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Transcription conventions

The following transcription conventions are based on the VOICE conventions. For the purpose of this study, they have been slightly modified.

Speakers:

T1	<i>subject teacher</i>
T2	<i>native speaker teacher</i>
S	<i>student</i>
Sf	<i>female student</i>
Sx	<i>male student</i>
S1	<i>identified student</i>
Sx	<i>unidentifiable student</i>
Sxf	<i>unidentifiable female student</i>
Sxm	<i>unidentifiable male student</i>

Speech:

X	<i>incomprehensible word</i>
XX	<i>incomprehensible phrase</i>
XXX	<i>incomprehensible, longer sequence</i>
.	<i>short pause</i>
...	<i>long pause</i>
[...]	<i>cut-out phrases</i>
{	<i>overlap</i>
?	<i>rising intonation</i>

Bold: emphasis added to mark words described in the analysis

1. Introduction

“It must be remembered that the purpose of education is not to fill the minds of students with facts...it is to teach them to think.”

Robert M. Hutchins

History is a subject many associate with dates, facts and figures – in other words, something we need to learn by heart, which is a task many understandably consider to be rather dull. In fact, however, history education is about much more than memorisation. According to the Austrian Curriculum for history, social sciences and political education, history education aims at educating adolescents to responsible, historically aware adults that are able to think for themselves, just as Robert M. Hutchins suggested in the quote above. To be able to achieve this demanding goal, a group of German-speaking history educators developed a competency-based teaching model, called the *FUER (Förderung und Entwicklung eines reflektierten) Geschichtsbewusstsein* model. In this construct, four main competences are defined. These four competences are based on the process of historical thinking and are all targeted at enabling learners to actively work with historical sources, engage in historical discourse and thereby become historically aware.

These objectives raise questions about the role of thought and language. Cognitive thought processes, on the one hand, have been examined quite thoroughly, with Bloom’s taxonomy of thinking skills (1956, 1972) as one of the most influential concepts. Investigating thought from a linguistic perspective, on the other hand, is closely connected to functionalism and to socio-cultural theory which argue that language and thought are inextricably linked and situated in social context. This implies that operations such as defining, explaining or evaluating are as much concerned with language as they are with cognition. Processes like these are examples of cognitive discourse functions (CDFs). According to Dalton-Puffer (in press: 4), cognitive discourse functions are recurring communicative patterns used to express different cognitive processes. As such, CDFs provide an interface of language and content pedagogies (Dalton-Puffer 2013: 216).

These “zones of convergence” (Dalton-Puffer 2013: 216) seem to be especially relevant in bilingual learning settings as CDFs unite language and content learning objectives. Since the 1990s, bilingual education in the form of Content and Language Integrated Learning (CLIL) has been on the rise (Marsh 2002: 54). Increasing mobility, a wish for cultural understanding and European integration have led to a greater need of more intensive and effective language pedagogy, conducting the spread of CLIL programmes (Mehisto, Marsh & Frigols 2008: 10-11, Pérez-Vidal 2009: 3). The British Council, for example, understands CLIL as follows:

Content and Language Integrated Learning, or CLIL, is where a subject is taught in the target language rather than the first language of the learners. In CLIL classes, tasks are designed to allow students to focus on and learn to use the new language as they learn the new subject content. (British Council 2016)

According to this definition, in CLIL, content and language learning are interdependent. Consequently, cognitive discourse functions seem to fit right into the concept of CLIL.

Furthermore, Dalton-Puffer argues (2013: 231-232) that CDFs make cognitive processes visible and more tangible. As a result, they can be used to analyse classroom discourse, providing access to the acquisition of content knowledge and skills. So far, CLIL research has very much focused on the linguistic aspects of this educational approach (Dafouz, Camacho & Urquia 2014: 225). Content-focused research, on the other hand, has been sparse (Pérez-Cañado 2012: 329-330), let alone projects taking an integrative approach. CDFs can contribute to fill this research gap by providing an observable tool that considers both cognitive processes as well as linguistic expression. For this reason, Dalton-Puffer (2013) designed a CDF construct, consisting of seven different CDF types.

This construct will be used in this thesis to investigate the acquisition of historical competences in the Austrian CLIL history classroom. As already stated, content knowledge in the Austrian history classroom is defined in accordance to the FUER model. Therefore, this thesis conceptualises historical content in the form of the FUER competences. In a nutshell, this study takes on an integrative approach, examining the relations of CDFs and history competences. First of all, the theoretical backgrounds of both the CDF construct as well as the FUER model are determined (chapter 2 & 3). It should be noted that literature on the FUER model is almost exclusively in German.

Therefore, the translations of certain terms and concepts are according to my own judgement and are not 'official' translations. Chapter 4 takes a close look at bilingual history teaching and examines the theoretical compatibility of the two constructs under investigation. In chapter 5, the empirical part of this thesis is introduced. For this study, eight lessons on the Industrial Revolution have been observed and recorded. Four of these lessons took place in a lower secondary history class while the other four were conducted in an upper secondary setting. After these learning units, the students had to complete a written test on the content covered in class. In the subsequent chapters, the use of CDF types in these situations will be analysed, both in terms of quality and quantity. Attention will be paid to frequency of CDF types and the context of their occurrences. Moreover, it will be investigated whether any competences tend to coincide with certain CDF types. Finally, results, insights and implications will be summarised in chapter 7.

2. Discourse functions & education

2.1 The theoretical concept of cognitive discourse functions

2.1.1 Language and thought

The relationship of language and thought has been a matter of discussion at least since antiquity (Heine 2010: 201). As cognitive processes, such as the acquisition of content knowledge, are not directly observable, the question in how far language can represent cognitive activity is of great interest. As famously claimed by Soviet psychologist Vygotsky (1962), language and thought are tightly interrelated. He argued that during early childhood, language and thought merge (ibid: 44-49). At first, children speak to themselves while thinking and then they gradually internalise this process, using *Inner Speech*, as he termed it (ibid: 45-46). As a result, language and cognitive activity cannot be separated. Vygotsky explained that “the relation of thought and word is a continual movement back and forth from word to thought” (ibid: 125). This implies that this relationship of thought and language is dynamic and reciprocal. In summary, according to Vygotsky, thought and language seem to be inseparable. Yet, some theorists add that thought can also be represented outside the verbal system. According to Paivio’s *Dual Coding Theory* (1986), cognitive ability is processed in verbal as well as in non-verbal code such as on the visual, auditory, or haptic level. He argues that both codes, verbal and non-verbal, can be activated simultaneously, resulting in a holistic thought process (Heine 2010: 202). Opposite to that view is Fodor’s *Language of Thought Hypothesis* (1995), which claims that all our thinking is processed in one universal linguistic code for thought (Heine 2010: 201). This would also imply that this language of thought is not inherent to specific languages, and thus, it is the same for everyone. According to the Sapir-Whorf-Hypothesis, however, our native language affects the thought process to a great extent (Heine 2010: 204). It argues that language is not only the foundation of our thinking, it also forms and filters how we think (ibid: 204-205). Heine (2010: 205) claims that there are indications for a relative relationship of language and thought and refers to studies by Hudson (1996) and Pavlenko (2005). Their investigations on morpho-syntactical and lexical coding of numbers, emotions and temporal relations of

speakers of different languages could show variation in mental activity and processing time (Heine 2010: 205).

2.1.2 Learning, cognition and language

All the theories introduced above share one tenor, namely that language and thought are inextricably connected. One major aspect of cognition is learning, and thus, language is also crucial for learning processes. Halliday (1993: 93) argues that acquiring language is a prerequisite and foundation of learning itself. He (1993: 113) maintains that “learning is learning to mean, and to expand one's meaning potential”. He further states that language is the “prototypical resource” for making meaning (1993: 114). He (1973: 10) explains that language learning is about learning how to use language for the satisfaction of material and intellectual needs. Halliday identified three macro-functions of language use, namely ideational, interpersonal, and textual function. According to him, the grammar of adult language is based on these three macro-functions. To be able to express our inner and external experiences in a structured and coherent way, these macro-functions need to be acquired (Halliday 1973: 66). Closely related to the functional approach of language is *Speech Act Theory* by Austin (1962) and Searle (1969). This theory assumes that by speaking, we perform a certain kind of act, such as describing, explaining, or making statements (Searle 1969: vii). In other words, communication very much depends on our communicative intentions and can be regarded as a succession of performances. To briefly sum up, the theories above paved way and shaped today's consensus that cognitive processes and learning are closely connected to language and that cognition and language are basically two sides of the same coin.

Cognitive learning objectives, on one side of the coin, have been in the focus of educational research for quite some time (Dalton-Puffer in press: 2). An early and still influential classification of thinking skills is Bloom's taxonomy (1956, 1972). This taxonomy was intended to serve as a tool to design curricula and assessment methods and to evaluate teaching practices. Therefore, Bloom et al. identified six different types of thinking skills, namely *knowledge*, *comprehension*, *application*, *analysis*, *synthesis*, and *evaluation*. These types are hierarchically ordered according to their complexity. Furthermore, higher order thinking skills contain or build on lower-level thought types (Bloom et al. 1972: 31-33). Bloom's taxonomy was revised by Anderson

and Krathwohl in 2001. By dividing the model into a knowledge dimension and a cognitive process dimension, the hierarchical order of thinking skills is less pronounced. Furthermore, adding a knowledge dimension facilitates more precise learning objectives. Anderson and Krathwohl (2001: 35) further explain that categorisation within their two-dimensional matrix helps making the connection between knowledge types and cognitive processes apparent to educators. This should aid teachers understand objectives better and structure their lessons accordingly (ibid: 35).

Language, on the other side of the coin, is situated in socio-cultural context. Vygotsky was one of the first who stressed that learning is a social process that takes place in interaction. He (1978: 57) argued that “[a]ll the higher functions originate as actual relationships between individuals”. Based on this argument, classroom discourse constitutes an ideal place to construct knowledge and accelerate cognitive development. Dalton-Puffer (in press: 1) states that the current consensus is that classroom talk is crucial for creating knowledge and constructing school subjects. A project group of the European Council called *Language in Other Subjects* greatly emphasised the importance of language learning for subject learning. Vollmer (2009: 4), who is part of this project, states that “language competence is an integral part of subject competence”. He also points out that the relation between language and subject learning has been widely ignored and has not been made explicit for learners. For instance, learners need to become aware that everyday language differs from language of schooling, i.e. academic language (Vollmer 2009: 7). Cummins (1980) famously differentiated between *basic interpersonal communicative skills* (BICS) and *cognitive / academic language proficiency* (CALP). This dichotomous view of language considers formal as well as functional differences. BICS, which include skills like accent, oral fluency and sociolinguistic competence, are necessary for everyday uses of language (Cummins 1980: 177). CALP, on the other hand, is concerned with the development of literacy skills (Cummins 1980: 177) and is therefore also more complex and more formal (Bailey et al. 2004: 6). Cummins (1980) could show that BICS and CALP can be empirically distinguished in both L1 and L2 and that the level of CALP is closely connected to overall achievement in school. Thürmann (2010: 139) agrees that educational success is tied to academic language proficiency and supports this claim by referring to large scale school testing projects which have shown that

performance levels are tightly interrelated with the learners' ability to use language relevant for schooling. Schleppegrell (2004: 37) asserts that an integral part of education is to learn new ways of using language. These new means of communication demand language with a different set of linguistic features. Schleppegrell (2004: 5-17) describes language used for schooling as explicit, precise, objective, complex, structured, distant, de-personalised, de-contextualised, and deprived of passion, emotions, and redundancy. The reason for these characteristics lies in the different functions of academic language, as Schleppegrell (2001: 451) explains.

Briefly summarised, conceptualising learning as a unit consisting of language, cognition and content implies a shift towards a broader and more competence-oriented view of learning (Zydati 2010: 135-136). This concept of learning highlights the functional dimension of language and aims at enabling students to do something with what they have learned.

2.1.3 Cognitive discourse functions (CDFs)

Looking at language from a functional linguistics perspective, recurring communicative needs lead to the development of patterns to cope with these continuous language demands. These patterns are called discourse functions and affect language use at the lexical, grammatical, and textual level (Dalton-Puffer 2007b: 68). Routinized communication patterns are closely linked to certain social and interactional contexts and are often regarded as a social tool to deal with recurrent communicative needs. Discourse functions define almost all our communicative situations, including everyday interaction, such as greeting, apologising, or (dis)agreeing (Dalton-Puffer 2007b: 128). In school, learners are confronted with a diverse set of cognitive demands, i.e. the acquisition of knowledge. To cope with these challenges, they need to acquire language patterns tied to these cognitive operations. Academic or cognitive discourse functions are then defined as recurring communicative patterns that reflect a speaker's intention to "externalise cognitive processes" (Dalton-Puffer in press: 4). According to Zydati (2010: 270) these discourse functions are transferable linguistic-cognitive interaction devices and form the basis of education.

Based on this functional approach of language learning, a number of researchers tried to design useful frameworks of academic/cognitive discourse/language functions.

For instance, Kidd (1996: 290) divided common academic language functions into micro- and macrofunctions. He (ibid: 290-291) explains that microfunctions, on the one hand, are usually realised through a limited number of patterns and make up only short stretches of language. They are easy to identify and very often contain typical discourse markers. For instance, DEFINE usually takes up the form of “an X is a Y having characteristic Z” (ibid: 294). Although alternatives are possible, choices are limited. According to Kidd (ibid: 295), other microfunctions are CLASSIFY, COMPARE, and CONTRAST. He also points out that these micro-functions are so common in academic discourse that educators presume that learners do not need instruction, which is very often not the case (ibid: 295). Compared to microfunctions, macrofunctions are much more open and require more general language uses (ibid: 297). This implies that they are not tied to distinctive language patterns or discourse markers (ibid: 298). According to Kidd (1996: 297), EXPLAIN, REPORT, DESCRIBE and INFORM can be regarded as examples of macrofunctions. Kidd (1996: 298) explains that teaching macrofunctions is not as straight forward as teaching microfunctions. Yet, many macrofunctions still show tendencies to co-occur with certain grammatical features or syntactical structures (ibid: 298). Finally, it should not be ignored that macrofunctions frequently include a number of microfunctions (ibid: 299).

Turning to a more recent framework in the North American context, Bailey and Butler (2003) designed a construct that should assess whether non-native learners have reached a minimal standard of academic language proficiency necessary for the US school system. Furthermore, their framework is aimed at providing guidelines for curricula development and teacher training. In their construct, all three grade clusters of learners are expected to be able to ELABORATE, ANALYSE, DEFINE, CONTRAST, HYPOTHESISE, and JUSTIFY (ibid: 17). Those discourse functions have been selected based on analyses of a number of national content standards, ESL standards, the language requirements of standardised achievement tests but also on teacher expectations and on the language of school materials (ibid:1). In the European context, Biggs and Tang (2011) constructed a framework on discourse functions required for learning in the tertiary sector. Similar to Bloom’s taxonomy, discourse functions are hierarchically structured. However, in this construct, verbs are formulated as learning outcomes. At the bottom, they put IDENTIFY (ibid: 91). Above of that, ENUMERATE, DESCRIBE, LIST, COMBINE and DO ALGORITHMS can be found on level two while COMPARE, EXPLAIN CAUSES,

ANALYSE, RELATE and APPLY are on level three (ibid: 91). The highest level contains the following verbs: THEORISE, GENERALISE, HYPOTHESE, and REFLECT (ibid: 91).

Moving on from rather general approaches to field-specific publications, the European Council's project *Language in Other Subjects* (Beacco et al. 2010) should once again be mentioned. This international project group analysed varying academic language demands of a range of subjects, including sciences, geography, mathematics, and history. Beacco (2010) took a closer look at linguistic demands of history learning and compiled an inventory of cognitive discourse functions, considering values of history didactics, social situations of history education, expected history skills as well as semiotic competences needed for history. His list consists of over 25 discourse functions, adding verbs like DEDUCE, ILLUSTRATE, NAME, RECOUNT, INFER and QUOTE to the functions mentioned in this thesis so far.

The publications on academic language functions described in this chapter are only an exemplary selection of what has been done so far. Dalton-Puffer (2013) compared a wide range of literature on this topic and identified over 50 different functions.

2.2 Dalton-Puffer's construct of cognitive discourse functions (CDFs)

As outlined previously, constructing and acquiring knowledge requires academic language skills. This relationship of language and content is especially interesting in CLIL settings. Currently, most European CLIL programmes follow the curriculum of the content-subject and neglect linguistic aspects (Dalton-Puffer, Nikula & Smit 2010: 1). In many cases, explicit language teaching is restricted to discrete foreign language classes (Dalton-Puffer, Nikula & Smit 2010: 1-2). In other words, a balance between language and content is only seldom present. Thus, as suggested by the label CLIL, learning aims that ensure a truly integrated and balanced approach are needed. This is where cognitive discourse functions (CDFs) come in. As explained before, CDFs are communicative patterns tied to cognitive processes and reflect communicative intentions about cognitive operations. Dalton-Puffer (2013: 216) argues that CDFs embody a "zone of convergence between content and language pedagogies". Thus, CDFs facilitate the integration of curricular learning aims of both content and language learning as language is the prime medium of expression and negotiation of meaning. Dalton-Puffer compared several constructs of cognitive or academic discourse functions, both rooted in language or content-subject pedagogies - some of

which are mentioned above - and identified around 50 language functions (ibid: 233). In order to make the model useful for theoretical as well as for practical purposes, she condensed and structured her findings. Considering classroom talk by both learners and teachers, Dalton-Puffer identified seven main types of cognitive discourse functions. These seven types are based on communicative intentions about dealing with knowledge (ibid: 233). Each communicative intention has been labelled with a verb that covers this intent best. Of course, there are alternative verbs that can also express the communicative intention in question. Using verbs as labels and examples reflects the idea of speech acts as verbal actions.

Communicative intentions	CDF	Examples
I tell you how we can cut up the world according to certain ideas	CLASSIFY	Classify, compare, contrast, match, structure, categorize, subsume
I tell you about the extension of this object of specialist knowledge	DEFINE	Define, identify, characterize
I tell you details of what can be seen (also metaphorically)	DESCRIBE	Describe, label, identify, name, specify
I tell you what my position is vis a vis X	EVALUATE	Evaluate, judge, argue, justify, take a stance, critique, recommend, comment, reflect, appreciate
I give you reasons for and tell you cause/s of X	EXPLAIN	Explain, reason, express cause/effect, draw conclusions, deduce
I tell you something that is potential	EXPLORE	Explore, hypothesize, speculate, predict, guess, estimate, simulate, take other perspectives
I tell you about sth. external to our immediate context on which I have a legitimate knowledge claim	REPORT	Report, inform, recount, narrate, present, summarize, relate

Table 1: list of CDF categories, their members and communicative intentions, Dalton-Puffer 2013: 234-235.

Within this construct, borders are fuzzy, and categories are not necessarily mutually exclusive. Overlaps and similarities are, in fact, intended as the construct is supposed to be able to reflect different cultural and field-specific models of cognition (Dalton-Puffer 2013: 235). This effect is amplified by not using newly coined terms but common words, resulting in ambiguous and flexible meanings (Dalton-Puffer 2013: 235). As a result, the construct is not essentialist but contextually variable (ibid: 232; 237). For instance, *EVALUATE* in the subject of history often means to critically analyse and assess the validity of a historic source while in mathematics, *EVALUATE* is about

finding the value of a numerical or algebraic expression and assessing different paths of getting there. Nevertheless, both situations require the learner to give some sort of personal assessment or evaluation. Yet, empirical evidence of different fields is needed to further shape and specify the construct (ibid: 237). This thesis contributes to this process by providing information on CLIL history teaching in Austria.

2.3 The seven CDF types

2.3.1 CLASSIFY

CLASSIFY is about structuring and organising the subject matter of a specific field. It is used to express “how we can cut up the world according to certain ideas” (Dalton-Puffer in press: 6). Structuring and organising content very often also involves comparing and contrasting. Anderson and Krathwohl (2001: 72) explain that this cognitive process is about the recognition of patterns and detecting the relevant characteristics. In their taxonomy, CLASSIFY is part of “understand” and has *categorise* as well as *subsume* as alternate terms. According to Trimble (1985: 85), CLASSIFY is essential for human thinking as well as for academia. Dalton-Puffer (in press: 6) adds that the ability to classify is crucial for developing scientific expertise. Furthermore, having reviewed a number of academic language function constructs, she (2013, in press) states that CLASSIFY is very often regarded as a central function. For instance, Kidd (1996: 295) regards CLASSIFY as micro-function crucial for academic discourse. As for the structure of classifications, Trimble (1985: 20, 86-92) characterised classifications according to three dimensions. First of all, classifications can be about recognizing members of a given class or about determining a class for one or more given items. Secondly, classifications can be complete, partial, or implicit. A complete classification contains the item being classified, the class it belongs to, and the basis of classification. If the basis of classification is left out, it is referred to as partial classification. Implicit classifications present classifying information in discourse but without using classification terms. Thirdly, classifications can be based on similarities or differences.

2.3.2 DEFINE

Like CLASSIFY, DEFINE is also concerned with organising knowledge. Yet, DEFINE only deals with one member of a class while CLASSIFY relates to a whole set of members

(Trimble 1985: 85-86). By defining, we present determinative features and the scope of an item of specialist knowledge. According to Trimble (1985: 75-76), definitions basically reflect the equation of “Species = Genus + Differentia”, or, put into simpler words, “Term = Class + Differences”. Of course, definitions can slightly deviate from this formula and can come in different shapes and sizes. They can lack the “class”, which Trimble terms as semi-formal definition, or they could only be composed of synonyms or antonyms, which is then called a non-formal definition (Trimble 1985: 77-78). Furthermore, they can be more complex by adding different forms of information, such as limitations, classifications, descriptions, exemplifications, or instructions (Trimble 1985: 81-82). Beacco (2010: 21-22) provides a set of descriptors used for teaching defining, whose structure is based on CEFR language descriptors:

<p>In one or more specified types, the learner is capable of:</p> <ul style="list-style-type: none"> • recognising (minimum level) • and/or producing (intermediate level) • improvising/creating/proposing (advanced level) <p>a definition appropriate to the types in question by using some of the following linguistic resources:</p> <ul style="list-style-type: none"> • through a series of examples • through one or more comparisons • through contrast • by paraphrasing • through hypernyms/hyponyms • by giving a translation • through etymology • through internal characteristics • by relating the term to concepts or a theory... • [...]

Figure 1: descriptors for defining, according to Beacco (2010: 21-22)

The descriptors by Beacco are organised according to proficiency levels and suggest an inventory of linguistic strategies to produce an appropriate definition. He (2010: 22) argues that this kind of descriptors can help educators to specify their teaching.

Defining has been variously acknowledged as crucial element for the development of academic language skills (Dalton-Puffer in press: 8). For instance, Beacco (2010: 21-22 and Vollmer (2010: 23), both members of the *Language in Other Subjects* project group, include DEFINE as central discourse function for history and science learning,

respectively. Quite surprisingly, neither the original nor the revised version of Bloom's taxonomy includes DEFINE. Instead, rather passive subskills of defining are mentioned by Anderson and Krathwohl (2001: 59), such as *recognizing, identify* or *naming* as part of the cognitive process type "remember".

2.3.3 DESCRIBE

Describing is the process of giving observable details about an item, a person, an event, and other entities. Relevant for teaching science, Trimble (1985: 71-72) identifies three different types of descriptions. Firstly, physical descriptions include accounts of dimensions, shape, weight, material, volume, colour and texture and often require the use of locative terms. Secondly, function descriptions are about describing a purpose or the "functioning of each of the main parts". For this purpose, learners need to be able to express causality and result. Lastly, process descriptions refer to descriptions of a series of steps that lead to a certain end. In addition to this, other subjects require different types of descriptions. In fact, descriptions can be found in a wide range of different scientific fields, looking different depending on the context. In literature teaching, for example, describing could be about observations of internal characteristics or qualities of a fictional character while physics probably focuses more on the description types elaborated by Trimble. In any case, the language of descriptions is typically generic, using present tense (Schleppegrell 1998: 187). Furthermore, describing requires rich vocabulary, especially qualitative and quantitative adjectives as well as verb forms and nominal expressions (Vollmer 2011:6).

Similar to the two CDFs mentioned above, DESCRIBE is also widely accepted as an important discourse function for education. For example, Vollmer and Thürmann (2010: 117) include it in their list of most important macro-functions and so does Beacco (2010: 15). Interestingly, Anderson and Krathwohl's taxonomy as well as the original version does not mention DESCRIBE. However, three recent studies on CDFs in history, physics and biology indicate DESCRIBE as the most frequent CDF (Lackner 2012, Kröss 2014, Hofmann & Hopf 2015).

2.3.4 EVALUATE

According to the Austrian ministry of education, one main goal of education is to foster responsibility and to enable young adults to develop informed opinions (Bundesministerium für Bildung und Frauen 2015). Basically all learning cultures that respect the ideas of the Enlightenment should support their learners in taking a personal stance. As a result, EVALUATE seems to be an important CDF. Thürmann and Vollmer (2010: 117) mention it as one of their six central academic language functions, and Thürmann (2010: 148) defines evaluating as evaluative interactions with content, considering own experiences and ethnical norms. According to the Macmillan Dictionary, EVALUATE is “to think carefully about something before making a judgment about its value, importance, or quality” (Macmillan Dictionary 2015). This definition stresses the importance of reason or thought for evaluative processes. In the thinking skills taxonomy (Bloom 1972, Anderson & Krathwohl 2001) evaluation is considered a higher order thinking skill. Here, EVALUATE is defined as “making judgments based on criteria and standards” (Anderson & Krathwohl 2001:83). These criteria can be qualitative or quantitative. Subskills of EVALUATE are *checking*, which is defined as judging internal consistency, as well as *critiquing*, which means judging on grounds of external criteria. Both subskills share that evidence, criteria or reason are required. Dalton-Puffer (in press: 13) adds that qualitative evaluation also includes moral judgements.

2.3.5 EXPLAIN

Explain is a very common verb of everyday language use, and as such, it carries different meanings. Dalton-Puffer (in press: 15) refers to three understandings of the word *explain* based on the *Oxford English Dictionary*:

- 1) to make something intelligible and clear of difficulty and obscurity, to give details
- 2) to give an account of one’s intentions or motives
- 3) to make clear the cause, origin or reason of

The first understanding is very broad and general. Dalton-Puffer (in press: 15) points out that this meaning of *explain* is more connected to exposition. Due to its generality, Dalton-Puffer excludes this understanding as the construct is more useful when CDFs are specific. Looking at the other two understandings, the shared trait is causality.

While 2) centres on human aspects of causality, 3) is more about deductive explanations of phenomena (Dalton-Puffer in press: 16). Furthermore, focussing on understanding 2) and 3) also aligns with the definition of *explain* used in the thinking skills taxonomy (Bloom 1962; Anderson & Krathwohl 2001). Here, explaining is part of “understanding” and is again defined as the ability to construct cause-and-effect models (2001: 75). Thürmann (2010: 147) understands EXPLAIN as revealing functional, space-time connections, considering cause-effect relations. Vollmer and Thürmann (2010: 117) also include EXPLAIN in their list of central discourse functions.

2.3.6 EXPLORE

Dalton-Puffer (in press: 17) selected EXPLORE as a label for a group of near synonyms that appear in each other’s definitions. Examples for these near synonyms are *explore*, *assume*, *suppose*, *presume*, or *conjecture*. Still related, but semantically a little more distant are verbs that imply a higher degree of hypotheticality, such as *guess*, *speculate*, *predict*, or *hypothesise*. She explains that the common semantic tenor of all of these verbs is the communicative intention, which is to talk “about that which is not in the here and now, and which is not firmly established past fact either” (in press: 17). In other words, EXPLORE in the CDF construct means to talk about something that is hypothetical. Dalton-Puffer (in press: 17) adds, though, that she does not restrict this CDF type to notions of *hypothesis* or *prediction* in the strictly scientific sense as part of the research process. Instead, EXPLORE embodies a more general, semi-expert understanding of hypothesising.

Furthermore, she argues that EXPLORE is a central part of knowledge building as many other constructs suggest (Biggs & Tang 2011, Beacco 2010, Vollmer 2010, Kidd 1996 etc.). Typically, EXPLORE, HYPOTHESISE or PREDICT are found in the higher spheres of hierarchical frameworks. For instance, Anderson and Krathwohl (2001: 84-86) put it in the highest domain called “create”. In their understanding, *hypothesising* is about identifying a problem and generating alternatives or hypotheses while considering certain criteria. From a linguistic point of view, EXPLORE demands rather complex lexico-grammatical structures, including modal verbs, modal adverbs, and conditional clauses (Dalton-Puffer in press: 18). In a previous publication, Dalton-Puffer (2007b: 75) found out that very often students try to avoid formulating hypotheses by switching topic or they just give minimal answers.

2.3.7 REPORT

This CDF type is concerned with the illocution of informing a recipient about something the speaker is knowledgeable about but which is not part of the immediate context (Dalton-Puffer in press: 19-20). Other verbs that express this language function include *recount*, *relate*, *narrate*, *present*, *summarise*, or *give an account of*. Although all of these verbs share the assumption of a “reduced shared background knowledge of speaker and recipient” as well as a focus on the referential function of language, they differ in their context of use and register (Dalton-Puffer in press: 19-20).

According to Dalton-Puffer (in press: 20) some academic discourse frameworks include SUMMARISE as a distinct function, e.g. Thürmann and Vollmer (2010). Anderson and Krathwohl (2001: 73) feature *summarising* as part of the cognitive process type “understand” and as such, it is rather low in terms of hierarchy. They state that this language function is used to put together a representation of information. Dalton-Puffer (in press: 20) argues that this process of selecting essential points and coming up with a coherent construct is part of all the activities that are part of REPORT. For history teaching, the verbal action NARRATE seems to be especially important. In fact, many competency models of history learning name narration as one of the key competences of history skills (Rüsen 1983, Schreiber 2005, Gautschi 2011, Pandel 2007). To be able to come up with a historical narration, one needs to reconstruct validated historical pieces of information into a comprehensible narrative. Unlike Anderson and Krathwohl’s understanding, this kind of activity is usually regarded as being on the more complex end of the scale (e.g. Kühberger 2011). Vollmer (2011: 6) adds that *reporting* and *narrating* differ in their degree of objectivity. While narrating implies a subjective perspective, reporting aims at recounting events from a more objective point of view.

3. The competency model for historical awareness – *Kompetenzmodell FUER Geschichtsbewusstsein*

3.1 Concept of competency-based history teaching

PISA testing disclosed what many had thought for a long time. The traditional system of accumulating declarative knowledge, i.e. knowing facts, dates, and events, was failing our students (Kühberger 2009: 11; Gautschi 2011: 17). Knowledge-oriented education, very often, does not facilitate critical thinking and problem-solving skills; it merely reproduces old knowledge and tests insignificant details (Gautschi 2011: 17). Quite naturally, learners get bored as they cannot see the importance of history education (ibid: 17). Furthermore, Gautschi (2011: 18) claims that learners within the traditional system show substantial gaps in knowledge, are not able to work with historical sources or to take over different perspectives. Gautschi (2011: 42) further argues that factual learning is only one aspect of learning. Instead, he (2011: 42) defines learning as long-term changes of knowledge, beliefs, skills, and interests. This conception constructs learning as a multifaceted and comprehensive process that is not restricted to merely factual learning. As a result, history didactics alongside many other educational fields have undergone a paradigm shift from traditional knowledge-oriented education towards a competence-focused approach (Heil 2010: 8). This means that factual content knowledge has forfeited its predominance. The general aim of education is now to equip learners with skills and abilities to apply their knowledge (Kühberger 2009: 11). Jung (2010: 1) adds that being competent also means to be able to apply these skills in open, complex, and disorganised situations. This is also reflected in the word's etymology as "competence" can be derived from "empowerment to cope". Most competency-based models existing are based on Weinert's definition of competence (Heil 2010: 12):

die bei Individuen verfügbaren oder durch sie erlernbaren kognitiven Fähigkeiten und Fertigkeiten, um bestimmte Probleme zu lösen, sowie die damit verbundenen motivationalen, volitionalen und sozialen Bereitschaften und Fähigkeiten, um die Problemlösung in variablen Situationen erfolgreich und verantwortungsvoll nutzen zu können. (Weinert 2001: 27-28)

According Weinert, to be considered competent, learners should not only know how to theoretically solve problems, but they need to be able as well as willing to apply

their abilities in a responsible way in different contexts. In other words, it does not limit learning to cognitive operations. Instead, this definition ties competences to the learners' motivation, willingness as well as to their social skills and disposition.

As for history didactics, Pandel (2006: 126) argues that "historical learning" is a way of thinking that can be regarded as a cultural achievement, similar to philosophising or mathematical thinking. Rüsen (2008: 61) adds that "historical learning" is a process of human awareness of interpreting certain experiences with time. In this conception, the role of competences is to deal with these interpretations as they emerge and evolve (Rüsen 2008: 61). Put differently, competences are not static but dynamic tools to help us cope with experiences with time. Pandel (2007: 24) agrees on this conception of competences and states that competences are generative and thus creative devices. As such, competences are a set of skills and a body of knowledge that allow learners to continuously develop as they face new challenges and new domains. When this happens, competences enable the students to use what they already know, adapt it according to the situation, and as a result, learners expand their repertoire of problem-solving skills (Kühberger 2009:13). With regard to history learning, Pandel (2007: 25) explains that competences are the connections of historical knowledge and our present communicative memory. These individual connections have not been established before and have to be made ourselves in order to persist (Pandel 2007: 25). Gautschi (2011: 48) comments that the motor for this process is (self-) reflexion.

3.2 Some examples of competency models for history education

As the concept of competency in history teaching is rather abstract, several attempts have been made to create models that are more accessible for teachers and students. One early example in the American context is a model by the *National Center for History in the Schools* (1996). In this model, two different types of standards of historical thinking have been established. On the one hand, the standard of *historical understanding* is defined as:

what students should know about the history of families, their communities, states, nation, and world. These understandings are drawn from the record of human aspirations, strivings, accomplishments, and failures in at least five spheres of human activity: the social, political, scientific/ technological, and cultural (the philosophical/ religious/ aesthetic), as appropriate for children (NCHS 1996, quoted in Gautschi 2011: 55).

This standard conforms to traditional understandings of teaching history as it mainly lists topic clusters that should be covered. However, a second standard is added to approach these topic fields from a competency-oriented angle. For that reason, they set *historical thinking skills* as a standard of history teaching, which should:

enable children to differentiate past, present and future time; raise questions, seek and evaluate evidence, compare and analyse historical stories, illustrations, and records from the past; interpret the historical record and construct historical narratives of their own (NCHS 1996, quoted in Gautschi 2011: 54).

Similar to the conceptions of Pandel (2007), Rüsen (2008) or Gautschi (2011), this standard stresses enabling learners to actively engage with historical content as prime purpose. Furthermore, the connection of past, present and future is emphasised as well. Again, this standard is structured into five domains, namely chronological thinking, historical comprehension, historical analysis and interpretation, historical research capabilities, and historical issues-analysis and decision-making. Just like the CDF construct, these sub-standards are formulated with verbs, such as *identify, reconstruct, compare, evaluate, hypothesise, or interpret* (NCHS 1996, quoted in Gautschi 2011: 56-57).

One example in the German-speaking context is the competency model by Hans-Jürgen Pandel (2007). This model is based on the process of historical awareness. Basically, its competences are steps in the process of logical, historical thinking. According to this model, the process of historical awareness is initiated by engaging with historical sources. For this task, “Gattungskompetenz” (*genre-competence*) is needed (Pandel 2007: 27). This competence involves awareness of genre features and their diagnostic value (Pandel 2007: 27). As a next step, historical meaning needs to be abstracted. This process is termed as “Interpretationskompetenz” (*interpretation competence*) and includes reconstructing historical narratives (ibid: 31). Subsequently, one needs to determine whether a narrative stays within the boundaries of traditional history culture or whether it challenges it (ibid: 40). This step is ultimately about evaluation of validity and soundness of the narrative. In this model, this skill is called “Geschichtskulturelle Kompetenz” (*historical-cultural competence*) (ibid: 40). Finally, learners need to verbalise this process of making sense of historical sources, which is called “Narrative Kompetenz” (*narrative competence*) (ibid: 36). To sum up, this model centres on narrativity, which is supposed to help learners orientate in different levels of time. As Heil (2010: 53)

points out, this model is rather abstract and thus difficult to grasp for students. He (2010: 53) further argues that while it nicely reflects the process of historical awareness, it is also far from school reality as some of the competences are difficult to fill with content, especially for younger learners. On top of that, it does not concretise cognitive tasks or language needs.

A third example is the competency model by *Verband der Geschichtslehrer Deutschlands* (union of German history teachers) (2011). Unlike Pandel's model, this one is not structured according to a telic thought process. Instead, this model consists of three equally-important focal points, namely historical content, methods, and media (Heil 2010: 55). According to Heil (2010: 55), this structure resembles traditional history teaching. This model differentiates between "Sachkompetenz", "Deutungs- und Reflexionskompetenz", and "Methoden- und Medienkompetenz" (Verband der Geschichtslehrer Deutschlands 2011). "Sachkompetenz" (*historical expertise*) is concerned with facts and figures as well as chronological and spatial orientation knowledge (VGD 2011: 4). "Deutungs- und Reflexionskompetenz" (*interpretation and reflexion competence*) is about re- and deconstruction of historical narratives (ibid: 4). By doing so, students should become aware that history is always constructed (ibid: 4). Furthermore, they need to learn to take over other perspectives and recognise connections of past, present, and future times (ibid: 4). Finally, "Methoden- und Medienkompetenz" (*methodology and media competence*) is aimed at equipping learners with methodological skills to work with historical sources (ibid: 4).

3.3 Kompetenzmodell FUER Geschichtsbewusstsein

In 2000, the project group FUER (*Förderung und Entwicklung eines reflektierten Geschichtsbewusstseins*) was formed by German-speaking history educationalists, teacher educators and history teachers in order to inquire into foundational research in history didactics. The project group is coordinated by Waltraud Schreiber and led by Bodo von Borries, Wolfgang Hasberg, Andreas Körber, Reinhard Krammer, Béatrice Ziegler, Katalin Arkossy, and Christine Pflüger (Forschungsprojekt FUER Geschichtsbewusstsein 2015). Amongst other projects, they have designed a competency model, which now serves as a basis for the Austrian history curriculum (Kühberger & Windischbauer 2012: 6). Moreover, it is used as theoretical background

of the new history Matura. Consequently, teacher trainees need to study this model as well.

As many other competency models, the FUER group uses Weinert's definition of competence (see chapter 3.1) as a basis (Heil 2010: 12). As such, the model assumes that competences are cognitive problem-solving skills that are contingent on the learner's motivation, willingness, and social dispositions. Additionally, according to Weinert's definition, being competent also means to be able to flexibly and responsibly apply skills. These assumptions coincide with the FUER model's main goal of educating students to be responsible, mature, and historically aware citizens (Schreiber et al. 2007: 18).

Like Pandel's competency model, the FUER model also aligns with the logical process of historical thinking (Schreiber et al. 2007: 20). A seminal concept in the theory of history is Jörn Rüsen's conception of *The Historic* (1983), which constitutes the starting point of the FUER model. The theory of *The Historic* deals with the role of reason for historical thinking (Rüsen 1983: 9). In a way, it is a meta-theory as it is a self-reflexive theory of theory (ibid: 11). In other words, it is concerned with thinking about the thought process. According to Rüsen (ibid: 13), the concept of *The Historic* has two tasks:

1. Systematising and structuring meta-theoretical reflections in the science of history
2. Investigating the function of these reflections with regard to research and historiography

For these two tasks, the role of reason needs to be established and anchored (ibid: 16). Rüsen (1983: 16) argues that historical thinking is reasonable when it is founded on argumentation and not on mere assumptions about the past. As a consequence, history as an academic discipline needs to follow the principle of historical thinking in order to be considered reasonable (Rüsen 1983: 17).

One major aspect of this concept is self-reflexion. This complies with Gautschi's argument that self-reflexion is the motor of historical learning (2011: 48). By looking into the past, humans can find their place in the present and future (Rüsen 1983: 24). This also implies that historical thinking supports orientation processes. Yet, a high degree of self-reflexion is necessary for this task. Consequently, Rüsen claims (1983: 24) that *The Historic* deserves sufficient space in education as it supports individual

orientation processes. Furthermore, Rüsen (1983: 48) explains that all historical thinking, in all its realisations, is basically the articulation of our historical awareness. Historical awareness is defined as mental activity aimed at making sense about time and our existence (Rüsen 1983: 50). Put differently, developing historical awareness is about being able to base our daily acts on our historical insights and understandings. By doing so, we create a historical identity, give meaning to our existence and act historically aware (Rüsen 1983: 57). One main way of realising our historical awareness and externalising the historical thought process is the narration of history (Rüsen 1983: 52). As a result, historical narration is a crucial part in many history education competency models, which also holds true for the FUER model.

This concept of *The Historic* by Rüsen was further developed into a dynamic process model by Hasberg and Körber (2003). This dynamic process model of historical thinking shows discrete steps of historical thinking in a cyclical-dynamic process (figure 2). According to Kühberger (2009: 17), this process model shows distinct steps of historical thinking with a spiral progressive form. This process is initiated by an instance of present upset. Feeling unsure often triggers an orientation or action problem (Kühberger 2009: 17). To be able to cope with these present issues, past knowledge assumptions, concepts and judgements of our own and those of others are consulted (Kühberger 2009: 18). Developing these historical narratives usually involves assumptions and attitudes (“Sach- und Werturteile”) about the past (Kühberger 2009: 18).

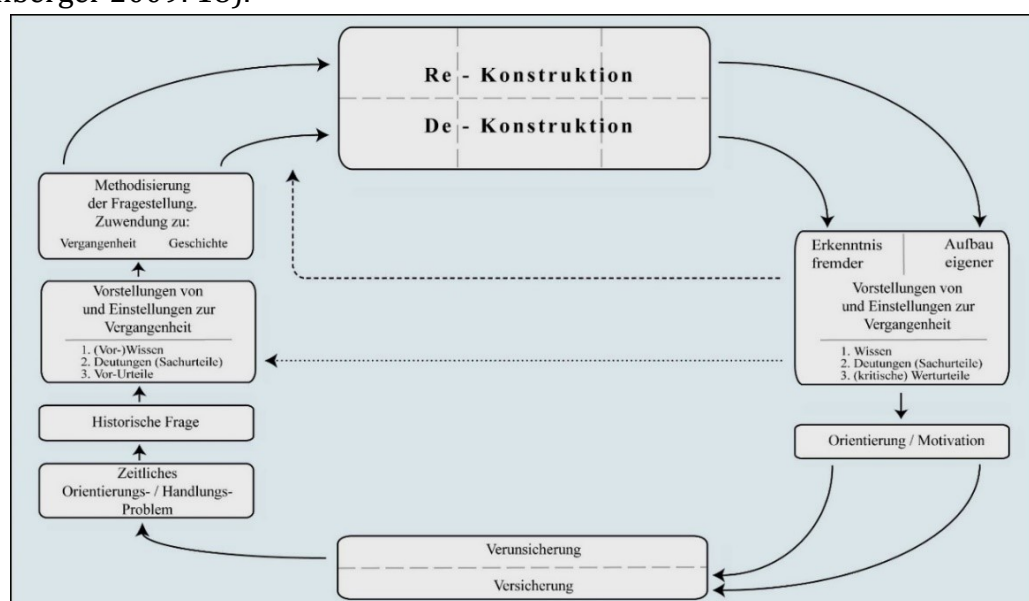


Figure 2: dynamic process model by Hasberg and Körber (2003), quoted in Schreiber et al. (2007: 21), online <http://www1.ku-eichstaett.de/GGF/Didaktik/Projekt/ziele.html>

On the other side of the cycle, existing historical narratives should be deconstructed in order to expose implicit assumptions and judgements (Kühberger 2009: 18). Hopefully, this thought process generates new insights which then again lead to further questions which spark new thought processes.

From this thought process cycle, three competences can be abstracted. Hasberg and Körber (2003) termed these competences bound to the historical thought process “Fragekompetenz” (*questioning competence*), “Methodenkompetenz” (*methodological competence*), and “Orientierungskompetenz” (*orientation competence*). “Sachkompetenz” (*historical expertise*) is not considered as a discrete step of the thought process but rather as a tool that accompanies the whole thought process (Kühberger 2009: 19-20). These four competences will be explained in detail in the following chapter.

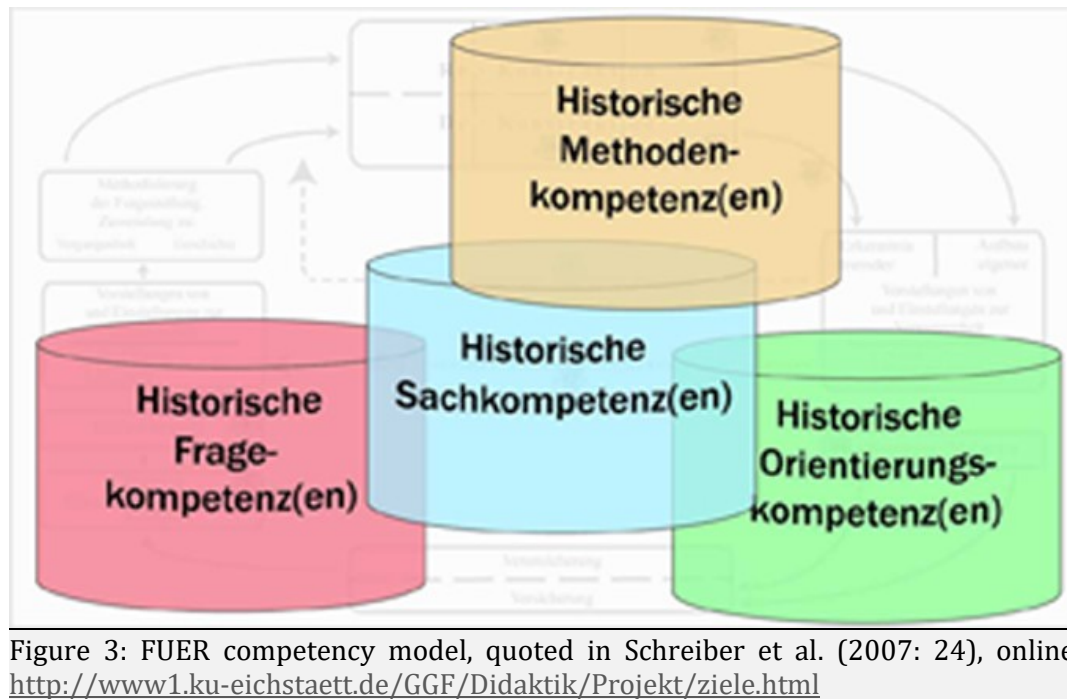


Figure 3: FUER competency model, quoted in Schreiber et al. (2007: 24), online <http://www1.ku-eichstaett.de/GGF/Didaktik/Projekt/ziele.html>

Schreiber (2005: 18) asserts that working on these competences avoids cramming while requiring the students to really think and reflect. What is more, these competences are supposed to make students more (self-) reflective and help them understand that *history* and *past* are not the same (Schreiber 2005: 21). This entails that learners realise that history is always constructed and thus dependent on the context.

3.4 The four competences of the FUER model

3.4.1 *Questioning competence* – “Fragekompetenz”

“Ohne historische Fragen keine Geschichte.” (Schreiber 2007a: 156). Schreiber claims that without historical questions, there would be no history since history is always some kind of answer to a question. These questions about the past are the starting point of a historical thought process (Schreiber et al. 2007: 24-25). As mentioned above, uncertainty in the present often leads to seeking answers in the past. These historical questions are retrospective and influenced by current issues and collective or individual interests (Schreiber et al. 2007: 24). Krammer (2005: 50) adds that asking questions is a subjective process and thus contingent on the context of raising that question. Consequently, each question can only address a specific part of history and cannot generate a comprehensive construct of the past (Kühberger 2009: 24). In history didactics, this principle is known as *particularity* principle. *Particularity* is realised in two ways, namely *selectivity* (i.e. questions are selected) and *partiality* (i.e. we can only look at parts of history, not at a comprehensive whole) (Schreiber et al. 2007: 25). In other words, questions are selected and partial and therefore, they are dependent on time, space, source, and approach. As a result, Krammer (2005: 50) argues that asking questions connects different levels of time. To conclude this argument, being competent in this field includes understanding that history is always constructed (Schreiber et al. 2007: 26). Put differently, conceptualising history as answers to questions helps to grasp the difference between objective *past* and subjective *history* (Krammer 2005: 50).

According to Wenzl et al. (2005: 59-69), there are three main sub-competences of the *questioning competence*. First of all, learners need to be able to identify and classify different types of questions according to formal criteria and function of the question (ibid: 60). Looking at formal features, one important aspect of this sub-competence is that learners should be able to distinguish between explicit, implicit, and latent questions (ibid: 60). Explicit questions are easy to identify as they are characterised by a question mark or interrogative intonation patterns. Implicit questions, however, are not formulated as interrogative utterances. Instead, they only contain a question word (ibid: 60). An example would be: “*Explain why the Industrial Revolution first started in England*”. Finally, latent questions do not show any interrogative markers.

Kühberger (2009: 23) exemplifies this with the headline “*the medieval city*”, which can actually be read as “*how did people live in medieval cities?*”. Basically, these distinctions are mainly syntactical, leaving this classification rather mundane and negligible. As discussed above, focussing on questions helps learners understand that history is always constructed and thus biased. Hence, it seems to be more relevant to make students aware of the existence of questions implied in historical narratives rather than having them classify different syntactical structures.

As for other criteria, Wenzl et al. (2005: 60-64) list a number of sub-categories, which can basically be summarised as categorisation according to different functions of questions, such as counter-question, strategic questions, or methodological questions. Schreiber (2008: 204) proposes different criteria. According to her, questions can either be related to theory, to content, or to methodology. A question about theory could address historical principles like *particularity* or *retrospectivity* (Schreiber 2007a: 186-187). An example would be whether a text contains any clues that it is narrated from retrospective. Content-related inquiries are concerned with how a source is related to the rest of history (Schreiber 2007a: 190). For instance, *what is the historical significance of the source at hand?* Finally, questions relating to methodology can be about methodological conventions and scripts (Schreiber 2007a: 171). For example, *how many more sources are required to be able to reliably assess the validity of a particular source?* These question types can be considered rather advanced, and thus, the relevance of classifications like these in the school context is questionable. In the end, it does not really matter to the learners which set of categories has been chosen. For pupils, being competent in this area simply means acknowledging the existence of different types of questions and their implications, which leads us to the next sub-competence.

Once they grasped and categorised a question, learners should be able to deconstruct why questions are formulated in a certain way (Wenzl et al. 2005: 67). Wenzl et al. (2005: 69) argue that it is vital for students to pay attention to the questions they encounter and reflect on their implications as history could not exist without historical questions. Learners need to realise how these questions shape historical narratives and thus, our historical awareness (ibid: 69). Furthermore, when they deal

with a historical narrative, they should be able to read between the lines and identify the questions underlying (ibid: 67).

Finally, learners should be able to formulate questions themselves (Wenzl et al.2005: 64). Of course, asking questions is something we do every day. In the science of history, however, the questions we ask determine the reconstruction process (ibid: 65). They affect the selection and analysis of historical sources and therefore, they highly define the outcome in the form of a historical narrative (ibid: 65). Learners need to be aware of that and ask questions that help them to get to the answers they seek (ibid: 65). Wenzl et al. (2005: 66-67) list three main areas to be questioned: Events of the past, context of “history” (i.e. historical narrative), and effects on the present and future. These three areas are called the three foci of the FUEER model and should highlight the interconnection of different levels of time (figure 4). According to the FUEER authors, this connection is crucial for developing historical awareness (Schreiber et al. 2007: 27):

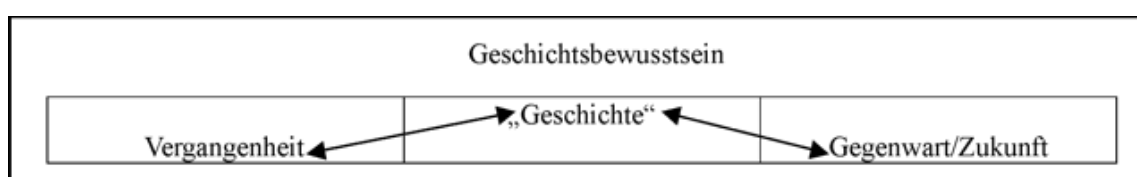


Figure 4: three foci for historical awareness, online <http://www1.ku-eichstaett.de/GGF/Didaktik/Projekt/grundlagen.html>

As indicated earlier, this set of sub-skills seems slightly detached from classroom reality and thus it is rather impractical for active use. The essence of the *questioning competence*, however, is valuable for history education. Conceptualising history as a construct is crucial in order to avoid creating historical myths but also to educate students to be critical adults. Furthermore, knowing that questions shape historical narratives is a key point of being historically aware.

3.4.2 Methodological competence – “Methodenkompetenz”

Methodological competence is constituted of the skills and abilities to create one’s own historical narrative as well as to analyse already existing narratives and thereby understanding its deeper structure (Schreiber 2007b: 194). The first sub-competence is called deconstruction competence which aims at enabling learners to critically assess historical primary, secondary, or even tertiary sources. To be able to do this,

learners must be able to perform inner and outer source criticism (Schreiber 2007b: 202-203). Outer source criticism basically means an analysis of the physical context which includes identification of origin and context as well as assessment of surface authenticity (Kühberger 2009: 37). According to Schreiber (2007b: 202) this kind of investigation is very often completely ignored in school settings. On the level of inner source criticism, one should examine the co-text and consider aspects of genre, intertextuality, media, segmentation, or formal features, indicating *temporality*, *retrospectivity*, or *particularity* (ibid: 226). Put differently, inner source criticism is about investigating the relation between what is being said or produced and what is possibly meant by it (ibid: 203). This includes an analysis of leitmotifs, key terms, moves, and tense structure (ibid: 227). Another layer of analysis concerns the argumentation structure and meaning construction (ibid: 228). As a last step, deconstruction involves an overall evaluation of the validity and authenticity of the source in question (ibid: 229). To be able to accomplish this task, comparison with further resources is necessary (ibid: 227-229). Schreiber emphasises (2007b: 204) that the main aim of *deconstruction competence* is to enable learners to see beyond the surface and make out the implications about the past as well as the limits of a source.

The second sub-competence is termed as *reconstruction competence* and is supposed to enable students to answer questions about the past by constructing their own narrative (Schreiber 2007b: 194). This process is well researched and methodologically established (Schreiber 2007b: 195). The first step is isolating valid and useful historical facts and relations (Schreiber 2007b: 200-201). This is done by deconstructing several historical sources, resulting in a number of “particles of the past” (*Vergangenheitspartikel*) that should be put into historical and narrative context (Kühberger 2009: 35). Schreiber (2007b: 205) remarks that it is vital to understand that one single source is not enough to be able to reliably construct a narrative. Instead, the process described above needs to be applied to a number of sources. The different outcomes must then be compared, classified, and set into relation (Schreiber 2007b: 206). To be able to do this, historians must interpret the sources and their “particles of the past” (ibid: 207). Schreiber (2007b: 204) adds that throughout this process, learners also need to consider principles of history such as *retrospectivity*, *particularity* and *contextuality* of concepts like gender or power-relations.

In the FUEER model, both these sub-competences are regarded as basic operations that are necessary to build up historical awareness. Kühberger (2009: 37) explains that working on these competences helps students understand that sources only allow us to approach the past and not to fully embrace it. Furthermore, students should realise that sources usually came into existence due to a certain reason and tried to address certain people (Kühberger 2009: 37). As such, they are always a filtered image of the past and not a reflection. Beyond that, deconstruction skills are practical abilities as we are confronted with ready-made narratives on a daily basis (Schreiber 2007b: 225). Schreiber (2005: 225) asserts that part of being a mature and responsible citizen is to challenge given narratives.

3.4.3 *Orientation competence – “Orientierungskompetenz”*

“Orientation” is a term that is both used in everyday life as well as in scientific contexts (Schreiber 2007c: 236). In history didactics, orientation means orientation in the continuum of time (ibid: 236). Schreiber (2007c: 236) explains that different time levels are connected as the past affects the present and the present determines the future. Consequently, it is important to understand these connections and continuously orientate oneself accordingly (ibid: 237-240). As mentioned above, to start such an orientation process, we ask questions about the past. With the help of *methodological competence*, answers can be found and now these results need to be used to help us orientate and act in the present in an informed manner (Kühberger 2009: 100).

The FUEER model differentiates between four sub-competences. First of all, students need to acquire mental structures which allow them to reflect on history and to reorganise their historical awareness by adapting it according to new insights (“Re-Organisationskompetenz” – *re-organisation competence*) (Kühberger 2009: 102). This also includes the skill and willingness to keep on formulating new questions about the past which would further reorganise one’s perception of the past (Schreiber 2007c: 250). Secondly, learners should be able and willing to rearrange or revise assumptions and judgements about the world and humanity according to insights from re- or deconstruction (“Welt- und Fremdverstehen” – *other-awareness*) (ibid: 251). As perceptions of the world are inevitably connected to culture, working on this competence is also cultural learning. This task requires taking on other perspectives

and trying to understand the world from a different angle. Lamsfuß-Schenk (2010: 214) differentiates between two types of understanding otherness, namely diachronic and synchronic. Diachronic learning focuses on understanding differences between different epochs whereas synchronic learning refers to intercultural learning (Lamsfuß-Schenk 2010: 214). According to her, these two are basal operations of historical thinking. Yet, she (2010: 214-215) adds that the concept of *other-awareness* is not without controversies, which are mostly due to differences in the definition of the term “culture”. Regarding culture as something essentially nationalistic might lead to a dichotomous view on one’s own culture and otherness. However, since this competence aims at multiperspectivity and awareness of constructionist aspects of history and culture, a different comprehension of this term is needed. Lamsfuß-Schenk (2010: 215) proposes the definition by Geertz (1993: 5), which regards culture as a net of meaning, constructed by active, social individuals belonging to a group. With this definition, *other-awareness* means experiences of alterity, i.e. trying to see the world from the eyes of someone from a different place and/ or time (Lamsfuß-Schenk 2010: 215).

The third sub-competence is about the willingness and ability to revise one’s own historical identity (“Identität” - *identity*). Kühberger (2009: 109) explains that new historical insights need to be used to build up one’s own identity, to reflect upon it and also to rearrange it if deemed necessary. In other words, history education should cater for the construction of meaning and not for the instruction of meaning (Kühberger 2009: 109). For this process, a high degree of self-reflexion is indispensable (Schreiber 2007c: 253-54). Finally, students need to be assisted in developing tools that help them solve present or future problems (“Handlungsreportoire” - *tools*) (Schreiber 2008: 205). Yet, Schreiber (2007c: 257) points out that this is not meant as handing them a manual but as a space to reflect on historical actions, realise the historical contingency of these actions and finally evaluate their usefulness for the problems at hand.

3.4.4 *Historical expertise* – “Sachkompetenz”

While the three other competences can be deduced from the cyclical historical thought process, *historical expertise* is needed all the way through (Schreiber et al. 2007: 23-24). *Historical expertise* comprises a broad area of different knowledge

dimensions and knowledge skills. As mentioned in the previous chapter, Anderson and Krathwohl (2001: 29) identified four different types of knowledge:

- factual knowledge: terminology, details and specific elements, conceptual knowledge
- conceptual knowledge: interrelationships among elements, including classifications and categories, principles, theories, models and structures
- procedural knowledge: methods, techniques, skills, algorithms
- metacognitive knowledge: strategic knowledge, self-knowledge and knowledge about cognitive tasks

This classification demonstrates that knowledge is multifarious and not limited to factual knowledge as many often assume about history education (Schreiber 2005: 17). Similar to Anderson and Krathwohl's (2001) concept of knowledge dimensions, the FUEP project group also looked at knowledge from different angles and identified two sub-competences.

One main area of this competence is the ability to understand and use terms and concepts as well as the relations between them ("Begriffskompetenz" – *terminology competence*) (Schöner 2007: 272). Being competent in this area ensures that learners can talk about historical content (von Borries 2007: 348). For historical terminology competence, the FUEP model draws on Ferdinand de Saussure's sign theory which states that terms (i.e. form - *signifiant*) are connected to their concept (i.e. meaning – *signifié*) by conventions (ibid: 265-266). These connections are contingent on the temporal and cultural context (ibid: 274). As such, historical *terminology competence* includes understanding that meanings of words can evolve (ibid: 274-275). Put differently, students should realise that general terms like *power*, *religion* or *politics* change throughout history as they carry different meanings in different eras. *Terminology competence* also entails being able to tell historical from present language as well as to be able to discriminate between everyday and technical language (Kühberger 2009: 85). Furthermore, historical *terminology competence* involves comprehending the logic of terminology (Schöner 2007: 275). This means that learners should be able to build up, adapt and restructure their historical lexicon (Schöner 2007: 275). Additionally, they should know about the relations of terms and understand concepts like *hyperbole*, *subordination*, *synonymy*, and *antinomy* (Schöner 2007: 275).

Historical expertise in this model also includes structuring competence (“Strukturierungskompetenz”). Being structuring-competent means knowing how to structure historical content and insights (Schöner 2007: 277). This includes being able to apply methodological scripts which entails knowing steps and patterns of historical operations such as de- or reconstruction (Schöner 2007: 303). Furthermore, this sub-competence also involves understanding and considering basic, epistemological concepts of historical thinking, which includes, for instance, *selectivity* (narratives are contingent on what the author chooses to use), *retrospectivity* (present influence on narratives about the past) or *perspectivity* (narratives are subjective) (von Borries 2007: 348-349).

As for “traditional” factual knowledge, the FUEP project group decided to exclude that from the competence of *historical expertise* (von Borries 2007: 348). Instead they call this type of knowledge *working knowledge* (“Arbeitswissen”) which is vital for working historically on a general level (von Borries 2007: 348). Kühberger (2009: 88-89) argues that this kind of knowledge is basically a tool to work historically. He argues that it is necessary to build it up, expand it and activate it in the lessons as the situation demands (Kühberger 2009: 88). Yet, it is difficult to store this kind of information (von Borries 2007: 348). Furthermore, it is also dynamic as it changes, grows and evolves (von Borries 2007: 350). So, rather than including this unstable knowledge dimension, the FUEP model stresses the importance of knowledge management as an interdisciplinary skill (Kühberger 2012: 33).

3.5 Grading matrix and operators

Recently, many education jurisdictions have agreed on outcome-based teaching (Leung 2012: 161). This also holds true for the Austrian educational system. An outcome-oriented curriculum is characterised by pre-defined standards that need to be reached at certain learning stages (Davis 2003: 277). Körber (2007: 415) explains that these educational standards are based on strategies to develop competences. As a result, he (2007: 415) argues that it is not enough to define competences but also to establish a grading logic to fully reach those competences. For that reason, the FUEP group distinguishes three levels (ibid: 416-417). Theoretically, there is also a zero and a maximum level (ibid 2007: 416-417). However, these only mark the ends of a spectrum and do not exist in reality (ibid: 417). The different levels can be applied to

all competences and should consider willingness, skills, and concrete application (Schreiber 2008: 206-207). In essence, the levels are graded according to the students' degree of self-reliance. Körber (2007: 433-434) explains that the progression along these levels can vary between the competences and is characterised by a gradual acquisition of sub-qualifications and skills. To grade tasks and define standards, formulations like "with guidance", "in familiar contexts", "rudimentarily" for lower levels, "in common situations" for intermediate levels, and "self-reliantly" or "appropriately" for advanced levels are added.¹ It is important to note here that these are not absolute notions but relative steps of a progressive development (Körber 2007: 435).

A different way to distinguish between these levels is according to the degree of critical awareness and the students' command of culturally-informed conventions of historical thinking (Körber 2007: 453). This is based on Kohlberg's (1981) development model on moral judgement (Körber 2007: 453). On the lowest level of Kohlberg's model, termed as pre-conventional, learners are only able to apply competences and understand conventions rudimentarily (ibid: 454-455). On the intermediate "conventional" level, learners know about the conventions used for historical operations and societal contexts and are able to apply them (ibid: 454-456). On the advanced level, called "post-conventional", students are capable of not only using these conventions but also of criticising, adapting and changing them, if necessary (ibid: 454, 456). Körber (2007: 457) argues that grading according to conventionality is useful for teaching history. However, he concedes that it is slightly too blurry, and in reality, the process from pre- to post-conventional is not as teleological as outlined here. So, the FUER model drew on Kohlberg's model and combined it with progression according to autonomy, as mentioned above. The result is these three levels (see Körber 2007: 458-461):

1. Basic or a-conventional level: Competences are rudimentarily acquired. Concepts, categories and operations of historical thinking are not yet used in a conventional, systematised way. Instead, learners work spontaneously and

¹ Grading formulations are translated, based on Körber (2007: 433-434): "unter Anleitung", "in vertrauten Zusammenhängen", "in Grundzügen", "in üblichen Situationen", "selbstständig", "angemessen";

intuitively. The basic level also implies a low degree of self-reflexion and autonomy.

2. Intermediate or conventional level: Students follow the conventions of the science of history rather self-reliantly and have control over ideal-typical categories and concepts. Furthermore, they use these conventions and concepts for their own thought processes.
3. Elaborated or trans-conventional level: Learners are now able to critically reflect on history and their own historical identity. They understand and use conventional categories, concepts, and operations of historical thinking. Additionally, they are also capable of critically evaluating them and adapting or changing them if necessary. Finally, they do not need much guidance.

As we can see, these levels are relative to each other and boundaries are not distinct. There are levels in-between and so far, these have not been catalogued in the form of educational standards or can-do statements. As such, they require a high degree of judgement or interpretation on the teachers' side. Staschen-Dielmann (2010: 235) evaluates the FUER model as stringent, yet she criticises that its grading logic is only theoretical and not empirically founded. Thus, she (2010: 237) calls for a frame of reference for historical competences to make the competences and their assessment more operational. In this frame of reference, descriptors for different levels for different skills should be found. She (2010: 237) argues that using descriptors makes learners aware of the intertwining of academic discourse and history skills and also enhances transparency.

Furthermore, the FUER levels are defined without specifications on operations, language needs or discourse functions. Heil (2010: 47) criticises the lack of language functions and elements of a competence development model. According to Bonnet (2004: 118), competence development takes place in interaction by negotiation of meaning. He (2004: 119) explains that only in interaction, it is possible to find out whether new meanings, i.e. expansions of schemata, are not contradictory but viable. Thus, it seems reasonable to include linguistic aspects in a grading logic for competency development.

To fill this gap, Kühberger (2011: 15-20) designed an *operator* matrix based on the grading logic of the FUER model. According to Kühberger (2011: 15), "Operatoren" (*operators*) are defined as verbs that trigger pre-defined procedures to deal with different task types. Ideally, these procedures should have been acquired and practised in educational settings and therefore, they should be familiar to the learners

(Kühberger 2011: 15). Kühberger (2011: 15) states that the use of *operators* is intended to facilitate teacher-learner communication, to improve transparency of evaluation and to ensure unambiguity of tasks. As one important seminal work used as a basis for this *operator* system, Kühberger (2011: 16) mentions Bloom's *taxonomy of educational objectives*. In Kühberger's matrix, level 1 is limited to the reproduction of historical facts (Kühberger 2011: 16-17). Sample *operators* on this level are *name, list, summarise, or describe*. On level 2, learners need to work autonomously with historical input (Kühberger 2011: 16, 18). *Operators* on this level include *analyse, explain, compare, or classify*. Level 3 asks students to reflexively and critically examine historical issues (Kühberger 2011: 16, 19). Learners on this level should be able to *interpret, evaluate* and *justify* their arguments. Furthermore, learners are required to *re- and deconstruct* historical narratives.

Level 1	In diesem Bereich steht die Reproduktion im Mittelpunkt. Das Wiedergeben von Sachverhalten (u.a. auswendig gelerntes Fachwissen oder herausgearbeitete Inhalte aus Darstellungen) sowie ein rein reproduktives Nutzen von Arbeitstechniken (z.B. Benennen der Quellenart, Unterscheidung zwischen Quelle und Darstellung).	<i>Nennen, herausarbeiten, ermitteln, schreiben, feststellen, bezeichnen, skizzieren, schildern, aufzeigen, wiedergeben, aufzählen, zusammenfassen, lokalisieren, darlegen, wiedergeben</i>
Level 2	In diesen Bereich fallen vor allem jene Akte, die selbstständiges Erklären, Bearbeiten und Ordnen von Inhalten (Reorganisation) sowie das angemessene Anwenden von methodischen Schritten auf unbekannte Zusammenhänge (Transfer) erfordern.	<i>Analysieren, erklären, vergleichen, untersuchen, begründen, nachweisen, charakterisieren, einordnen, erläutern, gegenüberstellen, widerlegen, herausarbeiten, gliedern, übertragen, anwenden</i>
Level 3	In diesen Bereich fallen jene Akte, die einen reflexiven Umgang mit neuen Zusammenhängen bzw. Problemkonstellationen, eingesetzten Methoden und gewonnen Erkenntnissen (Reflexion) erfordern, um zu selbstständigen Begründungen, Interpretationen und Bewertungen (letztlich Akte der historischen Re- und De- Konstruktionen) zu gelangen (Problemlösung).	<i>Re- u. dekonstruieren, beurteilen, bewerten, erörtern, interpretieren, Stellung nehmen, entwerfen, entwickeln, diskutieren, (über)prüfen, gestalten, formulieren, verfassen, kritisieren</i>

Table 2: levels of historical learning according to Kühberger (2011:16-19)

Similar to Dalton-Puffer's construct (2013), Kühberger intends to provide a concrete communicative intention for each *operator*. However, it seems that the intentions

given below in table 3 are concretisations of the task rather than a reflection of the learners' communicative intentions. For instance, the *operator* "analysieren" (analyse) is assigned to *comprehension, investigation and assessment of issues or materials according to certain criteria or aspects*. Rather than being a communicative intention, this is a description and explanation of the word "analysieren". Put like this, it only describes the cognitive process linked to the verb. A communicative intention, on the other hand, needs to consider the role of participants or a motive for producing a CDF. To illustrate this, a communicate intention of "analysieren" would resemble something like the following: *I tell you about insights I gained investigating something according to certain criteria or aspects*.

Another weakness of this grading logic is the substantial overlap of some *operators*. For example, "herausarbeiten" and "ermitteln" are both concretised as *making out facts and relations from given material*. In fact, in the context of history lessons, these two verbs might be used synonymously. For instance, the Institute for Educational Quality of Lower Saxony (2016) considers the two *operators* in question as one and the same category. Another example seems to be "beschreiben" (describe) and "zusammenfassen" (summarise). Kühberger describes both as *giving a systematic account of something the learner has (prior) knowledge of*. The only difference is that "zusammenfassen" results in a compressed version of the account. Yet this difference appears to be rather subtle and difficult to determine as most accounts are not comprehensive but selective and thus in a way compressed.

Nevertheless, his explanations of the individual *operators* flesh out his matrix and by doing so, he makes the FUEP grading logic more employable for school settings. As Kühberger (2011:15) points out, only if students know what is meant by an *operator*/discourse function, the benefits can be truly realised.

Operator	Intention
Level 1	
<i>(be)nennen</i>	auflisten bzw. aufzählen ohne jede Erklärung / Wissen bzw. Angelernte Tatsachen wiedergeben oder Informationen aus beigefügten Materialien herauslesen
<i>herausarbeiten</i>	Zusammenhänge unter bestimmten Aspekten aus dem zur Verfügung gestellten Material erkennen und wiedergeben

<i>beschreiben</i>	zentrale Sachverhalte Kernaussagen, besondere Beispiele, Schwerpunkte etc. aus (Vor)Wissen oder aus dem zur Verfügung gestellten Material systematisch und logisch möglichst mit eigenen Worten wiedergeben
<i>ermitteln</i>	anhand von zur Verfügung gestellten Informationen Sachverhalte bzw. Zusammenhänge feststellen bzw. herausfiltern
<i>zusammenfassen</i>	Sachverhalte aus (Vor)Wissen oder aus dem zur Verfügung gestellten Material unter Beibehaltung des Sinns auf das Wesentliche reduzieren bzw. komprimiert und strukturiert darlegen
Level 2	
<i>analysieren</i>	Sachverhalte oder Materialien Kriterien-geleitet bzw. Aspekt-geleitet ergründen, untersuchen und auswerten
<i>erklären</i>	Sachverhalte und Materialien durch eigenes (Vor)Wissen und eigene Einsichten in einen Zusammenhang (Theorie, Modell, Regel uvm.) einordnen und dies begründen
<i>vergleichen</i>	Sachverhalte oder Materialien systematisch gegenüberstellen, um Gemeinsamkeiten, Gegensätzlichkeit, Unterschiede, besondere Abweichungen und Gewichtungen herauszustellen
<i>auswerten</i>	Informationen, Daten und Ergebnisse zu einer abschließenden Gesamtaussage zusammenführen
<i>Zu/ einordnen</i>	einen oder mehrere Sachverhalte oder Materialien in einen begründeten Zusammenhang stellen
Level 3	
<i>rekonstruieren/ erzählen/ darstellen</i>	kritisches Darstellen der Vergangenheit in einer selbstständig begründeten Narration unter Verwendung von Quellen, Darstellungen und Kenntnissen
<i>dekonstruieren</i>	kritisches Durchschauen und Durchleuchten einer vorgegeben Erzählung über die Vergangenheit und ihrer Bausteine (u.a. Bewertungen, Erzählstruktur, Fakten)
<i>beurteilen</i>	innerhalb eines Zusammenhanges den Stellenwert von Aussagen, Behauptungen, Urteilen, Vorschlägen etc. bestimmen, um unter Offenlegung der angewandten Kriterien, unter Verwendung von Fachwissen und Fachmethoden zu einem begründeten Sachurteil zu gelangen
<i>bewerten</i>	in kontroversen Fragen zu Aussagen, Behauptungen, Vorschlägen oder Maßnahmen eine persönliche und damit selbstständige, jedoch auch fachlich argumentierte Stellungnahme abgeben und dabei die eigenen Wertmaßstäbe offen legen

<i>erörtern</i>	(nach einer eingehenden Analyse) einen Zusammenhang oder Material (z.B. Darstellungen) durch Pro- und Contra Argumente auf die Stichhaltigkeit hin abwägend überprüfen und daraus eine selbstständige Stellungnahme entwickeln
<i>interpretieren</i>	Sinnzusammenhänge aus Material methodisch reguliert herausarbeiten und eine begründete Stellungnahme formulieren, die aufgrund einer Analyse, Erläuterung und Bewertung erstellt wurde

Table 3: Kühberger's (2011: 17-19) list of *operators*

4. Compatibility of historical competences (FUER) and Dalton-Puffer's CDF construct

4.1 Research on bilingual history didactics

In CLIL didactics, finding a fair and appropriate balance between language and content focus has been a field of power struggle (Dalton-Puffer 2007a: 5-6). In practice, the majority of European CLIL programmes are conceptualised as content subjects taught in a foreign language (Dalton-Puffer, Nikula & Smit 2010: 1). As a result, they mostly follow the curriculum of the content-subject while language teaching, except for vocabulary work, remains implicit (Dalton-Puffer, Nikula & Smit 2010: 1). Interestingly, research on bilingual education has mainly been conducted by linguists, and thus research has primarily focused on language aspects of CLIL (Dafouz, Camacho & Urquia 2014: 225). According to Theis (2010: 44), most of these language educators see great benefits for language learning, which a significant number of empirical studies confirm (e.g. on oral proficiency: Hüttner & Rieder-Bünemann 2010, Mewald 2007; on writing skills: Jexenflicker & Dalton-Puffer 2010, Ruiz de Zarobe 2010, Whittaker, Llinares & McCabe 2011; on lexicon: Seregély 2009; on language development in history education: Llinares & Whittaker 2010, Llinares & Morton 2010). All studies mentioned here assert a positive influence of CLIL education on language acquisition.

As pointed out by Pérez-Cañado (2011: 329-330), content-related studies, on the other hand, have been largely ignored and should therefore be on current and future research agendas. Both Maset (2015: 10) and Heil (2010) agree and explain that language didactics have dominated bilingual history education so far. Many history educators are sceptical and fear that CLIL education leads to a loss of content substance as well as to an overburdening of students and teachers (Heimes 2011: 14). Additionally, it is often feared that using a foreign language might not allow looking at history in sufficiently fine nuances (Badertscher & Bieri 2009: 14). Theis (2010:52-53) further explains that history educators are often not convinced of the surplus value of bilingual education and fear that CLIL education might not cater for the need to support the learners' development of a national, cultural identity. For these

reasons, historians do not seem to be recommending bilingual education, causing a lack of history-related theory background of CLIL history (Lamsfuß-Schenk 2010:213). The observation of the absence of content-related CLIL history research is also confirmed by Badertscher & Bieri (2009: 13) as well as by Heimes (2011: 13). Maset (2015:11-12) also agrees that the theory design behind bilingual content education is not satisfactory, resulting in not properly trained bilingual teachers. Due to this lack of theory, he (2015:21) points out, teacher professionalism suffers.

Yet, the question whether to put the focus more on content or language seems to be slightly misplaced. Content and language learning should be integrated, just like the label CLIL suggests. This is also demanded by Heimes (2011: 14) who calls for language and content integrated research. As argued in chapter 2, language and content cannot be separated and are two sides of the same coin. This should be reflected in CLIL research. According to Theis (2010: 46), there seems to be agreement now that theory must be built on an integration of content and language pedagogy.

Having been neglected for quite some time, the relationship between language and content learning in bilingual education has recently gained more scientific attention. One example is Badertscher & Bieri (2009), who inquired into content learning in CLIL history, geography, and biology settings. The results of their study confirm that learners can indeed acquire and store content knowledge adequately through a foreign language. However, students seem to need both their L1 and L2 to express all they know. This implies that code-switching appears to be an essential part of CLIL education and content processing. Another interdisciplinary empirical study was carried out by Gablasova (2014). In this study, both mainstream and CLIL learners were asked to produce historical definitions. Their output was then compared regarding linguistic accuracy, fluency, academic format appropriateness, and lexical appropriateness. The results showed that the language of assessment significantly affects the outcome, as very often, learners could not correctly transfer their knowledge from L2 to L1.

In both studies described here, the concept of historical knowledge is rather strictly limited to factual, declarative historical knowledge. However, as outlined in the previous chapter, history education is aimed at equipping learners with more than an

accumulation of history facts. Instead, learners should be able and willing to apply their knowledge in the form of history skills. By doing so, learners should develop historical awareness and become responsible and mature citizens. These aims are formulated in the Austrian curriculum and elaborated in the competency model for historical awareness (Kompetenzmodell FUER Geschichtsbewusstsein – see chapter 3). Like many other history competency models, this one also rather overlooks the role of language to acquire skills and knowledge.

So far, there has not been substantial interest in investigating how language learning and history competences in particular go together. One of the few examples is a study by Heimes (2011) in which he examined learner theories about content and foreign language learning. Heimes' study seems to confirm that CLIL history does both support language and content learning as history skills initiate and facilitate psycholinguistic and sociocultural language acquisition processes (2011: 171). In the light of his study, Heimes (2011: 185) argues for a more integrated approach featuring integrated learning aims, competences, and contents. For that, it is vital to stress the role of language for competences, methods, and materials. Another study looking at CLIL history from an integrative point of view is Lackner (2012). In his diploma thesis, he investigates the use of four discourse functions that seem especially crucial for teaching history, namely defining, explaining, describing, and classifying. As already explained in chapter 2, cognitive discourse functions such as these four serve as a zone of convergence between the pedagogies of language and content learning. Put differently, CDFs provide a system of recurring communicative patterns that cater for the learners' need to express their cognitive processes (Dalton-Puffer in press: 4). As such, they are crucial components of all academic discourse, including history. Dielmann (2007: 92) claims that using discourse functions relevant for history positively affects historical thinking as it makes students aware of cognitive operations and their linguistic realisations which again supports competence development. Lackner's (2012) results, though, indicate that the four discourse functions mentioned are not frequently used and often remain incomplete. Instead, classroom talk directed by the teacher predominates, leading to short and elliptic answers on the learners' side. However, the data Lackner used for his study was collected over 13 years ago. At that time, the competency model had not been designed yet and therefore had not been employed in the Austrian Curriculum. As a

result, teaching mainly involved teacher-student-talk and teacher-fronted lectures. Thus, it is not terribly surprising to find only few instances of complete discourse functions realised by the students. Consequently, an investigation with more recent material is needed and the competency model for historical awareness needs to be theoretically analysed with regards to language.

4.2 Functional-linguistic analysis of the four FUER competences

In order to assess the compatibility of Dalton-Puffer's CDF construct and the FUER model, it is necessary to look at the role language plays in the individual competences. All competences and their subskills will be analysed with regard to their connections to language and their possible realisations in the form of CDFs.

4.2.1 Questioning competence and CDF types

As the name of this competence already suggests, learners need to be familiar with interrogative sentence structures. As addressed in chapter 3.4.1, students should be able to CLASSIFY different question types. First of all, learners need to be able to detect these questions. As explicit questions are taught rather early, they should not be too difficult to expose. Yet students need to understand the difference between open and closed questions as they generate different kinds of responses. Implicit or latent questions are more demanding to detect as they are much more hidden and also come in various shapes. This operation requires learners to read between the lines and critically investigate what the starting points of the text at hand are. To be able to this, learners need to read carefully and consider the wider context of the source. After having detected and categorised questions, learners are supposed to discover their communicative purpose. This process involves some degree of speculation and can thus be regarded as an example of the CDF EXPLORE.

According to Fehling (2010: 182), learners should be trained in *Critical Language Awareness*. This means that learners need to understand ideological agendas behind language practices and challenge seemingly natural linguistic understandings by conceptualising them as conventions as well as powerful tools (Fairclough 1992: 7). Put differently, learners need to understand the manipulative potential of language. One aspect of this is to grasp underlying questions (Fehling 2010: 182). This process of finding implicit and latent questions also demands some degree of assessment and

evaluation. Usually, underlying questions are not very obvious and thus, learners need to argue their choice. As a result, learners need to perform instances of the CDF EVALUATE. Moreover, the author's motives for choosing a certain question need to be explained, which constitutes instances of EXPLAIN.

Furthermore, students also need to EVALUATE when asked to formulate questions of their own since they must decide on relevant questions for their purposes. As argued above, the questions that initiate the reconstruction process highly determine and shape the outcome. Learners need to be aware of this and select their questions accordingly. Moreover, deconstruction processes are also determined by the questions guiding this analytical operation. Again, learners need to understand that the questions raised decidedly affect the findings and insights. Having understood these connections, students become aware that sources and narratives are constructs that can never really be objective. As a result, learners become more historically aware of historical principles, such as *particularity* or *selectivity*. With regard to grammatical aspects, students must be capable of actively forming different question types.

4.2.2 *Methodological competence and CDF types*

In the FUER model, re- and deconstruction are considered to be basal operations which are indispensable for the historical thought process. Staschen-Dielmann (2010: 230) agrees that these two procedures are at the heart of history as an academic discipline and adds that they serve as a good interface for integrated content and language learning.

Looking at *deconstruction competence* first, learners need to perform a wide range of analytical tasks. As a first step, the source at hand should be described, specified and categorised, which can be summarised as context analysis or outer source criticism. In other words, students need to say what there is (DESCRIBE), establish the scope and context of the source (DEFINE), and based on these observations, they should decide what source type they are dealing with (CLASSIFY). Moving on to co-text analysis, students need to judge whether the author's argument is stringent (EVALUATE), and they should give an account on the motives and intentions of the author (EXPLAIN). According to Heimes (2011: 125), to deconstruct a text, students need to make out the moral background of a narrative. This task requires them to read between the

lines and to know about ethical standards (EVALUATE). To be able to make justified claims and observations, learners need to take a look at other sources and compare their results (CLASSIFY). Afterwards, they can assess the authenticity and significance of the historical source, which would constitute an instance of EVALUATE. Since the authors or any of their contemporaries cannot be asked, students need to make hypotheses (EXPLORE). Moreover, students might be required to REPORT their results in various forms. Language-wise, learners need an understanding of the functional aspects of grammatical items. This means that they should know what meaning certain grammatical features usually carry. Heimes (2011: 193) states that deconstruction tasks call for a variety of reading skills such as skimming, scanning as well as reading for gist and details. Furthermore, learners need to be familiar with close-reading strategies. Heimes (2011: 65) adds that students should be capable of applying editing techniques, such as note-taking, contextual guessing, marking, or structuring. He (2011: 65) claims that adolescents are usually rudimentarily equipped with these skills on a general level. Yet, Heimes (2011: 65) states that learners need to adjust them for field-specific uses. Maset (2015: 66) argues that disciplinary literacy, i.e. specialised, field-specific reading and writing skills, is crucial to understand the interpretive character of history. According to Reismann (2011: 47, quoted in Maset 2015: 104), historical reading strategies include sourcing, contextualisation, close reading, and corroboration, i.e. comparisons of sources (COMPARE). According to Maset (2015: 76), disciplinary literacy can be best acquired in a setting of 'cognitive apprenticeship', which basically means reflexive and balanced scaffolding. For instance, teachers can help learners to develop historical reading skills by revealing reading strategies of successful history readers, talking about metacognition, using think-aloud data of historians and providing background information of the source at hand to assist the process of sourcing (Maset 2015: 107). Of course, historical sources are not limited to textual sources, but they come in different media. Audio sources, for instance, require a set of listening comprehension skills. Due to the shorter existence of video and audio material, recordings are not that extensively used as historical sources. As a result, there does not seem to be sufficient research on history-related listening skills. Listening to tapes from the past, for instance, might be challenging for students as they are not used to bygone rhetoric styles. On a more general level, though, learners should know how to take notes, listen

for details and use schematic knowledge and contextual clues for comprehension (Hedge 2000: 234).

Insights gained in the process of deconstruction should then be used to construct a historical narrative. As mentioned already, deconstruction of historical sources is a crucial aspect of historical reconstruction since the results of deconstructions are the foundation for reconstructing a narrative. This means that all CDFs important for deconstruction also play a vital role for the development of the *reconstruction competence*. On top of that, learners need to take their results, put them together and set them into a historical context. Dielmann (2007: 88) argues that especially for narration, linguistic representation is the only way to externalise such historical thought processes and thus, discourse functions are a good way to observe this. Maset (2015: 136) agrees that CDFs as interface of subject matter operations and language are valid indicators for historical thought processes.

Taylor and Young (2003: 33) state that one field-specific research skill is the ability to incorporate evidence into a narrative. This task might ask learners to compare (CLASSIFY), to use evidence to show cause and effect relations (EXPLAIN) or to categorise different types of evidence (CLASSIFY). Furthermore, making their own connections between “particles of the past” might call for making hypotheses (EXPLORE). Depending on the audience, students need to decide whether it is necessary to DEFINE terms and concepts. Finally, they should be able to come up with a coherent and cohesive report (REPORT). Looking at language, learners should be able to connect their thoughts and arguments by using deixis, sentence connectors, and other cohesive devices (Taylor and Young 2003: 33). Dielmann (2007: 84) identifies expression of temporal sequences and conditionals as well as building up coherence as areas of struggle for bilingual learners. She (2007: 84) further explains that accessing adequate, historical vocabulary also seems to be challenging. Veel and Coffin (1996: 216-220) took a closer look at the language of historical narration. According to them (1996: 216-217), historical texts are usually lexically dense and frequently contain grammatical metaphors, leading to a more abstract nature of the narrative and making it rather detached from everyday language. Furthermore, learners need to be able to move from personal to institutional agents. As people usually act in groups and historical events are always caused by more than one factor, it is essential for historians to

depersonalise their narratives (Veel and Coffin 1996: 218-219). Veel and Coffin (1996: 220) also stress the importance of having a strong command of tenses and the ability to express causality (EXPLAIN) and temporality (REPORT). Kühberger (2009: 38-39) adds having a command of modality and other forms of hedging to this list, so that students can show that their narrative is only one possible interpretation of a historical event. He (2009: 38) further lists the ability to express uncertainties or coincidences.

Sometimes, these reports need to be written down. Maset (2015: 128-129) states that teaching generic writing and usual components of different genres or text types are vital for students to develop narrative competence. Zydatið (2013: 137) lists a number of language aspects crucial for historical writing. His list includes the ability to apply tenses and backshift them (REPORT, DESCRIBE), to express sequences and synchronies of events (REPORT, COMPARE), historical contingencies (EXPLAIN), conditionals and speculations (EXPLORE), to use indirect speech with a variety of reporting verbs to refer to sources and indicate opinions (REPORT), and to take a stance (EVALUATE).

4.2.3 *Orientation competence and CDF types*

According to linguistic relativism, language determines how we perceive the world. Thus, adding another language to the classroom opens up access to a different interpretation of the world and ourselves (Breidbach 2004: 153). Consequently, it seems that there is a common understanding that bilingual education assists intercultural learning (Hallet 2004: 141). According to Breidbach (2004: 153), access to two languages highlights the relativism of cultures and their perceptions of the world. He (2004: 163) also adds that reflexivity is a determining constituent of bilingual education and not only a by-product. As a result, teaching history in CLIL settings seems to assist developing *orientation competence*. In fact, a number of history educators point out that CLIL history education supports multiperspectivity and raises cultural awareness, which aligns with the demands of this competence. For example, Ziegelwagner (2007: 303) claims that CLIL supports intercultural learning. She (2007: 303) points out that accessing historical sources in at least two different languages from different countries provides more perspectives. As a consequence, a second language facilitates multiperspectivity which again shows learners that

historical narratives are always constructed. Heimes (2011: 189) further explains that using another language and continuously dealing with materials in a foreign language invite students to open up to the cultural and linguistic other. Therefore, CLIL history can promote curiosity and tolerance (Heimes 2011: 190).

Moreover, English as a lingua franca offers plenty of opportunities for learners to get in touch with people from other cultures and to find interesting sources with a different cultural background. Theis (2010: 49), for instance, stresses that the use of English as a world language offers learners access to huge amounts of sources. He (2010: 47) also states that using more than one language might lead to a greater awareness of being European, language-wise and culturally. Yet, he (2010: 54) refers to Badertscher & Bieri (2009: 186) who warn not to set overly ambitious goals for CLIL history, such as peace-keeping, international understanding, and intercultural competence. However, Theis (2010: 54) stresses that bilingual history education is not pointless with regards to intercultural learning since perspectives are still widened.

Another example on multiperspectivity in CLIL history is a study by Lamsfuß-Schenk (2002), which confirms that bilingual students are more ready to take over different perspectives. A more recent study by her (2010: 213-227) suggests that it does not have to be the foreign language per se that helps to take on different perspectives. Instead, using a foreign language often results in deeper elaboration and more conscious examination of the source, helping students to take over other perspectives (Lamsfuß-Schenk 2010: 216). She concludes that bilingual education in history offers a particularly good environment for experiencing alterity and opening up to new perspectives (Lamsfuß-Schenk 2010: 223). In a study by Ziegelwagner (2007: 304), 40% of the teachers interviewed reported that CLIL history assists reducing stereotypes and enhances cultural understanding. However, Maset (2015: 18-19) is more critical towards the influence of CLIL education on multiperspectivity and intercultural learning. He (2010: 19) states that it is too simplified to think that just by adding another language, education becomes automatically culturally aware and multifaceted. Maset (2010: 19) claims that, in fact, the opposite is often the case as contrasting two examples might aid stereotyping because learners assume that the view of this particular source reflects the view of the whole culture.

Yet, this might only be a problem if culture is understood as an essentialist entity. Thus, Hallet (2004: 141) calls for a more fluid and intercultural concept of culture. He therefore refers to Geertz definition of culture (1993), which has been introduced in chapter 3.4.3. Hallet (2004: 143) explains that Geertz based his concept on Hall's and Hansen and Schmidt's theories and understands culture as a construct (Hall 1997) as well as a programme of standardisations (Hansen 2000, Schmidt 2003) which requires a semiotic system for representation. In order to construct and negotiate culture, we need a system of signs. Without this system, which very often is verbal, culture is not accessible (Hallet 2004: 143). As a result, culture can be regarded as a discourse and action sphere, which is neither holistic nor static (Hallet 2004: 143). Moreover, there are also connections to other cultures and thus, culture is fluid and, in fact, intercultural (Hallet 2004: 150). To briefly sum this up, the sub-competence of *other-awareness* seems to be inextricably connected to language. Getting in contact with diachronically or synchronically different perspectives might require learners to DESCRIBE the differences and CLASSIFY them. New insights from other perspectives can also make them see relations of cause and effect (EXPLAIN). Furthermore, taking over perspectives can be regarded as a hypothetical operation since we can only imagine what other people feel and think. Hence, EXPLORE is a central CDF for this sub-competence. Very often, learners might be asked to compare these alien perspectives to their own cultural values (CLASSIFY). Also, these new insights might lead to taking a personal stance towards a historical issue (EVALUATE).

Identity development is also considered as a sub-competence of the *orientation competence*. Heimes (2011: 81) inquired into the relation between language and identity and referred to several theoretical models that show the effects of language learning with all its cultural, social, and historical implications on the identity of the learner. Examples include Schumann's *Acculturation Model* (1978), the *Intergroup Model* by Giles and Byrne (1982), or Gardner's *Socio-Educational Model* (1979). Heimes (2011: 81) reports that these models have been widely criticised for being too essentialist and static and names Cook (1996) and Hall, J. (1996) as main critics. Heimes (2011: 81) further explains that in the 1990s, the image of a closed language learner identity was revised towards a fragmented, multi-layered, dynamic and partly contradicting identity construct of language learners and refers to Miller (2003), Norton (2000), Hall, J. (1995), and Lin (2004) amongst others. Heimes argues (2011:

82-83) that being a bilingual history student adds to this multi-layered identity construct. According to this concept of language learner identity, language use highly affects identity. As a result, all CDFs that involve a high degree of personal stance and opinion can be regarded as an influence on the development of *identity*. Here, the prime candidate CDF certainly is EVALUATE. Opinions students give on any historical issues reflect their historical identity and in the course of time, new insights from re- and deconstruction might lead to revising their assumptions on their own identity. Another aspect of identity development also has to do with exploring and reflecting on their current historical identity. As historical identity is not something concrete, learners need to hypothesise about it (EXPLORE). Wildhage (2003: 80) argues that taking over different perspective sharpens the view on one's own culture and identity, and it makes one see their peculiarities. This process is based on comparability (Wildhage 2003: 80), constituting an instance of the CDF CLASSIFY.

Looking at the ability to reorganise one's historical awareness, learners are asked to EVALUATE their newly gained insights and decide in how far they change their historical awareness. Again, reflections on their historical awareness are abstract processes as it demands students to EXPLORE their own assumptions about historical developments. This sub-competence also includes understanding how something has evolved historically and how present states are affected by that. For this reason, learners should be able to EXPLAIN why certain events happened as they did. Coming back to intercultural learning, this would constitute a process of diachronic cultural understanding. Heimes (2011: 190) argues that using historical sources of other cultures in other languages helps students understand better how certain attitudes have developed historically. He (2011: 190) asserts that educating learners bilingually significantly supports the development of this orientation sub-competence since CLIL history education is much more multi-layered and qualitatively different than monolingual education. Diachronic investigations to understand the present also include comparison tasks (CLASSIFY). Comparing 'then' and 'now' might lead to new insights that alter one's historical awareness.

As for the last sub-competence, namely development of *tools*, there does not seem to be any linguistic investigations so far. Concerning CDFs, EVALUATE again appears to be the most prominent one since the main purpose of developing *tools* is to assess in

what ways historical actions can be useful for present or future problems. To be able to evaluate historical practices, students might first need to DESCRIBE and CLASSIFY them. Students could also be asked to think of possible future uses of certain strategies. As this is hypothetical thinking, this would constitute an instance of EXPLORE.

4.2.4 *Historical expertise* and CDF types

The connection between *historical expertise* and language seems to be quite obvious since it is concerned with understanding and systematising historical terms and concepts. Being able to actively and appropriately use, store and connect historical vocabulary is at the heart of this competence. Thus, the CDFs DEFINE, DESCRIBE and CLASSIFY appear to be the most crucial ones for this competence.

For all the different tasks and competences mentioned in this chapter, students need a rich repertoire of general academic vocabulary as well as field-specific jargon. Therefore, Wildhage (2003: 102-103) calls for transparent lexicon work, which should consider different categories, such as technical vocabulary, transferable lexical items, and lexical fields for historical-political discourse. Active work on one's lexicon might involve operations of DEFINE, CLASSIFY, and DESCRIBE. According to Maset (2015: 75), historical thinking can only happen if students are familiar with a number of field-specific concepts, such as "source" or "representation". Other instances of field-specific concepts that should be understood in order to become historically aware are historical principles like *particularity*, *selectivity*, *constructionism*, or *partiality*. Taylor and Young (2003: 33) also mention historical concepts like causation and motivation, which are vital for the CDF EXPLAIN.

As already stated, Maset (2015: 34) stresses the importance of disciplinary literacy. In the context of *historical expertise*, this means that learners should be able to use decontextualized jargon of the respective field (Maset 2015: 34). He (2015: 34) considers this to be a cultural technique that has to be acquired to socialise learners in the field. This requires cognitive operations, which brings us back to CDFs. Hence, one aspect of *historical expertise* is to know which kind of cognitive operations are relevant for history as well as what process certain *operators* entail. This knowledge of scripts is basically what *structuring competence* is about.

While it might seem that an additional language is an obstacle to understand terms and concepts, Badertscher and Bieri's study (2009: 190) actually shows that using two languages results in deeper processing and thus long-time storage due to longer and more extensive negotiations of meaning. For instance, some terms that would be overlooked in L1 history education, might be defined in CLIL lessons (DEFINE). According to Badertscher and Bieri (2009: 186), to ensure deep and lasting processing of field-specific knowledge, code-switching seems to be a good tool. Heimes (2011: 78-79) agrees and also states that code-switching is important for *historical expertise*. In his study, many students interviewed claimed that being able to code-switch helped them to understand terms and concepts better, make out connections between them and anchor their meaning more effectively (Heimes 2011: 153).

Briefly reintroducing the topic of *Critical Language Awareness*, using two languages can help learners to understand terms and concepts better as they can view them from two angles and thus, comprehend their ideological implications (Fehling 2010: 192). Ziegelwagner (2007: 303-305) also asserts that having two languages available can trigger further historical insights. Comparing translations supports students in engaging with terminology more critically (CLASSIFY). In many cases, deviating translations reveal differences in ideology or cultural understanding. To prove this point, Ziegelwagner (2007:305) provides examples such as *Völkerwanderung* - *Barbarian invasion* or *Gleichschaltung* - *Nazification*. While the German words without context would both imply a rather positive meaning, the English version exposes the negative connotations much more openly. Deconstructing these agendas behind words requires some degree of critical evaluation (EVALUATE). Furthermore, Wildhage (2003: 80) adds that not needing translations of historical records allows a more direct access to the source.

One aspect of *historical expertise* is also knowing the difference between historical terminology and everyday vocabulary. In some cases, one word exists in both of these categories with different meanings. For instance, in history, "source" refers to historical artefacts that carry information about the past while in everyday understanding, it can mean origin or informant. Of course, these meanings are related, yet in history as a science this word should trigger concepts of primary, secondary, or

tertiary sources. Furthermore, learners should be aware of possible diachronic semantic changes. For instance, “tyranny” in Ancient Greece was a legitimate form of government which did not have to be necessarily negative while today, “tyranny” is exclusively negatively connoted. History students should realise these differences and compare them (CLASSIFY). Moreover, they might be asked to DESCRIBE etymological changes and EXPLAIN why they happened.

4.3. Overview: Competences and CDFs

The following table shows which CDFs seem to be prominent for the individual competences. As competences are not yet connected to concrete tasks and content, assigning CDFs to competences is not straight forward but a rather hypothetical process. Nevertheless, the most fitting categories have been chosen. REPORT, although not explicitly mentioned for each competence in this chapter, is ticked for all competences simply because students might be asked to report their results of all of competency-related tasks.

As can be seen in table 4, all competences theoretically require a wide range of different CDF types. Moreover, in the analysis, all seven CDF types appear multiple times, indicating that Dalton-Puffer’s CDF construct is indeed compatible with the FUER competency model. This further suggests that teaching the FUER competences is inextricably linked to language learning and particularly to the development and acquisition of CDFs.

	<i>questioning competence</i>	<i>methodological competence</i>		<i>orientation competence</i>				<i>historical expertise</i>
		<i>re-c.</i>	<i>de-c.</i>	<i>other-.a.</i>	<i>ident.</i>	<i>re-o.</i>	<i>tools</i>	
CLASSIFY	✓	✓	✓	✓	✓	✓	✓	✓
DEFINE		✓	✓					✓
DESCRIBE		✓	✓	✓			✓	✓
EVALUATE	✓	✓	✓	✓	✓	✓	✓	✓
EXPLAIN	✓	✓	✓	✓		✓		✓
EXPLORE	✓	✓	✓	✓	✓	✓	✓	
REPORT	✓	✓	✓	✓	✓	✓	✓	✓

Table 4: overview competences & CDFs

5. Study design

5.1 Research questions

Having established the theoretical background of both the CDF construct as well as the FUER model, we can now investigate how these two frameworks are linked in actual classroom situations. Therefore, the main research question of this analysis is:

How are the historical competences of the FUER model and Dalton-Puffer's CDF types interrelated in the lessons observed as well as in testing situations?

To be able to provide a well-grounded conclusion to this inquiry, a set of sub-questions need to be addressed first:

- I. How frequently do students make use of the individual CDFs during the lessons?
- II. In how far are students able to appropriately apply CDFs in a testing situation?
- III. How are the individual CDFs usually realised in terms of lexico-grammar?
- IV. Which CDF types tend to be used to work on each of the FUER competences?
- V. Do lower and upper secondary students differ in their CDF use for competency-based tasks?

Attending to these questions should facilitate an in-depth evaluation of the compatibility of the CDF construct and the FUER model. This evaluation should provide valuable insights into the acquisition process of content knowledge and its relation to academic language functions. Questions I-III will be covered in chapter 6.1 – *CDFs in practice*. As for lexico-grammatical aspects, a full account cannot be delivered since this would exceed the scope of this thesis. However, most apparent and noteworthy aspects of the examples provided will be discussed, resulting in an impressionistic overview. In chapter 6.2 the individual FUER competences will be investigated in terms of CDF patterns (question IV). Finally, in chapter 6.3, possible differences between lower and upper secondary CLIL learners will be examined (question V).

5.2 Research context

In order to answer these questions, a qualitative empirical approach consisting of lesson observations as well as competency-based written tests has been employed. The lessons observed and filmed took place in two different Viennese schools. Both of these schools offer CLIL as an extra branch that students can choose on a voluntary basis. School A is an academic middle and high school and is also part of the Viennese Bilingual School programme, which means that the so-called DLP (Dual Language Programme) students are offered two to three CLIL subjects each year. The 25 learners for this study were in 7th grade, lower secondary. So most students were 12 or 13 years of age and had completed at least two and half years of CLIL education as well as the usual standard English lessons. Some of these students come from a bilingual background, using English or languages other than German at home. History is taught at least once a week mainly in English and is accompanied by a native speaker teacher. The native speaker teacher is an American graduate who moved to Austria just shortly before the research project. His main task was to encourage the students to speak in the target language. He provided some historical input but his area of responsibility was rather restricted to language related issues, such as pronunciation, spelling, vocabulary, and fluency. The second history lesson of the week was usually taught in German without the native speaker teacher. However, the content teacher, who is also an English teacher, switches languages as she sees appropriate for the topic and task at hand. The content teacher of this class has started her teaching career six years prior to the project. She also completed a training course on CLIL and DLP at the teacher training college. Moreover, she attended a summer course on bilingual education in Exeter. During the CLIL lessons, she mainly functions as content teacher. Yet, she sometimes brings in her knowledge on language as well. In general, the CLIL lessons of this class are conceptualised as “teaching history in English”, with some explicit language related sequences from time to time. These sequences on language use are usually concerned with vocabulary, pronunciation, and spelling.

School B is a private academic middle and high school which offers so-called “Europaklassen” (*Europe classes*). Apart from having an extra focus on European politics and economy, this branch is part of DLP as well. As such, the students have

two to three CLIL lessons in various subjects per week which are often supported by a native speaker teacher. Moreover, they learn a third foreign language from year three onwards and they also have the possibility to participate in at least two language travel trips during their school career. The students participating in this study were in 10th grade, 15 to 16 years old and most of them had completed over five years of CLIL education. Some of the 17 students use other L1s than German at home, including English as well. The history lessons are taught by a history and geography teacher and once a week, a British native speaker teacher joins the lessons. The native speaker teacher has been working in the field for many years and teaches a variety of CLIL subjects full-time. The content teacher has started teaching full-time in 2011. He attended a one-year CLIL course at the teacher training college and almost all of his lessons are CLIL lessons, both in history and geography. As he does not have a language pedagogy background, the native speaker takes up most of the language related topics. She frequently points out issues on vocabulary, pronunciation, grammar, spelling, and style. Both of the teachers also seem to address CDF use, such as defining or explaining. Generally, the two teachers work collaboratively as a team. Although the focus is definitely on history pedagogy, the teachers consider linguistic aspects of both L2 and L1.

Finally, it should be mentioned that the participants of this study consist of students that opted for CLIL programmes. Therefore, it can be assumed that their linguistic aptitude as well as their motivation is quite high and support on their families' side is likely. Due to these limitations, quantitative results are not exceedingly representative for the typical L2 learner. However, in Austria as well as in many other countries, CLIL usually happens on a voluntary basis (Eurydice 2005: 7). Hence, the results of this study can be regarded as representative for CLIL L2 learners to some extent.

5.3 Design of the study and research process

In each of the schools, four lessons about the Industrial Revolution were filmed, recorded and partly transcribed. In school A, the teacher set up a web-based research project. After a short introduction, the learners formed groups and were asked to elaborate either a short slide presentation or a text document about one aspect of children in the Industrial Revolution. Instead of presenting their results in class, the

learners uploaded them to Moodle, where they should read their peers' results and comment on them. As input, the teachers provided links to the BBC website on Victorian Britain (BBC 2014). In school B, the class first discussed definitions and terminology related to the Industrial Revolution. In the next lesson, the students formed groups of four. Each group had a different task or question and different secondary sources. They then had to prepare a poster which was later used for presentations in small groups. In the next two lessons, the students were given a task sheet and a link to a presentation by International School History (2014). In pairs, they had to complete the tasks using information provided by this online presentation. In the last lesson of this unit, they compared their results in class.

One week after the last lessons of these units took place, the students were tested on the content covered. These written tests should determine whether learners are indeed capable of acquiring content knowledge and subject-related skills in a CLIL setting using CDFs. As explained in the introduction, in Austria, content knowledge and history skills are defined by the competency-based model *FUER Geschichtsbewusstsein*. Therefore, the tasks selected for these written exams were designed according to the four FUER competences. As already stated, these competences also form the basis of the Austrian curriculum for history education and thus, they are reflected in standardised history testing. Publications produced for in-service history teachers served as a guideline during the design process of the test items (cf. bmbf 2011; Ammerer & Windischbauer 2011). In these material packages and blueprint exams, visual or textual historical sources are usually taken as a starting point for several tasks.

Based on these guidelines, the tests used for this study are structured into two parts: part A comprises a task cluster with visual sources while part B contains several test items on textual sources. The lower secondary test features two pictures depicting one poor and one rich Victorian family. The students were asked to DESCRIBE and compare these pictures (CLASSIFY). Furthermore, they were supposed to argue in how far these pictures characterise typical Victorian families (DEFINE). As a third task the students were asked to EXPLORE possible motives of the artist (EXPLAIN). In task B, the learners were presented a quote by a child worker. With the help of this quote, the students should DESCRIBE the working conditions of children at the time of the

Industrial Revolution. They were also supposed to give reasons of child labour (EXPLAIN) and compare past and present child labour (CLASSIFY). As a fourth task, they were asked to formulate a question they would like to ask the author of the quote, representing a realisation of the questioning competence (EXPLORE).

For the upper secondary test, a caricature about the exploitative nature of the Industrial Revolution has been chosen. Again, the students were asked to DESCRIBE the cartoon and EXPLAIN its connections to the Industrial Revolution. Additionally, they were asked to reflect on the artist's intentions (EXPLORE, EXPLAIN). Finally, they were required to assess the contemporary relevance of the cartoon (EVALUATE). As textual source, two quotes describing living and housing conditions during the Industrial Revolution have been selected. In the test, the learners were asked to REPORT these quotes in their own words and use these insights to outline living conditions in 19th century Britain. Another item was concerned with reasons for these conditions (EXPLAIN). Moreover, the students were asked to formulate two questions they would need to ask to be able to reliably assess the authenticity of the quotes. As a last task, the students were required to EVALUATE the authenticity of these quotes based on their knowledge on living conditions in 19th century Britain.

The following are two sample items used for this study:

- a. Explain why children had to work in the time of the Industrial Revolution.
- b. Argue whether (or in which ways) this cartoon is still relevant in the 21st century.

As can be seen, the test items usually contain one *operator*. They are intended to be precise and aim for specific competences and CDF types. Item (a), for instance, should evoke realisations of EXPLAIN and *reconstruction competence* while item (b) targets EVALUATE and *orientation competence*. However, sometimes, items allow for more than one competence (c) or CDF type (d):

- c. Formulate two questions you would need to ask to be able to reliably assess the authenticity of these quotes.
- d. Discuss the artist's intentions for producing this cartoon.

In item (c), *questioning* as well as *deconstruction competence* are addressed. Concerning CDFs, EVALUATE seems to be the most suitable type. Item (d) is concerned with hypothesising about personal motives, which would constitute examples of both EXPLAIN and EXPLORE. The complete tests can be found in the appendix, section C.

Although all CDFs and all competences are featured in the two tests, the test design does not give the same amount of attention to each individual competence and CDF type. Considering both the lessons' content as well as the format of standardised history testing and observing a twenty-minute time limit made it impossible to provide equal space for each competence and each CDF. As a consequence, a quantitative analysis might not lead to extremely conclusive results, which is also enhanced by the rather small number of samples. Keeping the circumstances of this study in mind, some quantitative aspects especially related to frequency and correlations of competences and CDF types are still worth investigating. Yet, the focus of this analysis definitely lies on the qualitative evaluation of the data collected for this study.

5.4 Data analysis

The recordings of these eight lessons, including group work sessions, were partly transcribed. As these lessons provided a rather huge amount of data, only those parts indicating CDF use were transcribed. It should be noted that only the parts clearly not featuring any CDF realisations were omitted, such as conversations that were not concerned with historical content in any way. Especially, student talk during pair and group work phases displayed quite extensive sequences lacking CDF use and thus, group work sequences are only partly transcribed. Furthermore, decoding sound recordings of group work proved difficult since the noise level was quite high in these settings. Teacher-guided talk, on the other hand, usually indicated CDF use and thus, these sequences were transcribed more comprehensively.

After the relevant sequences were transcribed, the CDF realisations were identified and entered into a spreadsheet with the seven CDF types as categories. In the case of the lower secondary class, written texts were also analysed and integrated into the spreadsheet. As a next step, these samples were investigated in terms of historical competences. In the spreadsheet, each historical competence was assigned a colour. For instance, *reconstruction competence* is marked in orange while *deconstruction competence* is marked in yellow. The same process was applied to the transcripts of the written tests. Each data category, i.e. lessons school A, tests school A, lessons school B, and tests school B, has their own spreadsheet. The following extract from a spreadsheet illustrates the data-handling:

DESCRIBE	EVALUATE	EXPLAIN	EXPLORE
There is a "pull man" who crushes an employee in a press which symbolises the pressure of low wages, wage slavery, plutocracy, capitalism, monopoly and a high rent	There are still people who can't afford the rent because of their low wages. Luckily, we have the "Mindestlohn" which helps to keep a certain level of wage.	After the high peak, the urban working class were caught between the low wages and the high rent by the capitalists. They became very poor.	There is a "pull man who crushes an employee in a press which symbolises the pressure of low wages, wage slavery, plutocracy, capitalism, monopoly and a high rent
the housing was poorly, there were many houses badly build in a short period of time --> damp, cold, no sanitations (<i>report element</i>)	Is it a first hand source? Where does the source come from? Where was the house he refers to? In a city or rural areas?	rural exodus occurred --> more houses were needed in a short period of time	It shows the causes of the industrial revolution

Figure 5: spreadsheet extract, tests school B

Finally, the samples were analysed in terms of language use and further potential overlaps between discourse functions and competences.

6. Empirical Analysis: Competences in CLIL practice

In this chapter, the following research questions will be covered:

- I. How frequently do students make use of the individual CDFs during the lessons?
- II. In how far are students able to appropriately apply CDFs in a testing situation?
- III. How are the individual CDFs usually realised in terms of lexico-grammar?

6.1 CDFs in practice

In total, 698 CDFs were identified in the data. Almost two-thirds of the CDF tokens were found in the upper secondary context. As for the difference on testing vs. lessons, 58% of all CDFs were produced during the test. The most frequent CDF type by far is DESCRIBE with 193 tokens, followed by EXPLAIN (112) and EVALUATE (100). The remaining CDF types lie close together between 50 and 80 tokens each. A more detailed quantitative overview follows after the qualitative analysis of the individual CDF types (chapter 6.1.8).

6.1.1 CLASSIFY

As mentioned previously, the CDF CLASSIFY can be used to describe tasks that are concerned with the structure and the organisation of subject matter in a specific field. It is about finding patterns, similarities as well as significant differences in order to split something into categories.

A) Lessons

In the four lessons of the lower secondary group, hardly any instances of CLASSIFY could be detected. Students produced only three examples of this CDF type and all of them are basically comparisons. In one case, the comparison was very explicit, using the phrase *the only difference is*. In the other two examples, the students only juxtaposed descriptions of poor and rich children during the time of the Industrial Revolution without any linking of the two socio-economic categories.

In the upper secondary class, CLASSIFY appears to occur much more frequently and in various forms and functions. The most extensive example is a sequence during the

group work phase when one group should reorganise nine reasons of Britain's early industrialisation into only five categories:

Ex.1:

- 1 S1: ok. Britain. first geography. ok. small country. rivers. mineral deposits, few huge natural objects
[...]
- 2 S3: no more than 5?
- 3 S1: so we have 2 of those **so we take** diversity and geography and **put those together**
- 4 S2: xx we can also **mention climate** and
- 5 S3: the climate yeah [...]
- 6 S3: ehm maybe an earlier economic development and overseas trade and advantage of the empire
- 7 S1: jah, I guess **cause** advances in the trade and and industry ehm Britain had a healthy lead over European competitors and overseas trade ok yeah [...]
- 8 S1: ok role of government. I guess role of government and Britain as an inventive society
S3: em ehm I'd say that ehm inventive society and open society like **as one point**
- 9 S1: yeah
- 10 S3: **{are kind of similar}**
- 11 S1: ok so we have 3
- 12 S1: Britain's advantage as a protestant country. should we **put 4 to** society too? [...]
- 13 S1: right? **because** it says more people in society mean more opportunities for production
- 14 S1: yeah **government as the fifth one** I guess and protestant country **because** protestant is
- 15 S3 {I think religion
- 16 S1: **because** religion is kind of government too right? [...]
- 17 S1: what do you say to that? **putting** government in protestant country **together because** it's kind of **both** political
- 18 S3: or church has a lot of power **too** and we could also ehm as population growth to xx society and make two [...]
- 19 S1: **put this to** society is what I've said before **add this** this to society and **put these together**

In this task, the students try to find similarities as well as distinctive differences in order to subsume these nine reasons into only five. Most of the time, they just name the factors and state that they would like to put them together (line 3, 4, 8, 10, 12, 14, and 19). To express this, they usually say something like *put these together* or they even just name the two factors without even using a verb (6). In some cases, they also give reasons why they think these aspects could be regarded as one category other than just being *similar*. Examples for this can be found in line 7, 13, 16, 17, and 18.

Another example of CLASSIFY can be found in an episode of whole-group teacher-student-talk during the first lesson. Here, they discuss the categorisation of different historical source types after watching a video:

Ex. 2:

- 1 S1: ok very short but informative. first question: competency-based question: what kind of sources did they use for producing this documentary. what type of sources?
- 2 S1: primary sources.
- 3 T1: ja but we had also some primary sources but we have ah another ehm distinction between the sources.
- 4 S2: objective
- 5 T1: objective sources, ja!
- 6 S3: it's ehm to say that there's like ehm written sources.
- 7 T1: written sources ja
- 8 S3: and oral sources
- 9 T1: and oral sources. what type of sources did we find in this x?
- 10 T2: ja, give examples of what you found in this documentary. S4?
- 11 S4: for example the written source of the ah diary of the little girl
- 12 T1: jah or oral in this case it's exactly a mixture between two both of x jah I agree with you jah. other sources? there are a lot of them. X
- 13 S5: the machines
- 14 T1: but how did we see these machines? they were on? on?
- 15 S6: objective sources
- 16 T1: what kind?
- 17 S5: well, on photographs.
- 18 T1: photographs, or?
- 19 Sx: paintings ja ehm and also some original video broadcast material.

In this example, the categorisation process is very much guided by the two teachers. Learners, on the other hand, just throw in different types of sources. Only S3 names two different categories that are binary classifications. The others mainly provide examples of one source type (line 11, 13, 17, and 19) or they just name categories (line 2, 4, and 15). Either way, they do not seem to use any linguistic markers tied to the CDF CLASSIFY.

Other instances of CLASSIFY were about the comparison of the term Industrial Revolution to the core definition of revolution. In total, there were three of these sequences. In all of them, CLASSIFY was not the only relevant CDF type. First of all, as the learners were comparing definitions, DEFINE was also dominant in these samples. Secondly, on grounds of these comparisons, learners were supposed to EVALUATE a statement, namely *the Industrial Revolution was much more than a revolution in history*. In other words, comparisons to the core definition of revolution and other significant historical revolts were used to EVALUATE the appropriateness of this statement. Moreover, CLASSIFY was often paired with DESCRIBE. For instance, the students used descriptions to make out differences between past and current housing conditions.

Ex. 3:

- 1 S1: ahm there **nowadays** they are built relatively well ahm we have a canal system and we have a feet isolation and bedrooms
- 2 T2: mhm. mhm. any anybody anything else? S1? S1?
- 3 S1 **today** there's quite a lot of planning put into the houses that are built
- 4 T2: mhm
- 5 S1: ahm **in comparison** to the old houses and it's cleaner cleaner **now** and there is also a foundations for the house.
- 6 T2: {ja foundation

Here, we also have some explicit discourse markers to compare different times, such as *in comparison* (5) as well as temporal adverbs like *nowadays*, *today*, and *now* (1, 3, and 5). Furthermore, S1 uses adjectives in their comparative form (5).

In total, 25 sequences containing instances of CLASSIFY could be identified in the data of the lessons. Many of them are combined with other CDFs like DESCRIBE, EVALUATE, or DEFINE. In general, learners seem to be reluctant to employ distinctive linguistic phrases, indicating categorisations or comparisons.

B) Tests

The lower secondary students had to complete two tasks involving CLASSIFY for their test. In task A.1, the learners were asked to compare two illustrations of poor and rich Victorian families. Most learners decided to individually DESCRIBE these two pictures without actually comparing them, i.e. making references to the other example or explaining why they categorised a family as part of the working or upper class, respectively. Many students produced answers resembling the following example:

Ex. 4: left picture shows poor familie in Industrial Revolution and other one shows rich familie in Industrial Revolution.

In 18 out of 25 tests, similar answers comprising only descriptions can be found. Some students described in more detail than others. Yet, either way, they did not set the two pictures in relation. The remaining seven students managed to draw some comparisons as the following example illustrates:

Ex. 5: In **both** pictures there are the homes of children **but whereas** on the picture A there are lots of children in picture B I only see two. Also the bigger family has **less** room **than** the other and they live in an old small house **but** the others have got a villa.

First of all, this student refers to a bigger and shared category (*In both pictures there are the homes of children*). Then, he succeeds in linking his descriptions and in emphasising differences between the social categories (i.e. rich and poor). He uses contrasting linking devices such as *but* and *whereas* as well as grammatical structures of comparison (*less...than*). The structure of his answer very much looks like a typical

classification, having a shared super-category (family) and two sub-categories (rich and poor families). Other expressions used were *on the other hand*, *while*, *as opposed to*, *the biggest difference*, or *compared to*. The students employing these expressions generally managed to contrast the two categories and to use appropriate syntactical structures.

In task B.4, the learners had to compare child labour at the time of the Industrial Revolution to child labour in the 21st century. By comparing, most of the learners evaluated in some way whether child labour in these two epochs could be considered one category or two distinct ones, based on their differences or similarities. Of course, the learners came to different conclusions, yet most of them (19 out of 22 English answers) managed to either connect and/or contrast the two timeframes. They used temporal adverbs such as *now* or *back then*, words like *difference*, *the same* or *still*, and syntactical constructions indicating contrast (*not as... as*, *not so*, *more than*, *worse than*).

In the following example, one student argues that child labour now and then is basically the same, which means that the temporal difference is not crucial enough to split it into two categories:

Ex. 6: **In the time of** Industrial Revolution children had to work long hours and did not get a lot of money that hasn't really changed **by now**. Jobs also have not changed a lot. Children **still** have to work in mines. **Today** we find a lot of child labor in Asia and Africa.

In this example, the similarities are emphasised while some specifications of today's child labour are also described. In contrast, the next example shows one student stressing the difference of past and current child labour:

Ex. 7: **Back** in the Industrial revolution child labour was common in Europe **now** it is **more** common in the developing world. The jobs were **also rather different** often in the Industrial Revolution. Children cleaned guns with their fingers or they were used to climb into machines and fix them they also worked in mines. **Now** children work mostly in carpet factories or in the mines. Many children in waring countries are employed by the military, the have to walk across suspected mine fields.

This learner uses descriptions to contrast child labour now and then. He links these descriptions by using temporal adverbs as well as phrases indicating difference, such as *more* or *different*.

Again, it seems that CLASSIFY often co-occurs with other CDF types such as DESCRIBE or EVALUATE. However, it appears that learners are more capable of diachronic than

synchronic, socio-economic classifications. This might stem from the fact that comparisons of different times is central to history education. Yet, the reason for this imbalance could also lie in the structure of the tasks. While B.4 (past and current child labour) exclusively asks for comparisons, A.1 (poor and rich Victorian families) requests descriptions as well. Thus, students might have just assumed that by describing, they automatically compare as well.

In the upper secondary test, no CLASSIFY-related tasks were included.

6.1.2 DEFINE

The CDF DEFINE is about presenting determinative features and the extension of an object or a concept.

A) Lessons

In school A, only four tokens of DEFINE could be identified. Considering that many linguists regard this CDF type as a very obvious and central type (e.g. Kidd 1996: 294; Dalton-Puffer in press: 8; Beacco 2010:21-22, and Vollmer 2010: 23), the numbers of DEFINE tokens are surprisingly low in this data set. Yet, other quantitative analyses of CDF use have shown similarly low numbers of this CDF type (cf. Lackner 2012, Kröss 2014, Hofmann & Hopf 2015). Three of the four instances of DEFINE could be found in written presentations and are concerned with special terminology related to child labour during the Industrial Revolution:

Ex. 8: The children that pushed the carts with coal where called putters. The kids called trappers had to sit in the dark all day with only one candle and no person to talk to and had to open the wooden doors every now and then to let fresh air in.

In this example, the student provides terms used to describe different jobs associated with Victorian child labour. These are basically job descriptions, which suggests a link between DEFINE and DESCRIBE.

In the upper secondary school, DEFINE was used much more frequently. In fact, most of the first upper secondary lesson was dedicated to DEFINE essential terminology, such as *industrial*, *manufactory*, or *revolution*. However, to be able to reach a valid definition, they needed to DESCRIBE, EXPLAIN, or CLASSIFY. In order to come up with a good definition of industrialisation including all relevant keywords, the teachers also decided to do a comparison of pre- and post-industrialisation (CLASSIFY). In the course of this activity, the students were supposed to DESCRIBE the different means of

production to understand the process of industrialisation. In other words, the teachers used CLASSIFY and DESCRIBE as pre-tasks for DEFINE, as can be seen in example 9:

T2: production. mass production I would put over here. and of course as opposed to mass production here (*pointing at pre*) it's in a very small scale. [...] we had over here the opposite of manual labour. we used it if it's not manual it's what?

S3: with machinery

T2: jah! machine

Sx: production

T2: jah, let's have machine-based manufacture manufactory. machine-based manufactory. ehm ok. what else what else do you connect with pre-industrial revolution. how would you describe the way things were produced. we said manual labour. what else?

S3: also they worked with people ehm before the industrial revolution they ehm ehm worked on the country-side ehm X during the industrial revolution they enter into the city to work in factories.

In addition, on multiple occasions, the students thought they would deliver a definition, but in fact, they were explaining cause-effect relations as illustrated by the following example:

Ex. 10:

- 1 S4: so we said that eh in... industrial **means** that there is a higher efficiency in the productivity than there used to be x
- 2 T2: ok. yeah.
- 3 S4: so that
- 4 T2: I would say that **that's a consequence of industrialisation**
- 5 S4: yeah
- 6 T2: that's not but it's not a definition. it leads to more higher productivity, higher efficiency yeah. but what is industrialisation itself?
- 7 S4: so that more and more machines are invented and that machines can be used instead of people and that makes it actually more efficient.
- 8 T1: jah, very good.

The native speaker teacher here explicitly clarifies that S4's first answer is less of a definition and more of an explanation. In general, meta-talk about language functions does not seem to be uncommon in the team teaching of the two teachers. In the next example, the student delivers a definition but he does not explicitly state that this is a definition, which is pointed out by the teacher:

Ex. 11:

- 1 T2: ok – definitions. what is industrial revolution, S13?
- 2 S13: ehm it's the total change of economics and social order starting in 1760 in England by the replacement of manual production
- 3 T1: ja
- 4 S13: by the steam machine
- 5 T2: that's it.
- 6 T1: {ok. [...]}
- 7 T1: first of all, when we start to define a historical epoch we use what first of all the?

8 S14: the industrial revolution
9 T1: ja

It appears like they have already established appropriate formulations for definitions (line 7). As for the definition itself, this student is able to come up with a suitable and complete definition. In general, these students seem to be quite in control of DEFINE. In these four lessons, 13 instances of DEFINE can be regarded as valid and complete definitions, such as the following:

Ex. 12: DEFINE cultural consequences

S8: it refers to the intellectual and spiritual way in which people's lives were transformed, for example the view of the world and what they expected from it.

Here, the student elaborates on the term *cultural consequences* in a very formal style, using appropriate vocabulary and nominalised expressions. Furthermore, she provides an example to illustrate her explanation of the term.

In six cases, the learners' definitions could be considered as partial definitions, providing only parts of the relevant information. Most often though, learners just threw in synonyms or named a term fitting to the teachers' definitions:

Ex. 13:

T1: xx there is a geographic key term we also can use as historians. this is called the rural when people are migrating from rural areas to cities how can we call it?

Sxf: rural exodus

T1: very good. rural exodus.

To sum up, DEFINE seems to be a frequent CDF with older learners. In total, 41 sequences involving DEFINE could be identified. In about half of the cases, learners actively constructed definitions, varying in completeness and extent. As typical for definitions, learners mostly used present tense and some phrases associated with defining, such as *refers to*, *is called*, *define x as*, or simply copulas. The other half of the DEFINE realisations rather resembled tasks like naming or labelling.

B) Tests

The tests conducted for this study do not feature explicit test items on DEFINE. The sources used for these competency-oriented tests do not proffer themselves for the production of definitions as they do not contain elements that would have made sense for these learners to define. However, in both tests, DEFINE-related tasks can be found.

In the lower secondary test, the students were asked to characterise typical poor and rich Victorian families by referring to the two pictures. However, most learners only provided physical descriptions of the pictures and did not discuss their prototypical character. Even though many of their descriptions were rich in detail, the learners did not use their descriptions to characterise a typical Victorian rich or poor family.

Ex. 14: The poor Family: to many people in one room everybody has got very "simple" clothes on. Everybody is miserable and some people are just lying around. Everything is stuffed up in one room and there isn't enough space. The rich family: everybody has a lot of room, everybody has got expensive clothes. everybody is having a good time, there are a few pictures on the wall.

Here, the student nicely describes the two pictures but fails to explain in how far these descriptions exemplify a typical Victorian family. Only 4 out of 24 managed to at least partly disclose the connection between the illustrations and the characteristics of Victorian family life:

Ex. 15: the picture on the left is a typical poor family because the kids don't wear many clothes. It is a very dingy house. On the right side you a girl in nice garments. It looks like she is taking piano lessons. There are painting and rugs meaning they must be pretty well off.

In the upper secondary test, another DEFINE-related task can be found as the students were asked to identify the two different social classes depicted in the cartoon. Most learners did not do this explicitly. Again, this might stem from the fact that this was part of a bigger task. So, some students might have overlooked it and others might have thought that it was implied in the rest of their answer. Those seven students that did not ignore this task mainly wrote down the names of the two classes. As they were not asked to produce definitions per se, naming the classes was completely sufficient for the task. However, not everyone could refer to the correct labels.

Two of the seven packed up their answer in a whole sentence, elaborating on the two terms. They did not define the terms but provided some additional information:

Ex. 16: The two social classes that are seen are the workers in factories and the owners of these factories, the capitalists, who earned a lot of money

Ex. 17: You can see a worker and his employer; those classes developed during the Industrial Revolution.

The two DEFINE-related tasks of these tests show that DEFINE as a CDF shares a fuzzy border to DESCRIBE. Furthermore, as many students failed to do these tasks in this setting, it could be argued that it is challenging for learners to use source material to

come up with characterisations or identifications of socio-historical concepts. Instead, they tend to produce seemingly easier discourse functions like DESCRIBE.

6.1.3 DESCRIBE

The CDF DESCRIBE refers to providing details of an object, a person, an event, or a process. In the light of similar investigations (cf. Lackner 2014, Hofmann & Hopf 2015), a high number of DESCRIBE tokens can be expected.

A) Lessons

Unsurprisingly, DESCRIBE was a frequent CDF in both lower and upper secondary lessons. In the lower secondary lesson data, 36 realisations could be found in the lessons and the students' online reports and presentations. The students mostly used past tense simple, describing aspects of being a child in Victorian times.

Ex. 18: A typical mine in that time was just a shaft which went vertically deep into the ground. To get into the mines the miners had to ride on a lift which was powered by a steam engine. Their tools were pickaxes and shovels, they used them to hack off coal. Mining was very risky, the mines were pitch black and light only came from candles and lamps.

This example is taken from a report by one group. In many details, these students accurately describe working in mines during the Industrial Revolution.

Most realisations of DESCRIBE can be found in the group reports and presentations, which are usually narrative descriptions of past events and conditions. Narrating, on the other hand, is also very close to the CDF REPORT. Thus, it seems that in history education, REPORT and DESCRIBE tend to overlap. These descriptions/ reports vary in style and tone. For instance, some of them are rather fact-oriented and objective, using passive voice:

Ex. 19 (original format, emphasis not added):

At that time (before 1840) there were **no laws for children's** protection, but there were some reformers that wanted to stop children from working. Inspectors went to mines and factories to ask children some questions to get information about their lives.

These rules were put up by the parliament:

1841: **mines act**-No children under the age of 10 are allowed to work in a coal mine.

1847: **10 hour act**- No children are allowed to work more than 10 hours a day.

1874: **Factory act**- No child under the age of 10 is allowed to be employed in a factory.

Other learners, however, use a more personal, evaluative tone for their descriptions, such as in example 20:

Ex. 20: The **unlucky** kids had to work in the mine from 2 in the morning for about 18 hours and the **lucky** ones where **at least** allowed to breath fresh air while sorting coal.

In the upper secondary lessons, 41 examples of DESCRIBE could be identified. The learners mainly used past tense to describe past events and states. Most of the DESCRIBE sequences were rather short and were often a response to a question by a teacher.

Ex. 21:

T2 : How did people make cotton in cottage industry? Sx?

Sx: ahm hand ahm produced in the cottages

Like in this example, the students tend to not answer in full sentences. Sometimes, they only threw in key words. During group work, however, they tried to jointly come up with more complete descriptions, such as in example 22:

Sxf1: ... ehm the whole world was affected

Sxm: jah so it was

Sxf1: so it was a global

Sxf2: aha, it was a global global movement

Sxm: which lasts till now

Sxf2: which lasts until now, ja global revolution extra dann ongoing process [...] no global movement weil es is ja kein oder

This example shows that the learners construct their descriptions gradually as a team, adding information and negotiating meaning.

In the fourth lesson, students should describe a graph. Apart from some stammering, the learner in the following example seems to be able to use the information provided by the graph to describe past population developments:

Ex. 23:

Sxf: so ahm we can see the red one is the total population and it really increased like ahm there was an enormous increase and then we can see that the rural population actually increased to ten million. it was kind of stable in the end after 50 years and ah it was ah more stable and ah the urban population ahm grew enormously and then it was ah so and there was ah after some time there was ah xx as much growth in the urban population as in ehm the growth of the total population

The learner uses phrases like *we can see* to refer to the graph and to include the audience at the same time. The style is semi-formal, using geographic jargon (*rural*, *urban*), intensifying adverbs (e.g. *grew enormously*) as well as nominalisations (e.g.

enormous increase, growth of population). Later in the lesson, the native speaker teacher actually addresses the relationship of formality and nominalisations:

Ex. 24:

- 1 T2: {ja. what is the formal language we use to describe children dying? when a large number of children die in a country we don't say if you're writing a formal essay or you're writing a vorwissenschaftliche arbeit you don't say many children x better would be
- 2 Sx: infant x
- 3 T2: infant what? infant is good referring to children. infant. S10?
- 4 S10: mortality.
- 5 T2: ja infant mortality.
- 6 T1: {ja
- 7 T2: and if if infant mortality is going down there is a what. in it. S6?
- 8 S6: ahm when more improved ah.
- 9 T2: a a noun that means going down. what formal language? S1?
- 10 S1: ah decrease [...]
- 11 T2: ja population growth. another word for decrease
- 12 Sx: dropping
- 13 T2: jah, dropping would also be ok. Another one? to get less. a verb that means get less
- 14 Sx: reduce
- 15 T2: ja the noun for reduce is?
- 16 Sx: reduction
- 17 T2: reduction. you see in English just a language tip ja in English compared to German in German you use far more nouns just in general when in English you have to use a verb like ha I can't think of an example I can't think of an example but anyway in German you use far more nouns ok but in English the more formal the language gets the more nouns are used instead of verbs. ja?

The native speaker teacher instructs the students on strategies to increase formality by using nominalisations when they describe population developments. She prompts them and guides them in the format of teacher-student-talk.

B) Tests

The test for the younger students contains two DESCRIBE items. At this level, DESCRIBE is a very common task as it is considered as a basal level *operator* (cf. Kühberger's grading matrix). As such, it is also often used as a first step in competency-based testing formats, especially for younger learners. In the lower secondary test, 64 realisations of DESCRIBE could be identified. This number is higher than the total of all English answers to all DESCRIBE items of this test (46). One reason for this surplus is that learners tended to describe even when they should perform a different CDF type. As mentioned earlier, numerous students just described the pictures when they should have characterised (DEFINE) typical poor and rich Victorian families. Another reason for the high number of DESCRIBE items is that DESCRIBE was often paired up with EXPLAIN, EVALUATE, or CLASSIFY tasks. In other words, the learner tended to use descriptions in order to substantiate other CDF types:

Ex. 25: I mean child labour is I think as bad as in the 18th century or maybe even worse. Children today have also bad conditions but they must have more time for sleeping - that's TRUE. **The Children work for our Kleidung and in the mines, Factories. The countries that come to my mind first are: Bangladesh, China, Japan, but sadly there are much more.**

In this example, the student uses descriptions to evaluate the comparability of current and Victorian child labour. In order to flesh out her judgement, she presents some descriptive details about child labour in the 21st century.

In some cases, however, when explicitly asked to describe, students produced different CDFs, such as EXPLAIN or EXPLORE:

Ex. 26: Most children were really responsible and hard workers because they knew what was going to happen if they aren't

The task would have been to describe working conditions. Instead this learner explains why child workers endured them. However, this is more the exception than the rule. On the whole, the students seem to be quite capable of describing. To illustrate that, many answers look similar to the following example:

Ex. 27: the picture on the left shows a poor Victorian Family. This is a very large Family, but all of them look very sick. Their house looks as if it would be too small. The picture on the right side clearly shows a rich wealthy family. This is again a large Family but then again not as large as the poor family. They have a very decorated house, good lighting and a piano. they are also dressed nicely

This student successfully describes the two pictures. It is always clear which picture the learner is referring to. Furthermore, she provides sufficient detail and only states what she can see. She uses present tense simple, comparisons, and simple sentences. Other learners also made use of present tense continuous and gerund constructions:

Ex. 28: In the right pic there is a woman playing the piano and a man writing something (I think), so I guess that they payed for lessons (they are richer). In the left there is nobody writing or anything, they are just playing games, which makes them seem poorer. Also their house doesn't look good.

This description also contains a hypothesis (*so I guess that*). Nevertheless, her guesses and impressions are backed up by descriptions (*... they are just playing games, which makes them seem poorer*).

In the upper secondary test, the students were asked to describe a cartoon. Answers varied in their degree of concreteness. While two learners only described the surface level (ex. 29), the other students interpreted the cartoon as well (ex. 30):

Ex. 29: here you can see how a "employee" is under a Press and is being shmushed by a "pullman". The press says "low wages" and "high rent"

Ex. 30: There is a pull man who crushes an employee in a press which symbolises the pressure of low wages, wage slavery, plutocracy, capitalism, monopoly and a high rent.

The learner in ex. 29 describes what can be visually seen whereas the other student adds a metaphorical description. Concepts like plutocracy, capitalism or monopoly are not explicitly depicted in the cartoon, yet she manages to grasp the connection between these terms and the caricature. Due to this interpretative character, the second half of the example could be regarded as an instance of EXPLORE as well. Thus, most students answered this question on two levels. In many cases, they explicitly stated whether their description was physical, using phrases like *we can see* or connotative by employing words such as *symbolise* or *represent*. Furthermore, the students mainly used present tense simple.

As for the other tasks, DESCRIBE was often used to substantiate other CDF types. Especially EXPLAIN and REPORT frequently contained descriptive elements. However, unlike the younger learners, these students hardly replaced any other target CDF with DESCRIBE. Therefore, it seems that the older students are more confident in their CDF type choice. In total, there are 14 DESCRIBE-only items in the upper secondary tests, and 38 other CDFs containing some descriptive parts.

6.1.4 EVALUATE

EVALUATE as a CDF means expressing one's positions and giving justified judgements according to certain criteria or social norms. Considering the overall aim of history education, namely critical thinking and historical awareness, EVALUATE should be a central CDF type in history education.

A) Lessons

In the lower secondary lessons, learners hardly produced any instances of EVALUATE. However, those six examples found in the data are quite advanced, considering the students' age. The students' evaluative expressions are unambiguous and usually they also argue their opinion (ex. 31) or their judgement (ex. 32):

Ex. 31: **In my opinion** it is a great idea of having a nursery **because** as a teenager you would have a big room where you have your privacy.

Ex. 32: You **did a great job doing** the summary. also your layout is very good. **the only thing to improve is** that your sentences are bit confusing but we got some good information out of it. it was nice and you had many details.

These examples show that learners know adequate evaluative vocabulary. Additionally, they are also aware that they are supposed to provide reasons for their judgment or their stance. As can be seen in ex. 32, this student uses fitting phrases to give their peers advice on how to improve their report. Further evidence for this can be found in the following examples:

33: It was nice but **you could make** it a little bit longer.

34: The only **thing you could improve** is xx.

35: S1: **but you maybe want to**

S2: shorten it?

In these samples, the learners use modals paired with suitable verbs and suggestive language to express recommendations for improvement.

In the upper secondary lessons, 28 sequences containing EVALUATE could be identified. When asked to assess the methodological value of the computer-based research task, the students usually introduce their opinion with *I think* and argue their reasons with subordinate *because*-clauses as can be seen in the following example:

Ex. 36: Sxf: **I think** ahm it was good **because** ahm we can find ahm our own informations **but I think** ahm **at the same time** it's also ahm **a con because** ahm you're so fixed to find the right answer that you just skip the parts that you don't need so you don't need the other part you just xx.

Additionally, this example nicely shows how the student both considers advantages and disadvantages to evaluate the method and even links these ideas (*at the same time*).

During the group work phase, one group was required to assess the validity of the statement *the Industrial Revolution was much more than a revolution in history*. During the discussion, they try to formulate a number of arguments:

Ex. 37:

Sxf: ok. so **I think** because the revolution wasn't like based on a **revolution-thingy** kind of ok so because the revolution wasn't ahm put up the way that revolution was like the other revolutions was we can really

Sxm: xx

Sxf: jah I mean the really big revolutions all were political **so I guess** the Industrial Revolution is **something different** cause I don't know if there's another big social revolution like because the industrial revolution would be more social right

T1: and?

Sxf: economic ja

Sxm: {economic

T1: there was not from one day to another

Sxf: ja it was a period there was a process.

Looking at this sequence, it seems that the learners have troubles coming up with concrete arguments backing up their opinion that the Industrial Revolution was more a process than a revolution. Phrases like *I guess* as well as vague language (e.g. *revolution-thingy kind, something different*) implies that the speaker is not very confident about her argumentation.

In a different group, the learners discuss whether the term *revolution* really applies to the Industrial Revolution. Guided by the native speaker teacher, they refer back to their initial definition of revolution and compare (CLASSIFY) it to the Industrial Revolution in order to EVALUATE the choice of terminology:

Ex. 38:

- 1 T2: what defines a revolution can you remember our revolution? [...]
- 2 Sxm: it has to happen quite fast. There needs to be some
- 3 Sxf1: rapid change in the social economic or political order also scientific
- 4 Sxm: there needs to be a a starting point, a clear one
- 5 T2: mhm, and didn't we also have a thing with violence?
- 6 Sxm: ja
- 7 Sxf1: that it was forcible
- 8 T2: ja ja we had that right so of course if you take this definition that would further the question whether the Industrial Revolution was a revolution. [...]
- 9 Sxf2: so no beginnings
- 10 Sxf1: we **could** say that there is no
- 11 Sxm: clear beginning [...]
- 12 Sxm: or a gradual change [...]
- 13 Sxf2: so it wasn't that fast it was gradual ...
- 14 Sxf1: or more like
- 15 Sxm: a slow change [...]
- 16 Sxf2: it wasn't radical
- 17 Sxm: I **wouldn't say that**
- 18 Sxf2: it wasn't brutal
- 19 Sxm: no violent
- 20 Sxf1: yeah right no violence

In this example, the CDF types DEFINE and COMPARE are used in order to EVALUATE. As for language, conjunctive mood is used to suggest arguments (line 10) or to express opinion (line 17). Apart from that, sentences are often not complete or very simple and without any linking devices or structures associated with evaluative language. This also corresponds to a number of other EVALUATE items. Interestingly, during presentations, the students produced slightly more complex constructions. In the following example, a student reports their findings to other students who had a different task:

Ex. 39:

Sf: our question was is the Industrial Revolution really a revolution because some historians argued over it and we came to the conclusion that it isn't a real revolution because first of all it doesn't really have a clear beginning nor had neither has it a clear end so we just jah somewhere in between and it also wasn't rapid so it ahm came ah played slowly and developed. it also wasn't ahm didn't happen because people were unhappy with the current situation it just happened because they came up with new ideas ahm and also there was no violence so jah there was no radicalation

Sm: radicalisation

It seems that once the students have had time to process their evaluation and the arguments connected to it, they can express their ideas more clearly and in a better structured way. These presentations were rather spontaneous so rote learning cannot be held accountable for this improvement. Nevertheless, evaluative language is still sparse, and the student in this example mainly lists arguments supporting her claim.

B) Tests

Although not being explicitly part of the test for the lower secondary learners, students performed 19 instances of EVALUATE in total. Most of them are a by-product of a DESCRIBE task. When the learners were asked to describe the working conditions of children at the time of the Industrial Revolution, many students started this task with an evaluation, namely *they were very bad*. As a next step, they described the conditions on a more descriptive level, providing examples why they regarded these conditions as *really bad*.

Ex. 40: there were **very bad** working conditions for the children. For example they had to work over 10 hours a day in a factory, which is hot and dirty. They had to do very hard work and were very tired.

Ex. 41: they had **bad** conditions mostly they had to work more than sleep. They didn't get much money. They had to the stuff they can do good, because they are small and **thats no FUN**.

Example 41 also shows that the learner rather evaluates than describes the working conditions (*e.g. thats no FUN*). Other examples of EVALUATE were produced when the students were asked to compare past and present child labour. For this task, some learners express their opinion about child labour or argue why or why not they think that child labour today is different:

Ex 42: In some cantrys yes but in Europe not. **I think** children labour still exists in some some countrys in Afrika and Asia. **I think** the most jobs for children are still the same today.

The structures used by the upper secondary learners were quite similar to the answers of the lower secondary students. Yet, the older learners usually provided

more arguments to sustain their judgement. Furthermore, they linked their ideas better. For instance, when asked whether they considered the sources used for the test to be reliable, most of them wrote down an answer like this:

Ex. 43: **I think** the sources are **reliable, because** we know today that people lived in quite bad conditions, for example those that are described in the sources

Their assessment is usually introduced by *I think* which is then followed by an adverbial subordinate clause, typically containing *because*. Apart from that, their answers show words and phrases that imply values, such as *of course, luckily, exaggerated, neglect, or struggle*.

Another task of this test involved asking two questions about the sources in order to judge their validity (see *questioning competence*). Generally, learners did quite well on this task. However, some students formulated incomplete and rather ungrammatical questions, like interrogative noun clauses:

Ex. 44: in which context they said that, where these sources were found

Nevertheless, most learners came up with interesting and complete questions. Their value concerning validity and reliability judgements about the source will be investigated in chapter 6.2.1 – *questioning competence in practice*.

In total, the test contains three items that would invite to evaluate, resulting in 47 instances of the CDF EVALUATE. In only four cases, learners could not perform the CDF required. Furthermore, this high number also shows that EVALUATE seems to be an important CDF type for competency-based upper secondary history testing. As mentioned earlier, the main goal of history education is to educate adolescents to mature, responsible and critical adults that are capable and willing to form their own opinion. Therefore, it appears reasonable to focus on this CDF type.

6.1.5 EXPLAIN

The CDF type EXPLAIN is concerned with cause and effect relationships and with giving reasons for something. As many historical narratives centre on causality of historical events, this CDF type is expected to occur quite frequently.

A) Lessons

In the lessons and reports of the lower secondary class, 11 sequences of EXPLAIN can be identified. In most cases, cause and effect were expressed by formulating subordinate clauses starting with *because* as linking device. Other phrases found in

the data are *caused by*, *so*, and *that's why*. The following extract taken from a group report on Victorian families focuses on cause-effect relations:

Ex. 45: Most woman had lots of babies **because** birthcontrol was not widespread. Although child-bearing was dangerous and many woman died at it. This **was caused by** queen Victoria who had nine children. the royal house became a model for many woman. If a woman gave birth to five, usually only three survived **because of** childhood diseases.

In this example, the *caused-by* expression is inaccurately linked. Stated like this, it would mean that Queen Victoria is to blame for the high mortality at child birth. Apart from the typo, *because* is correctly used.

With 45 examples, EXPLAIN was much more common in the upper secondary class. Furthermore, the sequences tended to be more extensive and longer. Although being still quite frequently used, *because* was not as dominant as with the younger learners. Instead, the way to express causality was more diversified. Typical phrases found in the data are *which means that*, *caused by*, *that makes it*, *possible reasons*, *resulting in*, *one reason is*, *one consequence is*, and *so*. Moreover, during presentations, the students sometimes used interrogative noun clauses or rhetorical questions to introduce their explanation.

Ex. 46:

- 1 S1: ok people, listen up [...] now our question was **why** the Industrial Revolution first
- 2 occurred in Britain [...]
- 3 T1: shhh ok.
- 4 S1: ahm so we found five factors: economy, geography, government, society and
- 5 religion
- 6 Sx: what?
- 7 S1: economy first ... so the economy xxx **so** Britain is kind of a small country there were
- 8 railways for transport of goods and mineral deposits and xx yeah. there's a diverse
- 9 climate **which means** that there was a lot of good agriculture ahm economy economy:
- 10 overseas trade was x there were a lot of advantages in industry there were advantages
- 11 in industry. ok raised incomes let's talk about raised incomes **so** the government the
- 12 government was relatively stable there were a lot of ah less restrictions society was
- 13 really open ehm inventive xx and the railways .. and ah they were very conducive to
- hard work hard work **so that's what got the revolution going...** questions? no
- questions? any questions?

This extract shows that S1 uses different strategies to talk about reasons. However, in many cases she just lists reasons without much linking (7-13). Instead, S1 introduces her arguments with *there is/was* or just the label of the category. This unconnected placement of cause and results is quite common. Interestingly, this effect can be found even more frequently in the written tests than in the lessons.

As for overlaps with other CDF types, DESCRIBE and REPORT seem to be the most common intersections. Descriptions were often used in order to support explanations. As mentioned before, sometimes learners expressed relations of causality when they tried to formulate a definition (DEFINE).

B) Tests

There are 27 realisations of EXPLAIN in the tests of the younger students. 21 can be accounted for by one EXPLAIN-task (B.2). Here, the learners are asked to explain why child labour occurred during the Industrial Revolution. Again *because* dominates the realisations of EXPLAIN as ten answers contain this linking device. Other causational expressions used are *as a result of* (1x) and *so* (3x). Seven students did not use any linking expressions and only formulated reasons in the form of simple sentences. In a way, these answers seem to resemble DESCRIBE rather than EXPLAIN:

Ex. 47: they had thin and small fingers, they were cheap, they were small. They couldn't say how they felt and what they want to do.

Although these statements are reasons for the use of children during the times of the Industrial Revolution, they are mainly descriptive. Without knowing the task, one could not know that these are the reasons for employing children. In addition, two of the learners did not provide any explanations, they only described child workers:

Ex. 48: They were basically slaves.

Ex. 49: The poor children had to work.

Other examples of EXPLAIN either supplemented other CDF types for different tasks, or they were used instead of other target CDF types. As for the first case, EXPLAIN tended to be added to DESCRIBE and EVALUATE tasks. In the following example, the learner evaluates the working conditions and gives reasons for this estimate:

Ex. 50: they were very bad (EVALUATE), many children died because (EXPLAIN) of the dangerous tasks that they had to complete

As already mentioned in chapter 6.1.3 (DESCRIBE), some learners explain cause-effect relations when they actually should describe something:

Ex. 51: in victorian times birth-control wasn't very widespreat. **So**, most families had many children. Most of them died to childhood diseases **so**, not many got older than 16. In rich familys most children survived **because** they had the money clean water and enough food. *The picture of the poor family also shows that they didn't have shoes* (DESCRIBE).

Interestingly, in the upper secondary test, the opposite happened occasionally. When asked to explain why a caricature produced in 1894 (which is long after the peak of

the Industrial Revolution) is still connected to it, some students only provide descriptions of either the cartoon or the Industrial Revolution without explaining the connection:

Ex. 52: The cartoon shows the struggles that workers had during the revolution. The two social classes that are seen are the workers in factories and the owners of these factories, the capitalists, who earned a lot of money.

As for cohesion, the older students seem to use even less linking devices than the younger learners. In 18 out of 29 sequences, the sentences are merely organised in a logical order without having any linkage to emphasise cause and effect relationships. As a result, answers often seem to lack the central idea of the question, namely the idea of causality. For instance, when asked to explain how and why these poor living conditions came about, the students often manage to name the essential causes but fail to explicitly express the connection:

Ex. 53: the population grew rapidly, people moved to cities for work, the state had to build a lot of houses in a very short time

As illustrated by example 53, the learner presents accurate information. Linguistically, however, the text lacks cohesion which renders this extract more descriptive than explanatory. In general, DESCRIBE and EXPLAIN often co-occur in the test data:

Ex. 54: *People's houses were built without a plan.* Workers built the houses **because** other people told them. *They didn't have good sanitation and lived in small places.* The people from higher classes didn't care **because** they just wanted to gain more money.

Here, descriptions (marked in italics) are employed to explain poor living conditions. Again, *because* is used to express causality, which is representative of the rest of the data. Other discourse markers used are *due to*, *so*, and *the effect is*.

6.1.6 EXPLORE

The CDF EXPLORE refers to the communicative intention of talking about something that is theoretical, i.e. not an established fact of the present or past.

A) Lessons

In the lessons of the younger students, no instance of EXPLORE could be detected. It seems that the teachers did not provide opportunities for hypothetical thinking and the students did not engage in theoretical discussions on their own. In the upper secondary classroom, six realisations of EXPLORE could be counted. In most cases, the teachers asked questions the students could not yet know from the lessons. To

express the speculating nature of their answers, the students mainly added *maybe* or *I think*. One student also makes use of the conditional auxiliary *would* as well as a rather formal introduction for his theory:

Ex. 55:

Sm: **seeing this graph we ah can only ah specu**

T2: speculate?

Sm: yeah **speculate** but ah **I would say** ahm yeah ahm xx I **would just say** that because in that area ahm the life is so good that life quality that ah many people preferred to go there.

B) Tests

Considering no instances of EXPLORE could be observed in the lower secondary lessons, the students did rather well producing them in the test. In fact, 44 out of 45 of the English answers to the EXPLORE tasks can be considered as correct in terms of CDF use. In one case only, a learner came up with descriptions instead of assumptions.

One task required the learners to speculate about the artist's motives for drawing the picture. Most learners formulated introductory phrases like *the drawer wanted to show/ demonstrate*. Moreover, some learners also added *I think, maybe, or probably* to express the hypothetical nature of their answer. It also occurred a number of times that they gave reasons for their assumption as can be illustrated by the next example:

Ex. 56: **maybe** he **wanted to demonstrated** that they had to live under bad conditions **because** the familie on the picture looks not very happy and tired. And the children doesn't have many clothes.

While most learners only speculate about what the artist wanted to demonstrate, some students also add some more concrete intentions, such as in these examples:

Ex. 57: the rich people **could** give sth to eat the poor people.

Ex. 58: **Maybe** he /she drew the painting **to make people think about it and to change something**.

In example 57, the modal *could* is used to express possible suggestions by the artist. In sample 58, an infinitive to-construction is used for the same reason. Again, *maybe* is added to indicate speculation. Some learners also hypothesised about the artist. For instance, two learners think the artist was poor himself (ex. 59). Once more, the learner adds *maybe* to emphasise the speculative tone:

Ex. 59: **Maybe** the drawer also had been poor.

In a different task, learners were asked to reflect on one question they would like to address to the child author of the quote presented in the test. This task gave rise to

very different responses, varying in form, purpose or content. While 75% of the learners produced simple questions, the rest constructed sentences with interrogative clauses, usually in subjunctive mood using *would* or *could* (ex. 60). Interestingly, although this second type is definitely more complex, their realisations were grammatically more likely to be correct (80%) than the simple question containing *did*, *were*, *would*, or *could* (70%).

Ex. 60: I **would** ask him what sort of things he did in his freetime (if he had any).

As for purpose or content, most students asked factual questions like the following:

Ex. 61: How long did you sleep tonight?

However, some learners also invited Jonathan, the author, to speculate, too:

Ex. 62: what **would** you like to do/ say if you have one dream (for a better or even no work for children)

Ex. 63: **would** you rather run away or go on be to help your family?

For this purpose, learners use the subjunctive modal *would*.

Apart from these two EXPLORE tasks, three students added hypotheses to their descriptions in other tasks:

Ex. 64: the left picture you see a poor family in the right one a very rich one. Both are very bid. In the left picture they look sick. They probably have many diseases (EXPLORE). The right one looks very healthy they have the money for doctors.

As it is not visible in the picture that these people are sick, this statement is purely hypothetical. Adding up the responses to two EXPLORE tasks and the hypothetical comments found in other answers, there are 47 EXPLORE items in the lower secondary test data.

Similar to one of the EXPLORE tasks in the lower secondary test, the older students were required to speculate about the caricaturist's intentions. Again, *he wanted to show/illustrate* was the most popular phrase. However, like with some of the other CDF types, the older students demonstrated a greater variety of phrases. Examples are *he had the intention*, *wants to say*, *make people aware of*, *make X visible*, or *criticise*. The students also tended to add *maybe*, *probably* or *I think* in order to highlight the speculative nature of the comment. Furthermore, several hypotheses about the background and/ or the feelings of the artist can be found in the answers, e.g.:

Ex. 65: the drawer was **either on the side of the workers or even a worker himself** and he thought that it was **unfair** how the people were treated. He **probably** was **angry** that the rich became all the money

The other EXPLORE tokens were produced as an addition to the learners' descriptions of the cartoon. As already mentioned in 6.1.3 (DESCRIBE), after describing the physically visible, many learners speculated about possible interpretations. Some students even skipped describing and only interpreted on the metaphorical level. In total, there are 26 EXPLORE tokens in the upper secondary test data.

6.1.7 REPORT

The CDF type REPORT refers to the language function of presenting information to someone with a reduced shared background knowledge. This entails that information needs to be selected and organised. Looking at the lesson plans, REPORT does not seem to be an isolated CDF. Instead, it was conceptualised as an overall learning outcome in the forms of written reports and oral presentations. As such, REPORT sequences were usually longer and contained a number of different CDF types.

A) Lessons

This observations holds true for the lower secondary learning unit, in which REPORT was a central CDF. A main learning goal of this unit was that learners research a topic of their choice and prepare a report or slide presentation for their peers who investigated a different topic area. Most of these reports are descriptive in nature with some explanatory sequences. In general, most learners managed to come up with a comprehensive but precise outcome. The following report can be regarded as a best practice example since this summary is suitable for the learners' peers and contains essential information:

Ex. 66: (emphasis not added)

We found some very interesting information about **kids in coalmines in the 19th century**.

Now let's start of with a question: **Do some kids still work in coalmines?** Sadly yes! In some parts of the world kids have to work in mines, the only difference is that these kids dig for other materials.

But there are more terrifying facts about kids in coalmines. There were around **80000 kids** at the age of **8-13 years**, who had to work everyday in extreme bad conditions in coalmines. The children that pushed the carts with coal where called **putters**. The kids called **trappers** had to sit in the dark all day with only one candle and no person to talk to and had to open the wooden doors every now and then to let fresh air in. The unlucky kids had to work in the mine from 2 in the morning for about **18 hours** and the lucky ones where at least allowed to breath fresh air while sorting coal.

Now we will go into more detail with the coal mines:

A typical mine in that time was just a shaft which went vertically deep into the ground. To get into the mines the miners had to ride on a lift which was powered by a steam engine. Their tools were **pickaxes and shovels**, they used them to hack off coal. Mining was very risky, the mines were pitch black and light only came from candles and lamps. But a light in a coalmine could cost you your life because different kinds of gases in the earth could let the lamps explode. These lamps killed many children.

But why did they need coal and what's the reason that kids and not adults work in these mines?

To answer the first question, the most energy back then came from **coal, waterpower and from horses** and that's why it's so important. And the answer to the second question: Children are smaller than adults and could fit better in the small mineshafts.

And how was coal used?

Coal was used to power steam engines. Steam engines powered machines which worked in factories. They also were used to power **locomotives and steam ships**, but also for making fire in **stoves**.

How were coal mines run?

Coal mines were usually owned by the person who owned the land on which the mines were dug. The landlords could sell the coal from their land for a lot of money but the miners were only given a few pounds. Many owners didn't care about their workers and women and even children had to work in hard conditions all day long. **1842** was a good year for the workers because the parliament forbid women and children under **10 years** to work in mines.

This summary is structured in paragraphs with rhetorical questions as subheadings. The learners selected appropriate pieces of information, both in terms of quality and quantity, and managed to combine them in a coherent way. They highlighted important aspects and terms, making the text very reader-friendly. Furthermore, the students nicely included their readers by asking rhetorical questions as well as using personal pronouns, which seems appropriate for their target readers.

Other reports and presentations are well organised, too. Their texts are segmented according to different aspects and ideas, which are signalled by headlines. While the written reports mainly consist of paragraphs with continuous texts, the slides are structured with bullet points. These stylistic choices are appropriate for the text types in question. Both reports as well as presentation slides are supplemented with pictures. One group, however, did not seem to understand the task and just copied and pasted a Wikipedia article.

In the upper secondary classroom, the students were required to design a poster on one question or task and then present it orally to their peers. Again, for this task the learners needed to select and organise appropriate pieces of information. During the

presentations, the students frequently used reported speech as the following example demonstrates:

Ex. 67: Sm: so the IR started in the 18th century in GB what a surprise and we should argue why ... so so ah we should argue why this statement is true or false and **we said that** as much as ah more a process than a revolution so ah xx and **we said it** was a global revolution so was not just in this small land but around the world ... And ahm that **we said that** it changed actually goods from manual to machine-based labour so ahm there were major changes in agricultural so

However, this student does not link or structure his ideas very meaningfully. It seems that he just reports the reasons he remembers from the discussion without ordering them. This lack of cohesion seems to be rather common in all of the learners' presentations although some students included structuring elements such as *first of all, first, or now*.

B) Tests

In the lower secondary tests, REPORT is not represented. In the upper secondary test, however, there are two REPORT items. One of these tasks is about reporting the content of two quotes in one sentence each. Some of these reports are brief and general, stripping away all details, e.g.:

Ex. 68: the streets are in a **horrible condition**.

Others are more specific as the following example demonstrates:

Ex. 69: the conditions of the street were **very poor** with no canal system, unpaved streets and a horrible smell.

So, while ex. 68 can best be described as an evaluative summary (i.e. horrible conditions) providing no specifics, in ex. 69, reasons for the evaluative subsumption (i.e. poor) are given as well.

Interestingly, some learners reported facts, reasons or examples that were not given in the quote as the next example illustrates:

Ex. 70: the doctor describes the bad conditions in the streets of a city **with almost no rules on planning**.

The quote by the doctor does not contain any comments on planning. However, the students learned in their lessons that bad living conditions had been a result of a lack of regulations on planning. So, it seems that this student reports something he heard during a lesson and not the quote presented in the exam.

As for lexico-grammatical aspects, the students used both present as well as past simple tense to report the quotes. It appears, however, that they did not consider the

original tense of the quotes. While one quote was in present tense, the other one was in past tense simple. Yet, most learners used either present or past tense for both of their reports. Furthermore, they sometimes used reported speech:

Ex. 71: the doctor **says that** the street **were** really dirty and there **wasn't** a lot of hygiene.

Again, this learner does not consider the original tense of the quote, which is present tense in this case. The most frequent construction was, however, a combination of *describe* + noun phrase, such as in ex. 72:

Ex. 72: the medical doctor describes the conditions of living in the poor parts of the country during the 1800s.

The other test item related to REPORT was a summary task. The learners were asked to briefly summarise the living conditions in 19th century Britain. As they had heard a lot about this in school, and time was limited during the test, they needed to select aspects that seemed most important to them. These summaries are very descriptive, resulting in an overlap of DESCRIBE and REPORT. Furthermore, some summaries contain evaluations and explanations. Put differently, these reports are usually built up with short sequences of DESCRIBE, EXPLAIN, and/ or EVALUATE:

Ex. 73: in the Industrial Revolution the conditions were really bad (EVALUATE). There were x brick walls and no proper heating. The people had to live together on really small spaces (DESCRIBE) because of overcrowding (EXPLAIN). There was really bad health care (DESCRIBE/ EVALUATE) and a high birth rate because of lower death rates x higher birth rate (EXPLAIN).

Although there is plenty of information in this answer, it does not focus exclusively on living conditions. The last part about birth rates, for instance, is rather irrelevant for an outline on 19th century living conditions, in view of the fact that overcrowding has already been mentioned earlier in the text. It seems that those summaries that contain mainly descriptions fit the task best as the following example illustrates:

Ex. 74: the cities were overcrowded and families often only had a single room to live in, there were no seperate bath rooms to each flat and houses were poorly built

This answers sums up some of the most important aspects about housing during the Industrial Revolution. It is more focused than the previous example, and thus, it seems more appropriate for the question. Finally, it should be mentioned that many students used key words and incomplete sentences for this task.

6.1.8 Overview of CDFs

Looking at the total CDF distribution in both the lessons as well as the tests, it is evident that DESCRIBE is by far the most prominent CDF type with 193 tokens out of 698 CDFs. In fact, it is the most frequent type in three of the four categories (lessons school A, tests school A, tests school B). In the upper secondary lessons, EXPLAIN occurs most often. Looking at the total distribution, this CDF type comes second after DESCRIBE. However, this high rank is mainly due to the extensive use of EXPLAIN in the upper secondary school context. With 100 occurrences, EVALUATE occupies the third place. Again, the upper secondary students are primarily responsible for the high number of EVALUATE realisations. EXPLORE comes next with 79 examples. This time, almost all of the tokens were produced in the testing situations in both schools.

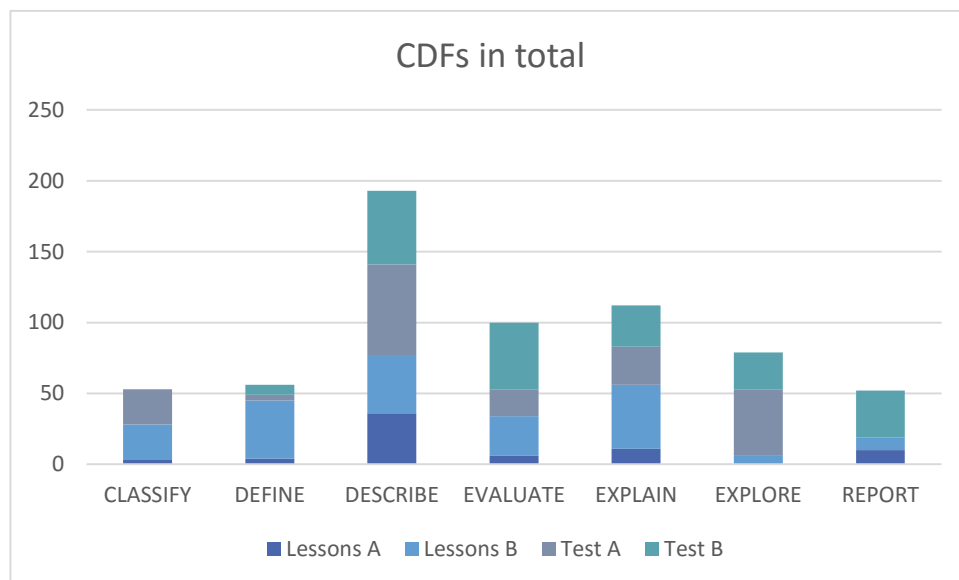


Figure 6: total distribution of CDF types

Surprisingly, DEFINE only accounts for 8% of the CDFs identified (56 examples). Yet, in the lessons of school B, DEFINE ranks second together with DESCRIBE. CLASSIFY ranks close behind DEFINE, accounting for 53 of all CDFs. Here, the composition is extremely interesting as these CDFs are almost equally frequent in upper secondary lessons and lower secondary tests. Finally, there is REPORT. Yet, it should be noted that this placement is rather due to issues of countability than due to actual learning foci. As mentioned before, both lesson contexts feature REPORT as prime learning outcomes. However, these reports and presentations are difficult to quantify since realisations of REPORT seem to be much longer than the other six types.

Comparing CDF use in lessons and test situations, DEFINE and EXPLORE diverge significantly. DEFINE is very prominent in school B lessons whereas the other three data types hardly feature any instances of DEFINE. The lack of DEFINE tokens in the tests stems from two facts. First of all, the tests themselves do not contain sufficient DEFINE items. This again is partly a result of the content covered in the lessons. The lower secondary learners, for one, did not do any significant terminology work. Secondly, the DEFINE tasks that are included were often neglected by the students, both lower and upper secondary learners. As for EXPLORE, this CDF type was extensively used in the tests. However, the lower secondary lesson data did not feature EXPLORE at all, and upper secondary learners hardly used this type in classroom situations as well. Concerning the other CDF types, there are no major differences between classroom and testing contexts.

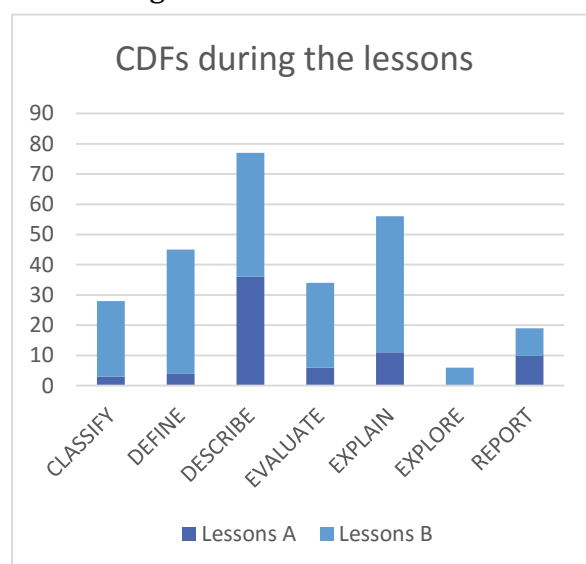


Figure 7: CDF use during the lessons in both schools

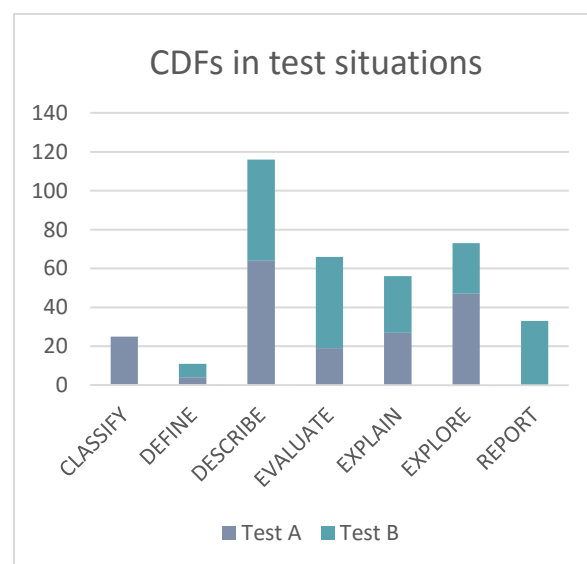


Figure 8: CDF use in test situations in both schools

6.2 The competences in practice

6.2.1 Questioning competence in practice

As elaborated above, *questioning competence* is concerned with the ability and willingness to formulate questions in order to start a re- or deconstruction process. This includes building up an awareness that all narratives are dependent on these questions and are therefore subjective and constructed. Further sub-competences are the ability to classify different question types as well as to deconstruct questions.

A) Lessons

In general, there were not many instances of this competence in the classroom data sets. Neither the upper nor the lower secondary lessons featured any sequences on deconstructions or classifications of questions. However, the students sometimes formulated questions themselves. The upper secondary examples were rather content-related, investigating cause-effect-relations. Hence, this can be considered as an overlap with the CDF type EXPLAIN. Put differently, the learners asked questions to gain information needed to establish connections of causality. The younger students, on the other hand, used questions as sub-headings to structure their reports. By taking questions as a starting point for historical reconstructions, this learner group did exactly what this competence is about. These examples can be regarded as REPORT items. Apart from that, no further *questioning competence* sequences can be identified.

B) Tests

Both tests featured *questioning competence* items. Again, learners were required to formulate their own questions rather than classify or deconstruct those of others. The upper secondary students were asked to formulate two questions about the sources in order to reliably assess their validity. Considering the lack of *questioning competence* sequences during the lessons, this task seemed to work rather well. Most learners formulated questions that are indeed relevant to EVALUATE their soundness. For instance, the students questioned the temporal, social or geographical background of the author. Furthermore, some wanted to know more about the nature of the quote, i.e. whether they were primary or secondary quotes or if they were eye-witness reports or passed-on information etc. (CLASSIFY). Only one student did not seem to understand the task and asked a question about the content.

The younger students were supposed to ask two questions to the author of a historical quote. Their questions can be classified as two different types. On the one hand, some of the learners asked content questions about child labour, such as the following:

Ex. 75: what did you eat, how many children were there, how much money did you get?

As the knowledge gained from these questions is mainly descriptive, an overlap to the CDF type DESCRIBE could be identified.

Other learners were more interested in the feelings and thoughts of Jonathan, the child author, as demonstrated by this example:

Ex. 76: why didn't you just go and hide with some friends? (fliehen)

This would constitute an overlap to one of the orientation sub-competences, namely *other-awareness*. Looking at the CDF construct, this constitutes an example of EXPLORE as this is purely hypothetical thinking as a talk with the author is not possible in reality.

6.2.2 Methodological competence in practice

Being methodologically competent means to be able and willing to deconstruct historical narratives by others as well as to construct one's own narrative. These reconstructions should be built on insights from deconstruction processes of various sources.

A) Lessons

What is most noticeable about *methodological competences* in the lower secondary classroom is the dominance of reconstruction sequences without having any substantial deconstruction processes. In fact, with 46 examples in total, reconstruction sequences were the most common competency-based activities the lower secondary lessons while deconstruction tasks did not occur at all. In other words, the students frequently extracted information from sources given, yet they did not critically analyse them or evaluate these pieces of information in any way. Instead, they used these facts without much reflection and put these together to construct their own narrative (reconstruction). In this process, they mainly concentrated on describing past circumstances as well as on establishing cause-effect relations. In short, the CDF types DESCRIBE and EXPLAIN were most common. Furthermore, REPORT also seemed to be a dominant CDF since the main objective of this learning unit was to come up with a report suitable for their peers.

In the upper secondary classroom, both reconstruction and deconstruction were very common practices. Once more, with 74 realisations, reconstruction sequences were still much more prominent than deconstruction activities, which occurred 18 times. As for CDF types, reconstruction activities showed a great variety of types, including, CLASSIFY, DESCRIBE, EVALUATE, EXPLAIN, EXPLORE, and REPORT. Put differently, all CDF types except DEFINE were used to reconstruct the past. DESCRIBE overlapped most often with

the *reconstruction competence*, namely 28 times (out of 39 items). DESCRIBE was mainly employed to narrate past states and events. EVALUATE co-occurred with *reconstruction competence* 11 times and was mainly used to point out advantages and disadvantages within historical narratives. All EXPLAIN items of this data set coincided exclusively with the competence in question. In other words, all 44 EXPLAIN tokens occurred during reconstruction activities. Six times, the learners included hypotheses in their narratives, resulting in an overlap of EXPLORE and *reconstruction competence*. CLASSIFY was used four times in the process of reconstruction, as the following example illustrates:

Ex. 78: S1: Oh wait I have an idea. We'll write different belief systems and then we'll just do the comparison between the two there am named and described here.

In this example, they CLASSIFY different philosophies in order to EXPLAIN why Europe was industrialised first. Finally, REPORT also frequently overlapped with this competence. However, as already stated, these are difficult to quantify due to their length.

Deconstruction competence, on the other hand, did not share that many different CDF categories. It correlated with DESCRIBE, EVALUATE, and REPORT. Out of these three, *deconstruction competence* was most commonly used together with EVALUATE since deconstructing historical sources often calls for an assessment. The descriptive deconstruction sequences were limited to the graph description activity. Finally, REPORT and deconstruction coincided twice and these overlaps were concerned with reporting source analyses.

B) Tests

In the test data of the lower secondary group, *reconstruction competence* co-occurred with three different CDF types, namely DESCRIBE, EVALUATE, and EXPLAIN. Among these three, the connection between EXPLAIN and *reconstruction competence* was the strongest as EXPLAIN did not overlap with any other competence. In other words, all EXPLAIN-related tasks were linked to reconstruct historical relations of causality. Secondly, DESCRIBE also frequently co-occurred with this sub-competence as the learners' narratives often featured descriptive parts. Finally, EVALUATE coincided in the form of evaluative reconstructions of the working conditions during the Industrial Revolution. In numbers, there were 49 reconstruction sequences, most of which coincided with EXPLAIN (26), followed by DESCRIBE (21), and EVALUATE (8). However,

within these samples, overlaps between these categories were very common. Furthermore, some of these sequences contained elements of EXPLORE and CLASSIFY as well. Yet, EXPLORE and CLASSIFY were not the dominant CDF type in the students' answers, but they can be considered as an add-on.

Deconstruction competence always coincided with DESCRIBE in the lower secondary tests. In total, there were 39 overlaps of DESCRIBE and *deconstruction competence*. However, a substantial number of these also co-occurred with CLASSIFY. Ex. 79 exemplifies these fuzzy borders:

Ex. 79: poor people: as we can see, people from first pic look very sad and worried. That 1st photo should present a poor family which means they often had nothing to eat, they wouldn't have a place (bed) to sleep, so they slept on the chair etc; rich people: on the other hand, people on the 2nd pic look very happy and content, they even have a piano. that shows us a Victorian rich family

In this example, the learner deconstructs the two graphic sources by describing what he sees (DESCRIBE) and comparing them (CLASSIFY).

Moreover, one deconstruction sequence also overlapped with REPORT and one with EXPLAIN. It should be noted that the learner who reported the quote did not really meet the task requirement as he should have described general working conditions using this quote as a basis rather than reporting the content of the quote.

In the upper secondary test data, *reconstruction competence* tasks only coincided with EXPLAIN, which again did not overlap with any other competence. As a result, EXPLAIN and *reconstruction competence* seem to be closely linked. As for deconstruction tasks, DESCRIBE, EXPLORE and REPORT were used. DESCRIBE and EXPLORE were connected to the deconstruction of the caricature. This deconstruction usually happened on several levels. The learners started off with a description of the visuals (DESCRIBE). Then they moved on to possible interpretations (EXPLORE) as well as to hypotheses about the artist's intention (EXPLORE). Speculating about the artist's motives also constitutes an example of *other-awareness (orientation competence)*. The other deconstruction examples were connected to the two quotes. Again, learners used DESCRIBE to elaborate on the living conditions of the time. Two learners also included reasons for these circumstances (EXPLAIN). Furthermore, as required by the task, the learners reported the quotes in their own words (REPORT). In numbers, there were 25 instances of DESCRIBE and deconstruction. Interestingly, DESCRIBE did not overlap with any other competence. The same is true for REPORT, which also exclusively coincided with

deconstruction competence. Here, there were 19 sequences. EXPLORE co-occurred 26 times with the competence in question.

6.2.3 Orientation competence in practice

Orientation competence is about managing our historical awareness. This includes the ability and willingness to adapt and reorganise our historical awareness, our identity as well as assumptions and judgements about the world according to newly gained insights. On top of that, learners should develop a set of *tools* that might be useful for present and future problems.

A) Lessons

Although there were only few examples of orientation sequences in the lower secondary lessons, all four sub-competences are present in the data. The fact most noteworthy is that EVALUATE is the only CDF type that coincided with this competence. One category of EVALUATE and *orientation competence* found in the data is giving feedback to their peers. This represents an example of *tools* as they evaluated their colleagues' effort and gave advice on how to improve future projects. Looking at *other-awareness*, one learner expressed empathy for the child workers. As for *identity*, giving one's opinion can be regarded as part of this sub-competence since our opinions shape and reflect our identity. Finally, one student re-organised his temporal perception when he realised that child labour here in Europe was not as long ago as he had previously thought (*re-organisation competence*). Compared to the lower secondary lesson data, the orientation sequences in the upper secondary setting were much longer but not more frequent. Again, EVALUATE was the most dominant CDF type. Interestingly, only *identity* and *other-awareness* overlapped with EVALUATE in this data set. Conversely, there was one correspondence between *tools* and CLASSIFY. By discussing the categorisation of source types, they established important classifications that could be useful for future source deconstructions. *Re-organisation* sequences could not be identified in the upper secondary lesson data.

B) Tests

In the lower secondary tests, all orientation-related items indicate a strong relation of *other-awareness* and EXPLORE. Both EXPLORE test items were about taking over other perspectives and empathising on a hypothetical level. However, borders to other CDF types and to other competences seem to be slightly fuzzy. First of all, reflecting on

possible motives of the artist contained both EXPLORE and EXPLAIN elements as this task was hypothetical and concerned with cause-effect relations on a personal level. Looking at other competences, it seems that thinking about the author's motives is also deconstructive, and thus, it slightly overlaps with *deconstruction competence*. Most learners did rather well on this task as they were indeed capable of coming up with plausible motives, e.g.:

Ex. 80: I think the drawer wanted to demonstrate how poor some families are and in what conditions they have to live as opposed to the rich people who live a luxurious life. Maybe he /she drew the painting to make people think about it and to change something.

Secondly, formulating questions they would like to ask a child worker overlapped with *questioning competence* as well. Yet, some learners asked purely content-related questions, which cannot be regarded as *other-awareness* samples. Only those questions concerned with the child worker's perspective indicate the ability of *other-awareness*. The upper secondary tests showed a similar pattern. Again, students were asked to reflect on the artist's motives and once more, the strong relationship between EVALUATE and *other-awareness* became apparent. As already stated above, there seems to be a link between EXPLAIN and this type of task as well.

6.2.4 Historical expertise in practice

Historical expertise is about knowledge management of historical terms and concepts. This includes understanding historical jargon and being able to actively and accurately use them (*terminology competence*). Furthermore, learners should be able to structure historical content and apply methodological scripts (*structuring competence*).

A) Lessons

Both sub-competences of *historical expertise* appeared rather sparsely in the lower secondary lessons. Interestingly, *terminology competence*, on the one hand, was restricted to DEFINE while *structuring competence* only co-occurred with REPORT. Considering the definitions of these competences and CDF types, these relations are quite self-explanatory. Even more so, the upper secondary classroom data confirmed this strong relationship with a greater number of examples. In addition, the upper secondary lesson data also indicated further overlaps with other CDF types. For instance, *structuring competence* tended to coincide with CLASSIFY as well. Bearing in

mind that this CDF type is concerned with the organisation of subject matter, this is not surprising. In some cases, *terminology competence* also coincided with CLASSIFY and DEFINE at the same time, for instance when they compared definitions. Other intersections, however, were very rare. Yet, there were a few examples in which the students argued about the most appropriate term for historical developments. This constitutes an overlap of EVALUATE and *terminology competence* as illustrated by ex. 81:

Sf1: can you say that it's more like an industrial evolution?
T1: would be very interesting. what would you what kind of word would you use instead of revolution?
Sm: { yeah I would ... we we didn't think of any
Sf1: { I would use evolution
T1: { evolution, yah?
Sf2: { process
T1: isn't evolution seen more in biology?
Sf1: I don't know

One time, the learners were also looking for the most accurate term to describe something, which represents a connection of DESCRIBE and *terminology competence*.

B) Tests

In the tests, there was not much focus on *historical expertise*. Those examples that can be found all overlapped with DEFINE. However, as already stated, the learners were inclined to ignore these items. It seems that they assumed that by answering the other questions, they would imply the answers to the DEFINE items. On top of that, those that explicitly fulfilled these tasks mostly only gave elliptic answers or keywords rather than definitions per se.

6.2.5 Overview: Connections of FUER competences and CDFs

The heat map below (figure 9) indicates which competences coincide with which CDF types in both the tests and the lessons. The darker the shade, the more frequent the

	<i>que.-c.</i>	<i>re-c.</i>	<i>de-c.</i>	<i>o.-a.</i>	<i>ident.</i>	<i>re-org.</i>	<i>tools</i>	<i>term.-c</i>	<i>str.-c.</i>
CLASSIFY									
DEFINE									
DESCRIBE									
EVALUATE									
EXPLAIN									
EXPLORE									
REPORT									

Figure 9: connections of FUER competences and CDFs (lessons and tests)

correlation of the two is. This implies that the competences and the CDF types that are coloured in dark shades are the most common categories in the data. Blank spaces, on the other hand, mean that there are no overlaps present in the data at hand.

As we can see, *methodological competences* (marked in blue) are the most central skills. Moreover, these skills tend to be realised with a great variety of CDF types, with DESCRIBE and EXPLAIN as prime CDF types. *Questioning competence* (green) also shows a wide range of different CDF types, with EXPLORE being on top of the list. *Orientation competence* (yellow) is realised in fewer different types. Here, EVALUATE is definitely the most relevant type as it correlates with all four sub-competences. EXPLORE seems to have a strong relationship to *other-awareness* without having any overlaps to other sub-competences of the orientation competence. As for *historical expertise* (orange), DEFINE is the most frequent CDF type, followed by CLASSIFY and DESCRIBE.

Switching perspective, EVALUATE appears to be the most relevant and most diversely connected CDF type. It correlates with almost all sub-competences and generally shows strong relationships to the individual competences. DESCRIBE is connected to fewer competences, yet the links that exist are rather significant. The same is true for CLASSIFY, although to a slightly lesser extent. EXPLORE shares common ground with *questioning*, *methodological*, and *orientation competence*. EXPLAIN and REPORT both seem to exclusively overlap with *questioning* and *methodological competence*. Finally, DEFINE appears to be rather restricted to *historical expertise*.

Looking at the distribution of competences and CDFs during the lessons (figure 10), it can be seen that connections are less diverse. However, those correlations that exist appear in darker shades, meaning that these relations are significant in relation to the total numbers of the lesson sequences. This implies that the tendencies of co-occurrences are stronger and can be assumed to be less coincidental. Nevertheless, it is quite noteworthy that all sub-competences and all CDF types did appear during the

	que.-c.	re-c.	de-c.	o.-a.	ident.	re-org.	tools	term.-c	str.-c.
CLASSIFY									
DEFINE									
DESCRIBE									
EVALUATE									
EXPLAIN									
EXPLORE									
REPORT									

Figure 10: connections of FUER competences and CDFs in the lessons

lessons. As a result, it can be argued that both the FUEP model as well as the CDF construct are relevant in classroom reality.

Turning to the test data (figure 11), the effect of less diversity and more intensive shades is even more apparent. This suggests that designing competency-oriented tasks with *operators* that are connected to certain CDF types indeed leads to the actual use of the CDF types intended. In other words, learners tend to employ similar and most of the time appropriate CDF types for competency-based tasks. As a result, it can be argued that in controlled settings, such as a testing situation, the correlation between certain CDF types and competences is very strong. Less dispersion further implies that learners do not randomly produce any CDF type for competency-focused activities, but they usually know which types are most suitable for the question at hand. Conversely, those students that used CDF types out of the intended CDF range usually did not achieve high task fulfilment rates.

	<i>que.-c.</i>	<i>re-c.</i>	<i>de-c.</i>	<i>o. -a.</i>	<i>ident.</i>	<i>re-org.</i>	<i>tools</i>	<i>term.-c</i>	<i>str.-c.</i>
CLASSIFY									
DEFINE									
DESCRIBE									
EVALUATE									
EXPLAIN									
EXPLORE									
REPORT									

Figure 11: connections of FUEP competences and CDFs in the tests

6.3 Differences between lower and upper secondary learners

Looking at the comparison of the CDF distribution of upper and lower secondary data (figure 12), it becomes apparent that the two learner groups do not diverge considerably. In general, though, older students produced more CDFs in absolute numbers. Especially DEFINE, EVALUATE, EXPLAIN and REPORT were noticeably more frequent in the

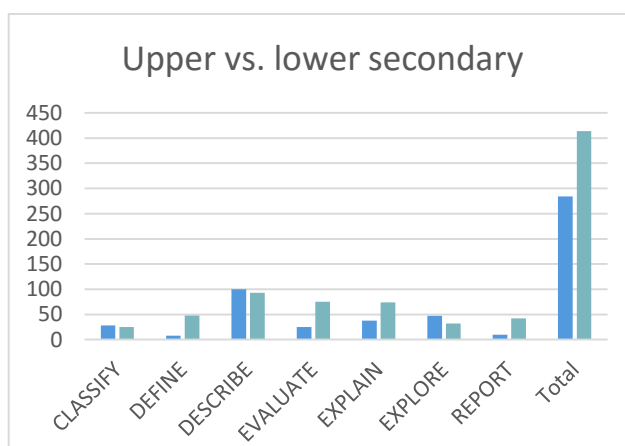


Figure 12: upper vs. lower secondary CDF distribution

upper secondary setting. On the other hand, CLASSIFY, DESCRIBE and EXPLORE were marginally more common in the lower secondary context.

Taking the factor of classroom or testing setting into account (figure 13), results between the two age groups become less similar. Put differently, the distribution between the four different data sets (lessons A, lessons B, tests A, tests B) differ considerably. For instance, almost 80% of all DEFINE items were produced in the classroom setting of the upper secondary school while almost 60% of all EXPLORE tokens can be found in the lower secondary tests. Interestingly, by combining classroom and testing data, these differences are more or less attenuated. It seems that different settings in different age groups call for a different set of CDF types. Only DESCRIBE is almost evenly distributed. The rest varies rather significantly. Of course, the CDF distribution of the test mainly depends on the test design. However, the

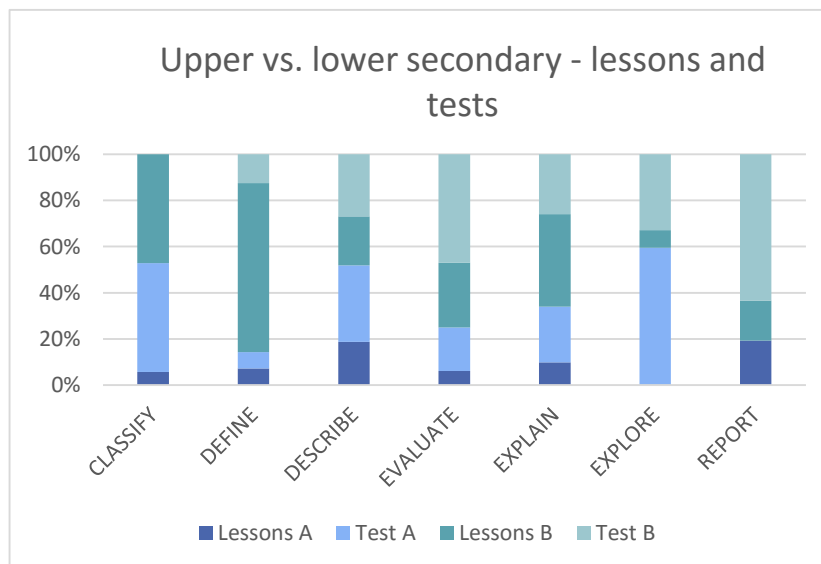


Figure 13: percental distribution considering the four types of data sets

exams used for this study were modelled after the format of standardised history testing. As such, the CDFs produced in this setting can be representative for competency-oriented history testing in Austria.

As for age-related differences in competence-CDF overlaps (figure 14 & 15), the two groups do not diverge substantially, but they show rather subtle differences. For instance, the younger learners used a greater variety of CDF types for *questioning competence*. Moreover, the most significant overlap with this competence is EXPLORE, which is not featured at all in the upper secondary data. Concerning *orientation competences*, younger students showed again a slightly broader range of overlaps. With *methodological competence*, the situation is somewhat reversed. Here, older students seem to employ a wider range of CDF types for re- and deconstruction

processes. The reason for this might be that the upper secondary students approach methodological tasks and sources on more levels. Younger students might not have the experience yet to do this, and thus, they stick to more common functions, such as DESCRIBE and EXPLAIN. The same seems to be true for *historical expertise*. Older students made use of a greater variety of CDF types for these competences while younger learners stuck to the most characteristic CDF type, namely DEFINE. Furthermore, it should be noted that the lower secondary students did not engage in any *structuring competence tasks*.

	que.-c.	re-c.	de-c.	o.-a.	ident.	re-org.	tools	term.-c	str.-c.
CLASSIFY									
DEFINE									
DESCRIBE									
EVALUATE									
EXPLAIN									
EXPLORE									
REPORT									

Figure 14: connections of CDFs and competences in lower secondary data

	que.-c.	re-c.	de-c.	o.-a.	ident.	re-org.	tools	term.-c	str.-c.
CLASSIFY									
DEFINE									
DESCRIBE									
EVALUATE									
EXPLAIN									
EXPLORE									
REPORT									

Figure 15: connections of CDFs and competences in upper secondary data

Another noteworthy difference between the age groups is that in the tests, the younger students often produced a wider range of different CDF types as well as more combinations with the same *operator*. This suggests that less experienced learners are less confident about which CDF type is most suitable for the task at hand. As a result, young learners were less likely to achieve complete task fulfilment. As for language choice, during the lessons, the older students used English much more consistently than the lower secondary ones. However, during the exam, it was the other way round. Only one lower secondary student used German through-out, and two students code-switched. In the upper secondary tests, on the other hand, almost a quarter of all students partly used German.

Another difference between the two age groups is that the upper secondary students produced longer and more complete CDF sequences. For instance, when asked to EVALUATE, they tended to rather sustain their judgement with a number of arguments than just stating their opinion without justification. What is more, advanced students realised CDFs with greater lexical and structural variety. Looking at EXPLAIN, older students were not limited to *because*-constructions, but it seems that they have different ways of expression. Interestingly, though, cohesion was not as much affected by age as one would expect. Coming back to EXPLAIN, for example, younger students used even more cohesive devices than the older ones. Yet, their linking was rather restricted to *because*. In general, however, more advanced students tended to use numerically more as well as more diverse linking devices.

Of course, some of these differences between these two age groups could also be attributed to different teaching styles. However, to come up with justifiable hypotheses about this connection, one would also need to observe these teachers in other classrooms, with different age groups. Only then, we would know in how far they adapt their teaching to different age groups and to what extent their teaching style affects CDF use and acquisition. Furthermore, more groups with different teachers could also shed some light on the role of the teacher.

7. Conclusion

This study set out to determine the relation of the competences of the FUER model and Dalton-Puffer's CDF types in order to investigate the acquisition of historical competences in the CLIL history classroom. The theoretical analysis of the CDF construct and the FUER model indicates that the connection of these two constructs is strong. A theoretical examination of the individual competences with regard to CDF use suggests that the acquisition of each competence requires a wide range of different CDF types.

The results of the empirical analysis can confirm these hypotheses to a great extent. In the data used for this study, all CDF types and all competences occur. This implies that the CDF construct and FUER model are both relevant for classroom reality. Regarding the FUER model, however, some sub-competences, such as *tools*, *identity* and *structuring competence* seem to play rather secondary roles. As for *questioning competence*, the sub-competences concerned with the investigation of underlying questions as well as the classification and deconstruction of questions cannot be identified at all.

The most dominant CDF type by far is DESCRIBE as it was widely used by all groups in the lessons as well as in the tests. This result corresponds to the outcomes of similar studies, such as Hofmann and Hopf (2015), Kröss (2014), or Lackner (2012). One of the reasons for its high frequency is that students were inclined to substantiate other CDF types with descriptive sequences. Furthermore, DESCRIBE overlapped with all four competences.

EXPLAIN ranks second in the total CDF distribution and first in the upper secondary data. EXPLAIN seems to have a strong relationship to *questioning* and *methodological competence*. Especially *reconstruction competence* appears to have a close bond to EXPLAIN. In fact, these two demonstrate the highest correlation of all CDF types and (sub-) competences.

EVALUATE is the third most frequent CDF type. However, the high frequency of this type can be mostly attributed to its predominance in the upper secondary context. Considering the main objectives of history education, EVALUATE proffers itself for

competency-based history education. Especially in the test, the learners needed to demonstrate critical thinking skills and the ability to argue their judgements and arguments. By doing so, they could display historical awareness and independent thinking. The relevance of EVALUATE in history education is also highlighted by its overlaps to all competences, including even almost all sub-competences. In other words, EVALUATE seems to be a substantial part of competency-based history education.

Despite occupying fourth place, EXPLORE did not play a major role during the lessons. However, students were still able to perform this CDF type in the exam. EXPLORE correlated with *questioning*, *methodological*, and *orientation competence*. The most significant overlap here was to *other-awareness*. So, even though EXPLORE was not very present during the lessons, most students did not avoid hypothetical thinking and taking over perspectives in testing situations.

DEFINE was hardly used in the lower secondary context. Most of the DEFINE items in the data were produced in the lessons by the upper secondary students. For this learner group, DEFINE was the second most frequent CDF type alongside DESCRIBE. This CDF type strongly overlapped with *historical expertise* and *terminology competence* in particular. It should be noted that learners tended to ignore DEFINE-related tasks in testing situations when the test items included another CDF type. As a result, it seems that test items should not contain two *operators*, requiring different CDF types.

In all data types, CLASSIFY was usually combined with another CDF type, such as DESCRIBE, DEFINE, or EVALUATE. Furthermore, its realisations were often partial and rather informal, lacking distinctive, linguistic expressions. It sometimes overlapped with *methodological competence* and *historical expertise*. Most often, however, it coincided with *re-organisation competence*. In general, though, the numbers of CLASSIFY were rather low.

REPORT was produced least often in absolute numbers. Yet, its realisations tend to be longer and more extensive than the other types. As narrativity plays an essential role in many history teaching models, including the FUEER model, REPORT seems to be given a special role and therefore, this CDF type appears to behave differently compared to the other six types of the CDF construct. In both learner groups, coming up with a report, in oral or written mode, was a learning goal at some point. Interestingly, oral

reports, although being produced by the older students, were less well structured. The younger ones, who had to hand in written reports, compiled mostly well-structured, age-appropriate texts. Finally, the low numbers of REPORT might stem from the fact that this CDF type only coincided with *methodological* and *questioning competence*.

As for language, students did not extensively use linguistic markers and structures associated with certain CDF types. Especially linking seems to be a problem in all learner groups. However, the older students demonstrated a greater variety of cohesive devices than the younger ones. Furthermore, the upper secondary students used numerically more CDFs and also produced longer sequences.

To sum up, this study confirms a close link between the FUER model and the CDF construct. Most connections identified in the theoretical analysis can be validated by the empirical part of the study, which suggests that CDFs are necessary to develop historical competences. Moreover, the tests indicate that CDF use is indeed closely connected to performance in a competency-based setting. Those students that produced CDF types that were not appropriate to the *operator*, usually did not fulfil the task. Additionally, those students mixing CDFs too much tended to deliver imprecise answers and miss the main point of the task. This observation is backed up by the comparison of the upper and lower secondary class. The correlations of competences and CDF types in the upper secondary test data are very strong and not very dispersed. This implies that these learners did not choose the CDF type randomly but appropriately for the competence addressed in the task. Younger learners displayed more insecurity in their CDF choices, suggesting that they still need some practice and perhaps explicit instruction.

However, it should be noted once more that this study only investigated two learner groups, which both have a strong language background. Therefore, results are not representative for typical Austrian L2 learners. Additionally, as numbers are small, quantitative results are not highly diagnostic. This is enforced by rather short tests that do not feature all CDF types and all competences evenly. Thus, it should be kept in mind that the findings of this study only present tendencies and indications rather than a comprehensive evaluation of competency-based CLIL history education. As a result, further and more extensive empirical research is necessary to provide an

exhaustive, quantifiable examination. Moreover, a study including control groups could present valuable insights on how far these results are applicable for mainstream L2 learners.

Notwithstanding the limitations mentioned, the results of this study have shed considerable light on the relevance of CDF use and the role of language in CLIL history education. It has shown that language use and competency-based history learning are indeed linked. This further implies that history teachers should not underestimate the role language plays in acquiring subject-related competences. So far, teachers as well as researchers have not paid enough attention to the interrelations of language functions and competency-based content teaching. Being more explicit about the interdependence of content teaching and language pedagogy could significantly improve history education. What is more, considering the multilingual background of many learners, a shift towards a content and language integrated approach might be beneficial for not just CLIL students but for learners with differing L1s as well.

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Appendix

A. Abstract

This thesis explores the role of language for the acquisition of historical competences in CLIL history education. So far, CLIL research has often been one-sided, neglecting integrative aspects of content and language learning. Especially the connection of competency-based subject education and language has not received sufficient attention. This study is aimed at contributing to fill this research gap. To examine the connection between language and subject-matter learning, Dalton-Puffer's (2013) construct of Cognitive Discourse Functions (CDFs) is taken as a framework for analysis. According to her (in press: 4), CDFs are routinized communicative patterns used to externalise cognitive thinking processes. As such, their use is assumed to be indicative of the learning process, both in terms of content and language. In this thesis, content is conceptualised in the form of the four competences of the *FUER Geschichtsbewusstsein* competency model, which serves as a basis for the Austrian curriculum. For the purpose of this study, four lessons each of one lower secondary and one upper secondary class were recorded. Additionally, the participants were asked to complete a competency-based test, covering the contents of the lessons observed. The data compiled was analysed in terms of CDF use and correlations of historical competences and CDF types. The results confirm a significant connection between competences and CDFs, suggesting that CDFs are indeed necessary to develop historical skills. Furthermore, the test data indicates that more advanced students choose CDF types more appropriately than less experienced learners.

Key words: CLIL, cognitive discourse functions, historical competences, FUER Geschichtsbewusstsein competency model, bilingual history education, acquisition of competences, academic language functions.

B. Zusammenfassung

Bisherige CLIL (Content and Language Integrated Learning) Forschung widmete sich weitgehend entweder dem Sach-Fach oder dem sprachlichen Aspekt während tatsächlich integrative Ansätze eher die Ausnahme waren. Vor allem die Rolle der Sprache im kompetenzorientierten Unterricht genoss nur sehr wenig Aufmerksamkeit. Die vorliegende Diplomarbeit soll dazu beitragen, dieser Forschungslücke entgegenzuwirken. Hauptaufgabe dieser Arbeit ist es, den Zusammenhang zwischen Kompetenzerwerb und Sprache mithilfe von kognitiven Diskursfunktion (cognitive discourse functions, CDFs) zu erschließen. Bei CDFs handelt es sich um trainierbare Kommunikationsmuster, die dazu dienen, kognitive Prozesse auszudrücken. Durch diese Verbindung von Sprache und Kognition kann man davon ausgehen, dass sie sowohl den sprachlichen als auch den inhaltlichen Lernprozess widerspiegeln. Da heutiger Geschichtsunterricht vor allem darauf abzielt, historische Kompetenzen zu erwerben, werden inhaltliche Lernziele dem Kompetenzerwerb gleichgestellt. Im österreichischen Lehrplan wird der Kompetenzerwerb anhand des *FUER Geschichtsbewusstsein* Kompetenzmodells beschrieben, weshalb die vier Kompetenzen dieses Modells als Gegenstand dieser Analyse dienen. Für den Zweck dieser Studie wurden jeweils vier Unterrichtseinheiten einer Unter- und einer Oberstufenklasse aufgenommen. Darüber hinaus absolvierten die StudienteilnehmerInnen einen kompetenzorientierten Test über die Inhalte der beobachteten Lerneinheiten. Anschließend wurde der Einsatz von CDFs sowie Korrelationen zwischen Kompetenzen und CDF Typen geprüft. Die vorliegenden Ergebnisse dieser Untersuchung bestätigen einen deutlichen Zusammenhang zwischen kognitiven Diskursfunktionen und den FUER Kompetenzen. Überdies deuten die Ergebnisse der schriftlichen Tests darauf hin, dass fortgeschrittene SchülerInnen eher adäquate CDFs einsetzen als die jüngere Testgruppe. Diese Resultate lassen darauf schließen, dass CDFs eine bedeutende Rolle im Kompetenzerwerb einnehmen.

Schlagwörter: CLIL, kognitive Diskursfunktionen, Sachfachunterricht, zweisprachiger Geschichtsunterricht, kompetenzorientierter Geschichtsunterricht, Erwerb historischer Kompetenzen, Kompetenzmodell FUER Geschichtsbewusstsein, akademische Sprachfunktionen.

C. Tests

TASK A



These two pictures show two Victorian families at home. Do the tasks below with the help of these two pictures.

Argue with what you see on the pictures and what you know from the lessons.

- 1) Describe what you see in these two pictures. Compare them.
- 2) Discuss how these two pictures show typical poor and rich British families during the Victorian period in the 19th century.
- 3) Look at the left picture. What do you think the artist wanted to demonstrate? Why did he/she draw that picture?

Sources

Pictures:

<http://www.libraryofbirmingham.com/diseased>

http://www.bbc.co.uk/schools/primaryhistory/victorian_britain/rich_and_poor_families/

Quote: http://www.historylearningsite.co.uk/children_industrial_revolution.htm

TASK B

Read through the quote by Jonathan Downe in 1832 and do the tasks below.

Use the quote and what you remember from the lessons.

"When I was seven years old I went to work at Mr Marshall's factory at Shrewsbury. If a child became sleepy, the overlooker touches the child on the shoulder and says "come here". In the corner of the room there is an iron cistern (= Wasserbehälter) filled with water. He takes the boy by the legs and dips him in the cistern, and then sends him back to work."

- 1) Describe the working conditions of children in the time of the Industrial Revolution.
- 2) Explain why children had to work in the time of the Industrial Revolution.
- 3) If you could ask Jonathan one question about having to work as a child, what would it be?
- 4) Compare child labour in the time of the Industrial Revolution to child labour in the 21st century. (Do they still do the same kind of jobs? Where do we find child labour today? Etc.)

Sources

Pictures:

<http://www.libraryofbirmingham.com/diseased>

http://www.bbc.co.uk/schools/primaryhistory/victorian_britain/rich_and_poor_families/

Quote: http://www.historylearningsite.co.uk/children_industrial_revolution.htm

TASK A – political consequences of the Industrial Revolution



Look at this political cartoon and do the tasks below. Argue with what you see on the picture and what you know from the lessons.

- 1) Describe the cartoon.
- 2) This caricature was produced in 1894, which is long after the peak of the Industrial Revolution. Explain in how far it is still connected to the Industrial Revolution.
- 3) Discuss the artist's intentions for producing this cartoon.
- 4) Argue whether (or in which ways) this cartoon is still relevant in the 21st century.

Sources

Cartoon: <https://core1220spring2013tr5.wordpress.com/category/web-question/page/4/>

Quotes: http://www.historylearningsite.co.uk/industrial_revolution_towns.htm

http://www.internationalschoolhistory.net/eeb3/s5/extra/social_consequences_ppt.htm

TASK B – Industrial Revolution: urbanisation and living conditions

Read through the quotes and do the tasks below. Use the quotes and what you remember from the lessons.

Medical doctor in Manchester in 1820: *"Whole streets, unpaved and without drains or main sewers, are worn into deep ruts and holes in which water constantly stagnates, and are so covered with refuse and excrement as to be impassable from depth of mud and intolerable stench."*

Charles Booth (social researcher) 1889: *"On the second floor lived a widow. In her room lived her grown-up son, two daughters, and two or three children of one of these daughters. Above on the third floor lived a market porter, his wife and four children."*

- 1) Report these narrations in your own words (one sentence each).
- 2) Briefly summarise the living conditions in 19th century Britain.
- 3) Explain how and why these living conditions came about. Consider population development and migration.
- 4) Formulate two questions you would need to ask to be able to reliably assess the authenticity of these quotes.
- 5) Considering what you know about living conditions in Britain in the 19th century, do you think the sources are reliable? Argue why (not).

Sources

Cartoon: <https://core1220spring2013tr5.wordpress.com/category/web-question/page/4/>

Quotes: http://www.historylearningsite.co.uk/industrial_revolution_towns.htm

http://www.internationalschoolhistory.net/eeb3/s5/extra/social_consequences_ppt.htm