<b>WTGJT</b>		<b>UGJT</b>		<b>MKT</b>
	(0.054)	(0.054)	(0.066)	(0.066)	(0.039)
<b>Age</b>	0.087*	0.088*	-0.033	-0.039	0.004
	(0.040)	(0.040)	(0.051)	(0.051)	(0.029)
<b>EE Speak*AT</b>		0.010		-0.021*	-0.004
		(0.007)		(0.009)	(0.005)
<b>Constant</b>	-0.958+	-0.945+	0.597	0.632	0.171
	(0.551)	(0.549)	(0.706)	(0.701)	(0.396)
					(0.399)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ .

*Table 11.38 Estimates and standard errors of the independent variables in the EE singing models of ONT, EIT, and ATGJT*

	<b>ONT</b>		<b>EIT</b>		<b>ATGJT</b>	
<b>Steps</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>
<b>EE Singing</b>	-0.002	0.002	-0.002	-0.003	-0.002	-0.001
	(0.002)	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)
<b>Country (AT)</b>	-0.072	-0.003	-0.058	-0.063	-0.227**	-0.221**
	(0.054)	(0.066)	(0.068)	(0.071)	(0.049)	(0.052)
<b>C-test</b>	0.514**	0.457**	0.589**	0.594**	0.660**	0.654**
	(0.139)	(0.138)	(0.142)	(0.144)	(0.121)	(0.123)
<b>Dyslex (yes)</b>	0.007	0.017	0.103	0.103	0.062	0.064
	(0.086)	(0.084)	(0.091)	(0.092)	(0.081)	(0.082)
<b>HISEI</b>	-0.0001	0.0001	0.003*	0.003*	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
<b>Gender (boy)</b>	0.031	0.027	0.039	0.040	0.013	0.012
	(0.039)	(0.038)	(0.038)	(0.038)	(0.034)	(0.034)
<b>L1 (other)</b>	0.015	0.017	0.056	0.056	0.045	0.045
	(0.057)	(0.055)	(0.058)	(0.058)	(0.051)	(0.052)
<b>Age</b>	0.003	-0.001	-0.037	-0.038	0.078+	0.078+
	(0.049)	(0.048)	(0.052)	(0.053)	(0.040)	(0.040)
<b>EE Singing*AT</b>		-0.010*		0.001		-0.002
		(0.005)		(0.006)		(0.005)
<b>Constant</b>	0.627	0.648	0.682	0.687	-0.741	-0.740
	(0.669)	(0.648)	(0.702)	(0.706)	(0.542)	(0.545)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ .

*Table 11.39 Estimates and standard errors of the independent variables in the EE singing models of WTGJT, UGJT, and MKT*

	WTGJT		UGJT		MKT	
Steps	2	3	2	3	2	3
<b>EE Singing</b>	-0.001 (0.002)	-0.001 (0.003)	-0.002 (0.003)	-0.0001 (0.004)	0.001 (0.002)	0.003 (0.002)
<b>Country (AT)</b>	-0.144* (0.046)	-0.150* (0.049)	0.052 (0.122)	0.072 (0.124)	0.324** (0.054)	0.344** (0.055)
<b>C-test</b>	0.533** (0.124)	0.542** (0.126)	0.684** (0.151)	0.670** (0.152)	0.400** (0.090)	0.386** (0.091)
<b>Dyslex (yes)</b>	0.019 (0.084)	0.021 (0.084)	-0.101 (0.101)	-0.104 (0.102)	-0.026 (0.060)	-0.029 (0.060)
<b>HISEI</b>	0.0002 (0.001)	0.0003 (0.001)	0.002 (0.001)	0.002 (0.001)	0.001 (0.001)	0.001 (0.001)
<b>Gender (boy)</b>	-0.088* (0.035)	-0.087* (0.036)	0.048 (0.041)	0.043 (0.041)	-0.017 (0.025)	-0.021 (0.025)
<b>L1 (other)</b>	0.071 (0.053)	0.070 (0.053)	0.167* (0.064)	0.168* (0.064)	-0.025 (0.039)	-0.023 (0.038)
<b>Age</b>	0.092* (0.041)	0.091* (0.041)	-0.034 (0.052)	-0.030 (0.052)	-0.005 (0.030)	-0.001 (0.030)
<b>EE Singing*AT</b>		0.002 (0.005)		-0.006 (0.006)		-0.005 (0.004)
<b>Constant</b>	-1.010+ (0.562)	-0.998+ (0.565)	0.619 (0.710)	0.569 (0.712)	0.287 (0.416)	0.231 (0.414)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ .

*Table 11.40 Estimates and standard errors of the independent variables in the EE watching models of ONT, EIT, and ATGJT*

	ONT		EIT		ATGJT	
Steps	2	3	2	3	2	3
<b>EE Watching</b>	0.005 (0.003)	0.009* (0.004)	0.003 (0.003)	0.011* (0.005)	0.004 (0.003)	0.007+ (0.004)
<b>Country (AT)</b>	-0.017 (0.057)	0.047 (0.066)	-0.023 (0.071)	0.058 (0.082)	-0.174* (0.051)	-0.132+ (0.063)
<b>C-test</b>	0.460** (0.137)	0.453** (0.135)	0.571** (0.139)	0.573** (0.136)	0.593** (0.122)	0.578** (0.122)
<b>Dyslex (yes)</b>	0.011 (0.085)	-0.006 (0.085)	0.115 (0.090)	0.108 (0.088)	0.064 (0.079)	0.066 (0.079)
<b>HISEI</b>	0.0001 (0.001)	-0.00003 (0.001)	0.003* (0.001)	0.003* (0.001)	0.001 (0.001)	0.001 (0.001)
<b>Gender (boy)</b>	0.039 (0.037)	0.051 (0.036)	0.038 (0.035)	0.047 (0.035)	0.014 (0.032)	0.019 (0.033)
<b>L1 (other)</b>	-0.006	-0.009	0.058	0.045	0.046	0.044

	<b>ONT</b>		<b>EIT</b>		<b>ATGJT</b>
	(0.059)	(0.057)	(0.058)	(0.057)	(0.051)
<b>Age</b>	-0.022	-0.004	-0.052	-0.038	0.058
	(0.049)	(0.049)	(0.051)	(0.050)	(0.041)
<b>EE Watch*AT</b>		-0.012+		-0.014*	-0.006
		(0.007)		(0.006)	(0.005)
<b>Constant</b>	0.911	0.627	0.852	0.601	-0.513
	(0.659)	(0.661)	(0.686)	(0.676)	(0.552)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ .

*Table 11.41 Estimates and standard errors of the independent variables in the EE watching models of WTGJT, UGJT, and MKT*

	<b>WTGJT</b>		<b>UGJT</b>		<b>MKT</b>
<b>Steps</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>2</b>
<b>EE Watching</b>	0.002	0.003	-0.004	0.012*	-0.003
	(0.003)	(0.004)	(0.004)	(0.006)	(0.002)
<b>Country (AT)</b>	-0.111+	-0.094	0.033	0.252+	0.305**
	(0.053)	(0.066)	(0.133)	(0.104)	(0.054)
<b>C-test</b>	0.479**	0.472**	0.693**	0.647**	0.427**
	(0.128)	(0.129)	(0.156)	(0.152)	(0.092)
<b>Dyslex (yes)</b>	0.027	0.028	-0.094	-0.137	-0.030
	(0.083)	(0.084)	(0.102)	(0.099)	(0.060)
<b>HISEI</b>	0.0005	0.0005	0.002	0.002	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
<b>Gender (boy)</b>	-0.091**	-0.089*	0.055	0.070+	-0.018
	(0.034)	(0.034)	(0.039)	(0.039)	(0.024)
<b>L1 (other)</b>	0.073	0.072	0.171**	0.156*	-0.022
	(0.054)	(0.054)	(0.065)	(0.063)	(0.039)
<b>Age</b>	0.078+	0.076+	-0.030	-0.0001	0.008
	(0.043)	(0.043)	(0.053)	(0.050)	(0.031)
<b>EE Watch*AT</b>		-0.002		-0.025**	-0.014**
		(0.006)		(0.007)	(0.004)
<b>Constant</b>	-0.839	-0.831	0.582	0.019	0.123
	(0.580)	(0.582)	(0.723)	(0.680)	(0.422)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ .

*Table 11.42 Estimates and standard errors of the independent variables in the EE gaming models of ONT, EIT, and ATGJT*

<b>Steps</b>	<b>ONT</b>		<b>EIT</b>		<b>ATGJT</b>	
	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>
<b>EE Gaming</b>	0.005+	0.006*	0.006*	0.013**	0.005*	0.010**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
<b>Country (AT)</b>	-0.023	-0.007	-0.028	0.031	-0.207**	-0.161*
	(0.057)	(0.061)	(0.068)	(0.069)	(0.045)	(0.050)
<b>C-test</b>	0.437**	0.451**	0.513**	0.536**	0.591**	0.601**
	(0.134)	(0.136)	(0.136)	(0.132)	(0.118)	(0.115)
<b>Dyslex (yes)</b>	0.013	0.015	0.099	0.101	0.045	0.051
	(0.084)	(0.084)	(0.089)	(0.086)	(0.080)	(0.078)
<b>HISEI</b>	0.0003	0.0004	0.004**	0.004**	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
<b>Gender (boy)</b>	-0.0003	0.006	-0.003	0.013	-0.026	-0.014
	(0.042)	(0.043)	(0.041)	(0.040)	(0.038)	(0.037)
<b>L1 (other)</b>	0.017	0.017	0.050	0.043	0.043	0.038
	(0.055)	(0.055)	(0.056)	(0.055)	(0.050)	(0.050)
<b>Age</b>	-0.007	-0.009	-0.034	-0.036	0.086*	0.083*
	(0.047)	(0.048)	(0.050)	(0.048)	(0.039)	(0.038)
<b>EE Gaming*AT</b>		-0.004		-0.014**		-0.010*
		(0.005)		(0.005)		(0.004)
<b>Constant</b>	0.708	0.714	0.619	0.578	-0.860	-0.867
	(0.643)	(0.645)	(0.671)	(0.652)	(0.533)	(0.526)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ .

*Table 11.43 Estimates and standard errors of the independent variables in the EE gaming models of WTGJT, UGJT, and MKT*

<b>Steps</b>	<b>WTGJT</b>		<b>UGJT</b>		<b>MKT</b>	
	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>
<b>EE Gaming</b>	-0.001	-0.003	0.006+	0.015**	-0.00005	0.005+
	(0.003)	(0.003)	(0.003)	(0.004)	(0.002)	(0.002)
<b>Country (AT)</b>	-0.136*	-0.156*	0.063	0.140	0.331**	0.385**
	(0.046)	(0.050)	(0.116)	(0.111)	(0.051)	(0.049)
<b>C-test</b>	0.504**	0.500**	0.619**	0.648**	0.402**	0.429**
	(0.122)	(0.122)	(0.152)	(0.145)	(0.090)	(0.084)
<b>Dyslex (yes)</b>	0.022	0.021	-0.133	-0.148	-0.028	-0.021
	(0.083)	(0.083)	(0.103)	(0.098)	(0.060)	(0.057)
<b>HISEI</b>	0.0004	0.0004	0.002	0.002	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
<b>Gender (boy)</b>	-0.085*	-0.090*	0.010	0.031	-0.019	-0.006
	(0.039)	(0.040)	(0.047)	(0.046)	(0.029)	(0.028)
<b>L1 (other)</b>	0.073	0.075	0.158*	0.151*	-0.022	-0.029

	<b>WTGJT</b>	<b>UGJT</b>		<b>MKT</b>	
	(0.052)	(0.053)	(0.065)	(0.064)	(0.039)
<b>Age</b>	0.086*	0.086*	-0.014	-0.015	-0.003
	(0.040)	(0.040)	(0.052)	(0.050)	(0.030)
<b>EE Gaming*AT</b>	0.005		-0.017**		-0.012**
		(0.004)		(0.005)	(0.003)
<b>Constant</b>	-0.930+	-0.913	0.345	0.284	0.253
	(0.555)	(0.555)	(0.715)	(0.698)	(0.412)
					(0.391)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ .

*Table 11.44 Estimates and standard errors of the independent variables in the EE listening to music models of ONT, EIT, and ATGJT*

	<b>ONT</b>		<b>EIT</b>		<b>ATGJT</b>	
<b>Steps</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>
<b>EE Music</b>	-0.001	0.004	0.0003	-0.0001	0.002	0.002
	(0.002)	(0.003)	(0.002)	(0.002)	(0.001)	(0.002)
<b>Country (AT)</b>	-0.056	0.018	-0.050	-0.057	-0.211**	-0.214**
	(0.054)	(0.071)	(0.071)	(0.078)	(0.049)	(0.055)
<b>C-test</b>	0.498**	0.438**	0.561**	0.564**	0.588**	0.589**
	(0.140)	(0.142)	(0.143)	(0.144)	(0.122)	(0.123)
<b>Dyslex (yes)</b>	0.016	0.033	0.109	0.106	0.063	0.062
	(0.086)	(0.085)	(0.091)	(0.092)	(0.081)	(0.082)
<b>HISEI</b>	-0.00002	0.0004	0.003*	0.003*	0.002	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
<b>Gender (boy)</b>	0.037	0.042	0.046	0.046	0.025	0.025
	(0.038)	(0.037)	(0.037)	(0.037)	(0.033)	(0.033)
<b>L1 (other)</b>	0.013	0.014	0.048	0.047	0.040	0.040
	(0.057)	(0.055)	(0.058)	(0.058)	(0.051)	(0.051)
<b>Age</b>	-0.007	-0.020	-0.041	-0.039	0.072+	0.073+
	(0.049)	(0.048)	(0.051)	(0.052)	(0.039)	(0.039)
<b>EE Music*AT</b>		-0.006		0.001		0.0003
		(0.004)		(0.003)		(0.003)
<b>Constant</b>	0.738	0.862	0.722	0.703	-0.684	-0.689
	(0.660)	(0.647)	(0.686)	(0.695)	(0.537)	(0.540)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ .

*Table 11.45 Estimates and standard errors of the independent variables in the EE listening to music models of WTGJT, UGJT, and MKT*

<b>Steps</b>	<b>WTGJT</b>		<b>UGJT</b>		<b>MKT</b>	
	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>3</b>
<b>EE Music</b>	0.001 (0.002)	0.002 (0.002)	0.003 (0.002)	0.005* (0.003)	-0.001 (0.001)	-0.0002 (0.002)
<b>Country (AT)</b>	-0.128* (0.045)	-0.115+ (0.052)	0.064 (0.122)	0.098 (0.134)	0.331** (0.050)	0.337** (0.053)
<b>C-test</b>	0.475** (0.125)	0.471** (0.125)	0.606** (0.155)	0.584** (0.155)	0.414** (0.091)	0.411** (0.091)
<b>Dyslex (yes)</b>	0.021 (0.083)	0.024 (0.083)	-0.110 (0.103)	-0.098 (0.102)	-0.026 (0.060)	-0.025 (0.060)
<b>HISEI</b>	0.0005 (0.001)	0.001 (0.001)	0.002 (0.001)	0.002+ (0.001)	0.001 (0.001)	0.001 (0.001)
<b>Gender (boy)</b>	-0.088* (0.034)	-0.087* (0.034)	0.064 (0.040)	0.065 (0.040)	-0.023 (0.024)	-0.022 (0.025)
<b>L1 (other)</b>	0.074 (0.052)	0.075 (0.053)	0.154* (0.064)	0.160* (0.064)	-0.023 (0.038)	-0.022 (0.039)
<b>Age</b>	0.086* (0.040)	0.085* (0.040)	-0.032 (0.051)	-0.044 (0.052)	-0.002 (0.030)	-0.003 (0.030)
<b>EE Music*AT</b>		-0.002 (0.003)		-0.004 (0.003)		-0.001 (0.002)
<b>Constant</b>	-0.943+ (0.552)	-0.933+ (0.554)	0.566 (0.710)	0.713 (0.714)	0.237 (0.409)	0.249 (0.411)

**Notes.** + $p < 0.1$ ; \* $p < 0.05$ ; \*\* $p < 0.01$ .

## 11.12 Online Material

Supplementary material is safely and permanently stored digitally in Phaidra, an online repository provided by the University of Vienna. Four data files can be retrieved from this database:

1. The transcripts of the teacher interviews (.pdf version)  
<http://phaidra.univie.ac.at/o:1440153>
2. The output of all computations carried out in SPSS 25 (.sav version)  
<https://phaidra.univie.ac.at/o:1438986>
3. The output of all computations carried out in SPSS 25 (.pdf version)  
<https://phaidra.univie.ac.at/o:1438713>
4. The output of all computations carried out in R Studio (.pdf version)  
<https://phaidra.univie.ac.at/o:1438326>



## 12 DEUTSCHE ZUSAMMENFASSUNG

Eine der größten Debatten in der Zweit- und Fremdsprachenerwerbsforschung handelt von der relativen Signifikanz einer impliziten und expliziten Ausrichtung der Lernumgebung. Diese Frage ist vor allem von Bedeutung, um zu erforschen, wie implizites und/oder automatisiertes Wissen gefördert werden kann. Es ist diese Art von Wissen, welche im Sprachunterricht und Sprachenerwerb angestrebt werden soll. Diese Debatten müssen hinsichtlich des außerschulischen Gebrauchs von Englisch in der Freizeit, welcher derzeit innerhalb und außerhalb Europas stark ansteigt, neu evaluiert werden. Ein solcher Sprachgebrauch stellt eine implizite Lernumgebung dar. Dennoch hat bisher keine Studie den Einfluss des extraschulischen Sprachgebrauchs auf implizites und/oder automatisiertes Wissen untersucht. Aus einem länderübergreifenden Blickwinkel beleuchtete dieses Projekt die Interaktion von einer solchen außerschulischen Lernumgebung mit traditionellem Fremdsprachenerwerb in der Schulkasse.

Insgesamt wurden 213 Schüler\*innen im Alter von 13-14 Jahren, 110 in Österreich und 103 in Schweden, gemeinsam mit ihren Englischlehrer\*innen ( $n = 14$ ), rekrutiert. Diese Länder bieten eine unterschiedliche Lernumgebung, welche in Österreich scheinbar relativ explizit und in Schweden relativ implizit ausgerichtet ist. Durch eine Schüler\*innen- und Lehrer\*innenumfrage wurden qualitative und quantitative Daten zu der Art des Unterrichts (z.B. systematischer vs. inzidenteller Grammatikunterricht) und der Häufigkeit, dem Eintrittsalter, und dem wöchentlichen Gebrauch von Freizeitenglisch gesammelt. Dafür wurden (Multivariate) Varianzanalysen und qualitative Interviewanalysen durchgeführt. Um das Grammatikwissen der Partizipanden zu messen, nahmen sie an Tests ihres automatisierten-impliziten Wissens (mündliche Narration, elizitierte Imitation, beschleunigte auditive und visuelle Grammatikalitätsurteile) und expliziten Wissens (nicht beschleunigte Grammatikalitätsurteile, metalinguistischer Test) teil. Diese sechs Testinstrumente wurden einer Faktorenanalyse unterzogen, um erstmals ihre Konstruktvalidität hinsichtlich junger, nicht-akademischer Lerner\*innen in den zwei Arten von Lernumgebungen zu untersuchen. Um die Interaktion von Unterricht, Freizeitenglisch, und automatisiertem-implizitem und explizitem Wissen zu analysieren, berechnete ich lineare gemischte Modelle.

In Bezug auf die pädagogische Praxis deuteten Ergebnisse auf einen systematisch und explizit ausgerichteten Englischgrammatikunterricht in der österreichischen Sekundarstufe I hin. In Schweden schien Grammatik vergleichsweise inzidentell und implizit unterrichtet zu werden. Die schwedischen Teilnehmer\*innen begannen durchschnittlich früher mit dem

regelmäßigen Gebrauch von Freizeitenglisch und verbrachten wöchentlich mehr Zeit damit. Diese Population hat typischerweise wenig Zugriff auf schwedische Synchronfassungen fremdsprachiger Filme und Serien. Hinsichtlich der eher implizit ausgeprägten Lernumgebung in Schweden ist es naheliegend, dass jene Partizipanden in ihrer Testperformanz größtenteils Gebrauch von automatisiertem-implizitem statt (unautomatisiertem) explizitem Wissen machten. Das würde erklären, warum die sechs Grammatiktests in der konfirmatorischen Faktorenanalyse auf einen einzigen Faktor luden. Verglichen mit schwedischen Schüler\*innen erreichten österreichische Teilnehmer\*innen signifikant höhere Ergebnisse auf den metalinguistischen Test. Des Weiteren produzierte die Faktorenanalyse dieser Stichprobe zwei Faktoren, welche als automatisiertes-implizites und explizites Wissen bezeichnet wurden. Der Einfluss von außerschulischem Englisch entpuppte sich nur in der schwedischen Stichprobe als signifikant positiv. Am deutlichsten erkennbar war dieser starke Zusammenhang im Falle des wöchentlichen Gebrauchs von audiovisuellen Medien und Videospielen. Im Gegenteil dazu hat in Österreich der Unterricht derzeit scheinbar ein größeres Potential als Freizeitenglisch in der Förderung von automatisiertem, implizitem Wissen. Daraus erschließt sich, dass Freizeitenglisch automatisiertes-implizites Wissen scheinbar insbesondere dann fördern könnte, wenn der Gebrauch intensiv ist, früh einsetzt, und die Aktivitäten multimodal sind. Diese Ergebnisse zeigen erstmals den Einfluss von Freizeitenglisch auf die Entwicklung von automatisiertem implizitem Wissen und verdeutlichen interessante Disparitäten zwischen implizit und explizit ausgerichteten Lernumgebungen. Diese kontextuellen Unterschiede wurden in einem theoretischen Modell des *kontextabhängigen Kompetenzerwerbs* (*Context-Dependent Skill Acquisition*) dargestellt—einer Erweiterung der *Skill Acquisition Theory* nach Robert DeKeyer (2015).

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