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## **Declaration of authenticity**

I confirm to have conceived and written this diploma thesis in English all by myself. Quotations from other authors are all clearly marked and acknowledged in the bibliographical references within the text. Any ideas borrowed and/or passages paraphrased from the works of other authors are truthfully acknowledged and identified.

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“I can no other answer make but thanks,  
And thanks; and ever thanks [...]

(William Shakespeare, *Twelfth Night*)

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# I Introduction

At the end of January 2017, the Federal Minister for Education, Sonja Hammerschmid, announced a digitization strategy for the Austrian education system. The strategy called *Schule 4.0 – jetzt wird's digital* comprises four types of measures, including the enhancement of digital infrastructure in classrooms, the development of digital educational resources, media education starting in primary school, as well as mandatory media literacy training for teachers. Once implemented, every pupil in this country should be given the opportunity to learn how to use and critically reflect on digital media. Hammerschmid's objective is that no pupil should leave secondary school without having acquired digital literacy. (BMB 2017, Ostermann 2017).

The ministry's initiative is a logical reaction to the recent fundamental changes in private and professional life. Over the past decade, digital media have become prevalent in many people's homes and workplaces, and even while commuting from one to the other. As it is possible to watch videos, talk to customers or friends, order goods online and check savings on the bank account by means of only one device, adults, children and adolescents alike have gone digital.

From young people's perspective, the rapid development of digital technology has advantages and drawbacks. On the one hand, children and adolescents can nowadays choose from a wider range of content and engage in online activities in many more ways than previous generations (Feierabend et al. 2016, Willemse et al. 2014). On the other hand, considering predictions of globally operating consultancies such as *Deloitte*, which claim that "the traditional way of doing business is quickly outdated" (Buchanan, Kelley & Hatch 2016: 1), they will also need different or even more skills than earlier generations to be successful at their future workplace. The proposed digitization strategy *Schule 4.0*, it seems, intends to support pupils with regard to both aspects mentioned above: First, the digital school could introduce learners to risks of digital and online media and enable them to cope with problems on their own. Secondly, it could provide them with digital know-how relevant for a professional career.

## 1.1 Problem statement

A school system that pays attention to pupils' media literacy sounds promising, but the idea is not as brand-new as politicians have the public believe. The Austrian Federal Ministry of Education already issued a national policy in 2012 that demands from teachers in secondary schools of any subject to integrate media education into their teaching. The so-called *Grundsatzerlass Medienerziehung* holds that

Jeder Lehrer/jede Lehrerin ist [...] verpflichtet, auf [die Medienerziehung] als Unterrichtsprinzip, wie es in den einzelnen Lehrplänen verankert ist, in allen Unterrichtsgegenständen fachspezifisch Bedacht zu nehmen. (BMBF 2014: 5)

Although the quoted passage unmistakably says that secondary school teachers have to devote part of their lessons to work with their pupils on (digital) media, it leaves the extent and focus of teaching media literacy up to the individual educator. This is a weakness of the policy currently in force, because teachers with little passion for or knowledge of (digital) media can reduce media education to a minimum without having to fear any consequences. The problem that teachers might not be trained well enough for what they are expected to teach should not be downplayed. In a recent online survey among approximately 400 14- to 20-year-old Austrian pupils, more than 50 percent uttered the wish that the teaching staff at the country's secondary schools should have better Internet and digital media skills (Zeglovits 2017: 10). Of course, it must not be forgotten that teenagers tend to view their teachers critically; still, this is a rather unpleasant result.

Whether the new digitization strategy has the potential to change the present-day situation for the better will not come to light soon. Despite the initiative's subtitle *Jetzt wird's digital*, which evokes the impression of urgency and immediate implementation, several more years are to pass before its effectiveness can be judged. If the budget allows, it is possible to equip classrooms with a faster WiFi Internet access and the latest portable devices before long, but teachers' skills will not improve overnight. Furthermore, the *Schule 4.0* concept will introduce obligatory digital literacy courses only to those who start their teacher training program in winter term 2017/18 or later, whereas those already enrolled at university or working as licensed teachers can visit seminars on digital media on a voluntary basis. Consequently, the first educators who have undergone mandatory media literacy training will not arrive at Austrian schools before 2020. In the meantime, it is up to the older members of the teaching profession to fulfill the duty as best as they can.

## 1.2 Research interest

Given the fact that media education with focus on digital media is a responsibility with increasing importance for all Austrian teachers in secondary schools, the question arises how media literate teachers are themselves and how prepared they feel to train their pupils' skills. This diploma thesis is particularly interested in the situation of future foreign language teachers who study at the Department of English at the University of Vienna. As denoted by the title, the emphasis of the paper is on the following main research question:

*How digitally and media literate are Lehramt students at the Department of English at the University of Vienna?*

Answers to this research question are sought through an empirical approach. The thesis draws on a quantitative online survey designed and distributed in the winter term 2016/17 among students in the magister and bachelor programs at the English department. The development of the research instrument is guided by five sub-questions derived from the main research question:

- *RQ 1: What are students' strengths and weaknesses in various dimensions of digital and media literacy?*
- *RQ 2: How ready do the students feel to teach digital and media literacy in their prospective English classes?*
- *RQ 3: What is the relationship between students' digital and media literacy and their attitudes towards digital media inside and outside the classroom?*
- *RQ 4: What is the relationship between students' digital and media literacy and their education at university?*
- *RQ 5: In which ways does today's digital media environment differ from the media with which students were socialized in childhood and adolescence?*

The survey uses self-assessment and classroom scenarios to identify potentials and problem areas of student teachers. By doing so, the paper aims at offering insights on media literacy that could be helpful for decision makers at the Ministry of Education and at universities alike. The findings may serve as a guideline as to how to reshape obligatory and voluntary courses within the Austrian Lehramt studies and further teacher education. In this respect, the author hopes to contribute to the digital future in the country's secondary schools.

### 1.3 Structure of the paper

The diploma thesis features a theoretical part, which comprises chapters 2 and 3, as well as an empirical part, including chapters 4 to 6.

Chapter 2 introduces the theoretical concepts on which the paper is based. Sections 2.1 and 2.2 combine technical, legal, economic, as well as social scientific perspectives to define relevant terminology. In particular, they deal with the terms *media* and *literacy* and outline changes in definition over the course of time. Section 2.3, which is devoted to the compound noun *media literacy*, discusses several ways of dividing know-how and skills related to different types of media into various categories. The four-dimensional model presented in chapters 2.3.3 to 2.3.6 is especially inspired by the work of the German educational researcher Baacke (1997) and the British social psychologist Livingstone (2004).

Chapter 3 focuses on methodological issues regarding media literacy assessment before providing a literature review of previous studies on media literacy in the educational context. First, the differentiation between *competence* and *performance* is borrowed from Chomsky's (2006) generative grammar as a prerequisite for translating the theoretical media literacy framework into empirically observable literacy practices. Secondly, various measurement approaches that can be used in quantitative surveys, namely self-evaluation, scenarios, and tests, are compared. Thirdly, findings from different countries on teachers' and prospective teachers' media use, attitudes towards media as well as motivation to engage in media education are contrasted with pupils' media habits and preferences.

Chapter 4 gives the details on the instrument designed to empirically explore the research questions. It explains the online survey's structure as well as its sample. Chapter 5 features a description of results from the 84 complete responses obtained during the inquiry period. In addition to descriptive statistics, correlation analyses are conducted to detect and point to interrelations between various survey sections. In chapter 6, the research method applied in this paper is critically evaluated. The conclusion in chapter 7 links the empirical findings on student English teachers at the University of Vienna to earlier projects carried out at other educational institutions and makes several suggestions for a media literacy curriculum within the Austrian Lehramt studies.



## **A. THEORETICAL PART**



## 2 Media literacy: terminology and concepts

In non-academic conversation, media literacy is probably just as controversial a topic as school education. As everyone has personal experiences with media just as with school, almost everyone, including average people, politicians, and industry leaders, feels entitled to have a say in these matters. Unlike school education, which is subject to numerous laws and, therefore, also clarified by legislation, media literacy is based on rather vague terminology: A definition of media, be it a legal or common-sense definition, must either be very general or open to constant revisions in order to incorporate technological developments. Consequently, the knowledge and skills required to master media permanently need to be redefined as well, which impedes a final agreement on what media literacy is all about. While some, aware of the omnipresence of media in private and professional life, call media literacy a key concept (e.g., Rein 1996), others reject the abundant use of the term for reasons of not degrading it to an empty phrase (Weiner 2011: 42).

Despite its popularity and certain degree of fuzziness, media literacy is a complex issue and not be regarded as too trivial for academic study. Considering the fast-moving nature of media and wishing to avoid a too general analysis, this thesis does not aim at examining media literacy for all available types of media and is not chiefly interested in changes over time. Instead, it focuses on current digital media. Thus, chapters 2.1 and 2.2 only briefly sketch historical developments before relating the term *media* as well as the term *literacy* to the present-day digital and online environment. In line with this, chapter 2.3 introduces and links several media literacy concepts from the fields of communication sciences and media pedagogy to the use of digital media.

### 2.1 The evolution of media

As mentioned above, defining the compound noun *media literacy* is a challenge due to the multifaceted and ever-changing character of media. In order to prove the claim, this chapter approaches the term *media* – as the first noun of the compound – from different perspectives.

Depending on the context, media may be defined in numerous ways. With regard to the literacy focus of this thesis, three definitions appear particularly relevant: From a technical point of view and bearing the Latin origin of the word in mind, media may

be described as means for transmitting information or communication over distance. In this sense, McQuail (2000: 13) describes communication through media as “giving and taking of meaning, the transmission and reception of messages”. From an economic standpoint, media may be seen as an industry consisting of individual companies that offer jobs and compete for audiences and advertising revenues. In the social sciences, media may be called institutions that have an important impact on the public opinion by influencing individuals’ thoughts and emotions through the content, i.e. type of information, they offer. Moreover, media as institutions fulfill important democratic functions, i.e. to control the legislature, the executive and the judiciary. In return, media might underlie state or market regulations. (Lister et al. 2009: 9)

The first, technical definition that understands media as “communication channels” through which different types of “messages are sent” (The Law Dictionary n.d.) is popular with media legislation as well as the media and communication studies. For instance, the Austrian media law says that a medium is

jedes Mittel zur Verbreitung von Mitteilungen oder Darbietungen mit gedanklichem Inhalt in Wort, Schrift, Ton oder Bild an einen größeren Personenkreis im Wege der Massenherstellung oder der Massenverbreitung (MedienG § 1 (1) 1.)

The legal and academic perspectives have in common that they have traditionally been focused on the mass media, such as the printed press, radio and television, which conform to the notion of linear communication (Shannon 1948: 380; Schulz 2009: 173). Hence, with mass media two parties, namely senders and receivers of messages, can be distinguished. The quote from the Austrian media law reproduced above points to the fact that the parties involved in mass media communication are unequal in two ways: For one, the group of receivers, i.e. readers, listeners or viewers, is significantly larger than the group of senders, i.e. journalists and editorial staff. Moreover, information is only transmitted from the senders to the receivers, giving the receivers no possibility to respond. McQuail (2000: 41) terms these two features of the mass communication process an “asymmetrical relation” and “one-directional flow”.

Another typical feature of mass media is that the two parties involved in the communication process are spatially separated. Consequently, they are not able to interact directly from face to face, but need technical equipment to cover distances and exchange messages indirectly. As the equipment varies with different types of mass media, they can be classified according to their technical requirements. For so-called

*secondary media* (“Sekundärmedien”)<sup>1</sup> including all sorts of print media, such as books, newspapers and magazines, only the production is dependent on technical equipment. Among others, layout software, printing presses and trucks are necessary to produce and distribute secondary media. On the other hand, the readers just have to purchase copies of the books or papers; for use of secondary media, no other devices have to be afforded. In contrast to this, radio and television, which may be labeled as *tertiary media* (“Tertiärmedien”), necessitate technical equipment for both production and use. For instance, no TV station could operate without cameras, editing facilities or transmitters. Likewise, the audience at home needs a TV set and antenna or other devices for receiving broadcasts. (Pross 1970: 129)

While Shannon’s and Pross’ decades-old ideas of linear communication and a media typology are still valid for today’s print and broadcast media, they do not represent the technical developments in the domain of computers and other digital media that have globally changed private and professional lives. The new possibilities and experiences created by digital media call for an addition to the (technical) definition of media presented in this paper so far. Winter (2006: 24) introduces *fourth level media* (“Quartärmedien”) as a further category to Pross’ typology. Like tertiary media, these also require technical equipment for production and use, but they annihilate the former paradigm of linear communication by enabling all parties involved to be both senders and receivers. The equality may be realized in various degrees: Online editions of newspapers, for example, offer forums to give readers the chance to actively participate and comment on articles, but otherwise keep a clear distinction between professional senders and amateur receivers. In other cases, such as chats in social media or Internet telephony, the roles of senders and receivers completely merge. These examples illustrate that fourth level media empower media users to act as consumers and producers, a mighty position for which Toffler (1980: 27; 282) created the term “prosumer”.

One might argue that the reversal of sender and receiver roles in technically assisted communication is no innovation of the digital era and name the landline network as an appropriate example of two-way individual communication in pre-Internet times.

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<sup>1</sup> The text does not refer to *primary media* (“Primärmedien” or “Menschmedien”) which solely rely on personal human interaction and are not dependent on technical equipment, e.g. preachers talking to their audiences.

Of course, this argumentation is valid. The innovative quality of fourth level media, however, is the establishment of a “convergence culture” (Jenkins 2006). Convergence can be described as the “interconnection of information and communications technologies, computer networks, and media content” (Encyclopaedia Britannica n.d.). In other words, forth level media combine different functions and services that were once separate. Among others, they unify public (mass media) and individual communication that is not intended for the public. Moreover, digital environments can be best described as multimedia environments, integrating written and spoken language, audio, video, news, telecommunications and gaming (Levy 2005: 5; Wilke 2009: 329).

Facing the unification of sender and receiver to prosumers, the convergence of public and individual communication as well as multimedia tools, it should not come as a surprise that high-literacy users of digital fourth level media need several more skills than previous generations who grew up with secondary (mass) media only. Despite the fact that this chapter dealt largely with the technical definition of media, it must not be forgotten that media are “fully social institutions which are not reducible to their technologies” (Lister et al. 2009: 10). This quote implies that in addition to technical and usage-related skills, awareness and knowledge of the economic, social and democratic impact of media would be further crucial capabilities in the digital age. Chapters 2.2 and 2.3 elaborate on that thought.

The classification of media by technical requirements as suggested by Pross (1970) and Winter (2006) helps to discriminate between media as such, namely intangible communication channels (e.g. television, radio, the Internet), and tangible media equipment (e.g. television or radio set, computer, smartphone). As can be seen in chapter 3.3, which introduces recent quantitative findings on (prospective) teachers’ and teenagers’ media use, this distinction is not the common reasoning in everyday life. Instead, media and media equipment are frequently intertwined, which allows for answers like “The most important of all media is my smartphone”. In the empirical part of this paper, the blurriness of everyday life is accepted for two reasons. One of them is that the participants in the online survey are no media and communication researchers and can thus not be expected to differentiate between intangible and tangible media either. Besides, even the theoretical media literacy framework presented in chapter 2.3 merges media and media equipment in various categories.

## 2.2 The evolution of literacy

Keeping to the idea of devoting a subchapter each to the terms *media* and *literacy* before analyzing the compound *media literacy*, this section covers the broadening of the second noun of the compound and the milestones of the educational concept behind that noun.

Throughout history of humankind, the literacy concept has undergone a continuous expansion in two ways: First, the number of literate people among societies around the world has increased heavily over time. Secondly, the number of skills associated with the idea of a literate person has risen from one age to another. This evolution of literacy is tightly connected to the development of media from primary to fourth level media described in chapter 2.1.

In the original sense, the term *literacy* means “a person’s ability to read the written word” (Potter 2014: 15), or, in a more linguistic sense, “the ability to encode and decode symbols and to synthesize and analyze messages” (NAMLE n.d.). In other words, literacy may be defined as “the interpretation of language or meanings when these are realized as visual signs” (Holme 2004: 3).

According to Pérez Tornero and Celot (2007: 3-4), an important presupposition for the literacy concept is the written language that is deeply rooted in the pre-Christian Greek culture. In ancient Greece, the creation of a standardized alphabet revolutionized the preservation of cultural knowledge and its transfer to succeeding generations. Suddenly, the tradition of oral communication was supported by written communication, which was frequently driven by philosophers and academics. In ancient Rome, written documents were similarly produced and circulated mainly among the upper class, such as generals, emperors, poets and merchants. Lower classes, hence the majority of the population, were excluded from written communication because of lacking education and literacy back then.

In order to better understand the historical advancement of literacy, Holme (2004: 11-17) argues that the concept should not be perceived in a strictly humanist tradition. While humanists focus on the individual values brought about by the command of language, including the development of one’s own personality and knowledge gain, social and economic values can be identified as further driving factors for literacy campaigns in various periods. From a functional perspective, literate people –

apart from being well-educated individuals – have other qualifications as citizens, consumers and laborers than illiterate people. This is why different influential players throughout European history, depending on their goals, had a strong interest in either supporting or opposing literacy efforts.

For many centuries, the wish to preserve the power of the upper classes in the estates of the realm was dominant and hence the “social, economic and every other kind of inequality” (Pérez Tornero & Celot 2007: 3) remained obstacles to the spread of literacy among large parts of society. In the Renaissance, however, the Protestant reformation took advantage of the invention of the printing press, which pioneered the mass circulation of bible translations, but also of other print media because the new production technique made books and papers more affordable. The technological progress was accompanied by emerging compulsory education for girls and boys in Western Europe and Northern America that amplified the literacy rate and confronted publishers with enlarging audiences. As the print media industry prospered, religious reasons for promoting literacy were gradually replaced by economic interests. With a growing reading public, the image of print media steadily shifted. By the end of the First Industrial Revolution around 1850, print media were less perceived as exclusive status symbols any longer, but had become everyday consumer goods.

During the Second Industrial Revolution, the first electronic media added to society’s information and entertainment choices. Photography, cinema, radio and television, which quickly gained popularity, demanded a new kind of literacy from their audiences related to decoding and understanding non-personal spoken communication and moving images. As shown in Table 1, this type of skills is referred to as “audiovisual literacy”.



**Table 1:** Phases in the evolution of media literacy (Pérez Tornero & Celot 2007: 4).

Historical era	Communicative environment	New skills	Socio-cultural outcomes
<i>Classical era</i>	Oral and gestural communication, development of alphabetical writing	Command of oral and gestural language, alphabetical skills	Systematization and conservation of knowledge, origin of philosophy and scientific exploration
<i>Renaissance and first industrial revolution</i>	Development of printing, of books and the press	Amplification and expansion of literacy	Advances in empirical philological sciences
<i>Second industrial revolution</i>	Appearance of electronic media: telephone, film, radio and television	Audiovisual literacy	Media and consumer societies
<i>Information society</i>	Digital media and Internet	Digital literacy, Information literacy	Globalization of information, explosion of knowledge, knowledge society

Today's abundance of digital media has led to a new logic in the way media are embedded and used in private and professional context. The idea to examine and to prepare young people for media use at work originates from another functional view on literacy, namely as set of skills that can improve employees' productivity (Holme 2004: 12).

In light of the ever-growing amount and ubiquitous accessibility of information due to mobile devices, the terms "information society" (Webster 2014) and "network society" (Castells 2010) have been coined for the contemporary media-driven lifestyle. Table 1 indicates that these information and network societies have triggered a further expansion of the literacy concept, the so-called "digital literacy" or "information literacy". This latest add-on to a tradition thousands of years old determines essential qualifications in order to successfully participate in digital environments. Chapter 2.3 demonstrates in more detail what it is all about.

## 2.3 Dimensions of media literacy

Considering the semantic complexity of the two nouns that compound the term *media literacy*, it becomes apparent that there is no straightforward definition of the latter either. Apart from the technical advancements and media innovations that cannot be foreseen, but necessitate an ongoing revision of media literacy, different terminology and typologies or identical labels with different meanings can be found in literature. These circumstances make it hard to find common ground when it comes to defining media literacy. Nevertheless, this chapter seeks to identify core elements in European and Anglo-American media literacy models for digital media. It uses both publications by individual academics and international bodies in English and German to include a wide range of ideas.

The definitions and dimensions of media literacy presented here are skills-based and of normative quality; they express the highest level of literacy media users ideally should have acquired before or acquire through spending time with (digital) media. The dimensions as well as the skills within the dimensions that are described below should not be confused with the actual knowledge and skills of a particular person. While this chapter addresses media literacy from a theoretical viewpoint, chapter 3 is devoted to the question of how to empirically assess media literacy.

### 2.3.1 Overview: one media literacy, several approaches

The term *media literacy* combines the various developments of literacy in human history that went hand in hand with the progress in media technology. In this respect, media literacy can be defined as

part of the important process of humanity's communicative development, which started with the introduction of the classical written alphabet, and which has extended to the development of electronic media and digitalised information. (Pérez Tornero & Celot 2007: 4)

In other words, modern media literacy consists of several components introduced in chapter 2.2 that evolved over almost three thousand years, including alphabetical skills (reading and writing in one or more languages), audiovisual literacy and information or digital literacy.

While there is little doubt among experts *that* new types of media call for new skills, the question *which* skills are needed and how to categorize and label them best is controversial. One of the most popular media literacy models in the German-

speaking world was developed by Baacke (1997) who put forward the four dimensions *Medienkunde*, *Medienkritik*, *Mediennutzung* and *Mediengestaltung*. From the explications of these categories, it becomes obvious that Baacke – he had been working on his model since the early 1970s – back then did not spend thoughts on digital media. Nevertheless, Treumann et al. (2007) stuck to the concept and updated it for the digital age so that it is still appropriate today. They also conducted one of the first empirical studies that strived for examining “die gesamten Medienkompetenzen” (Treumann et al. 2007: 22), i.e. all aspects of media literacy among German adolescents.

Schorb (2005) offers an alternative German media literacy scheme; unlike Baacke and his successors, Schorb divides media literacy into only three categories. While the dimensions *Medienwissen* and *Medienbewertung* have much in common with Baacke’s *Medienkunde* and *Medienkritik*, Schorb’s *Medienhandeln* unites the separate categories *Mediennutzung* and *Mediengestaltung*. Considering one of the characteristic features of digital media, which is merging sender and receiver in one person (see chapter 2.1), the notion of condensing media use and production to one dimension seems perfectly reasonable.

Anglo-Saxon and Anglo-American media literacy models tend to be more comprehensive than German concepts in terms of numbers of categories. Only Livingstone’s (2004) British model, which also consists of four dimensions, takes a similar shape. In Table 2, these four categories are the ones not put in brackets, i.e. *Access*, *Analysis*, *Evaluation* and *Content Creation*. The two additional dimensions *Understanding* and *Action* as well as the adjective *Critical* to define the category *Evaluation* in more detail are enhancements proposed by the European Commission (2007a) and the U.S. based National Association for Media Literacy Education (n.d.).

Scheibe and Rogow (2012) define media literacy through eight categories. As denoted by the labels, five of them closely resemble the model proposed by the European Commission. However, in Scheibe and Rogow’s model the mental capacity to become aware and reflect on any kind of media-related issues is strengthened. Their concept also emphasizes the collaborative aspect of digital media production or consumption by introducing *Participation* as a further dimension.

**Table 2:** Defining media literacy through categories – overview of various approaches.

Baacke 1997, Treumann et al. 2007	Schorb 2005	Livingstone 2004, European Commis- sion 2007a, NAMLE n.d.	Scheibe & Rogow 2012	Potter 2014	Jenkins 2009
Medienkunde	Medienwissen	Access	Access	Personal Locus	Play
Medienkritik	Medien- bewertung	(Under- standing)	Under- standing	Knowledge Structures	Performance
Medien- nutzung	Medien- handeln	Analysis	Awareness	Analysis	Simulation
Medien- gestaltung		(Critical) Evaluation	Analysis	Evaluation	Appropria- tion
		Content Creation	Evaluation	Grouping	Multitasking
		(Action)	Creation	Induction	Distributed cognition
			Reflection	Deduction	Collective intelligence
			Participation	Synthesis	Judgment
				Abstracting	Transmedia navigation
					Networking
					Negotiation

Potter (2014) mentions three “building blocks” (17) of media literacy, namely *personal locus*, *knowledge structures* and *skills*. As the latter block consists of seven individual skills, Potter’s model comprises nine categories in total (see Table 2 for the full list). Several features of his concept come close to the models discussed above, whereas other aspects are not that easy to compare. Among others, the dimension *knowledge structures* matches Baacke’s *Medienkunde* or Schorb’s *Medienwissen*, and analytical as well as evaluative skills concur with Livingstone’s and The European Commission’s constructs. On the contrary, the idea of a *personal locus* cannot be found with other media literacy concepts, although there might be some parallels to *Medienkritik* or *Medienbewertung*.

Jenkins’ (2009) notion of media literacy differs from all the others’ presented in Table 2. This has to do with the fact that he particularly concentrates on new media in

the sense of digital media, while the four other concepts consider secondary to fourth level media. When Jenkins (2009: xiii) claims that

[s]chools and after-school programs must devote more attention to what we call *the new media literacies*: a set of cultural competencies and social skills that young people need in the new media landscape

the differences of his approach become obvious. In contrast, the European Commission (n.d.: 1) has come up with a holistic definition of media literacy:

*Media Literacy* is about being able to access all media – from radio to social networks, from digital TV to the printed press and the most recent mobile devices – to fully exploit their potential and to use them in a critical, active and creative manner.

Another distinctive feature of Jenkins' model is that his labels are more precise than in other concepts. For instance, Schorb's dimension *Medienhandeln* or Livingstone's category *Access* only raise vague ideas of the skills included, but labels like *Multi-tasking* and *Transmedia navigation* appear more self-explanatory. As the goal of this chapter is to compare core elements from various concepts on media literacy, no particular model or dimension is discussed in detail here. Similar ideas on the essential skills for digital media are grouped and elaborated in chapters 2.3.4 to 2.3.7 instead. Before doing so, chapter 2.3.3 briefly investigates variations in meaning whether media literacy is used as a singular or plural noun.

### 2.3.2 From media literacy to media literacies – and vice versa

The quote by Jenkins on the previous page reads "the new media literacies", which is a deviation in writing style and in the notion of media literacy from the rest of this paper so far. Yet, he is not the only one to use the plural; also Livingstone (2004: 8) prefers the idea of multiple *literacies*, which she makes explicit by claiming that "we must consider the possibility of literacies in the plural, defined through [people's] relations with different media rather than defined independently of them". Both Jenkins and Livingstone seem to be convinced that the use of the singular does not cover the wide range of skills that might be necessary to master digital media in various contexts, and therefore resort to the plural.

In a similar way, Holme (2004: 66) reasons that "we should [...] no longer speak about *literacy*, but about *literacies*." For him, the singular signifies a theoretical framework, or general ability, while he associates the plural with particular and varying contexts of media use. For instance, if the ability to respond to text messages on a cell phone was perceived as part of the general framework (= *literacy*), typing an

answer in a *WhatsApp* or *Facebook* chat would be two separate contexts of putting the framework into practice (= *literacies*).

This line of thought comes close to Chomsky's (2006) universal grammar theory and his distinction between linguistic *competence*, i.e. the knowledge of the rules and vocabulary of a language, and *performance*, i.e. the realization of knowledge in a particular communicative situation. Since this chapter is dedicated to theoretical concepts on media literacy in the sense of *literacy* as a general framework, the plural *literacies* as used by Livingstone or Holme does not appear relevant here. However, separating media literacy into two layers, defining one as an invisible cognitive capacity, and the other one as observable practices, can be seen as a crucial step towards empirical research on media literacy, and is reintroduced in chapter 3.1.

Another alternative use of terminology that is of importance to the theoretical modeling of media literacy can be found in Wilson et al. (2011). Unlike the evolution hypothesis outlined in chapter 2.2 and the media literacy definition presented in chapter 2.3.2, which integrates the full range of media skills in private and professional life, Wilson et al. do not conform to the idea that *media literacy* serves as an umbrella term for all types of skills related to accessing, using and reflecting on media in manifold ways. Instead, they distinguish between *information literacy* and *media literacy*. Table 3 lists the differences between the two terms as identified by the researchers.

**Table 3:** Elements of media and information literacy (Wilson et al. 2011: 18).

Information literacy	Media literacy
Define and articulate information needs	Understand the role and functions of media in democratic societies
Locate and access information	Understand the conditions under which media can fulfill their functions
Assess information	Critically evaluate media content in the light of media functions
Organize information	Engage with media for self-expression and democratic participation
Make ethical use of information	Review skills (including ICTs) needed to produce user-generated content
Communicate information	
Use ICT skills for information processing	

This paper is not in favor of separating several kinds of literacy on the theoretical layer for two reasons. First, it would be difficult to come up with a definite number of distinct literacies. For instance, would *audiovisual literacy* be a component of information literacy or of media literacy or would it qualify as a further distinct literacy? Even with a focus on particular domains – Wilson et al. concentrate on skills for information and communication technology (ICT) – it could be difficult to draw the line. Secondly, the discrimination between *literacy* as a singular noun in theory and *literacies* as a plural noun in practice would be blurred. As a result, the suggestion of defining several literacies on the theoretical level is dismissed in this paper. Nevertheless, the author of this thesis, like the scholars whose conceptual work is shown in Table 2, supports the notion that segmenting the umbrella term *media literacy* into various components could help to become aware of its complexity. Chapters 2.3.4 to 2.3.7 follow Baacke's (1997) and Livingstone's (2004) four-category models.

The four theoretical categories presented below are called (1) *accessing and using media*, (2) *knowing and understanding media*, (3) *analyzing and evaluating media* as well as (4) *creating and participating in media*. These are not related to a particular age group or professional domain; they should be understood as a normative catalogue of criteria that map the prerequisites for meaningful and responsible media use “not only for the young generation but also for adults and elderly people, for parents, teachers and media professionals” (European Commission n.d.: 1).

### 2.3.3 Accessing and using media

Within the media literacy framework, *accessing and using media* can be described as the most precise category in the sense that definitions in literature largely overlap. What differs between various approaches, however, is the order of dimensions. While the German models (Baacke 1997, Schorb 2005, Treumann et al. 2007) tend to place media usage in the end, preceded by less technical and more analytical dimensions, starting with the most obvious skills linked to access and use is preferred by British and American models (Livingstone 2004; Scheibe & Rogow 2012). This paper is in accordance with the latter.

When it comes to digital media access, paying attention to the so-called “digital divide debate” (Livingstone 2004: 6) seems inevitable. The digital divide expresses the ratio of people having access to information and communication technology to those excluded from ICT; it particularly measures the access to the Internet. Although the

digital divide has globally decreased over the last decade, inequality has remained a concern in developing countries and among particular socio-demographic or socio-economic groups in Western societies (Castells 2010: xxv). Without proper infrastructure and devices, digital media literacy can neither be trained nor applied. In this respect, media access is no cognitive ability, but a socio-economic issue.

So, for a skills-based understanding of (digital) media access, it has to be detached from the question of equipment and redefined as research techniques on the Internet. This comes close to the European Commission's (n.d.: 1) presumption that citizens "may need training on how to access different sources [...] and which sources to trust". It also goes in line with steps one and two of Wilson et al.'s (2011: 18) model on information literacy, which are about the verbalization of "information needs" in order to successfully find and access desired information among the huge amount of data available online (see Table 3).

Digital media *use* does not appear as an explicit category label in British and American models; use is, nevertheless, referred to in the access dimension. For instance, Livingstone (2004: 6) puts forward that "the two are linked" in the way that "media access underdetermines use", and Scheibe and Rogow (2012: 19) state that access includes "knowing how to use the technologies effectively". In contrast to this, media use is a distinct category in Baacke's (1997) and his successor's German tradition of defining media literacy. According to Treumann et al. (2007: 34), whose research focuses on adolescents, "die Dimension der Mediennutzung erfasst dann sehr konkret, welche Medien(umgebungen) die Jugendlichen konkret nutzen und welche Qualität diese Nutzung hat." Thus, media use is about examining which equipment, tools and content are used for which purposes.

Baacke (1997: 99) as well as Treumann et al. (2007: 34) moreover discriminate between a *receptive* ("rezeptiv-anwendend") and an *interactive* ("interaktiv-anbietend") subcategory of media use and call for a number of abilities within these two categories. Receptively skilled media users feature well-developed habits and routines of *when* and *why* to turn to particular types of media; their time devoted to media should be in reasonable proportion to non-use and part of a lifestyle rich in variety. An additional indicator for a high degree of literacy in receptive use is the ability to cognitively process the information presented in the media and increase one's general knowledge. On the other hand, interactively skilled media users feature manifold ways of *how* to turn to particular types of media to satisfy particular needs.



Though Baacke's ideas on media literacy originated several years before the Internet became a global mass phenomenon, the distinction of receptive and interactive use appears to be more relevant with today's digital fourth-level media than it has been ever before. In the age of convergence (see chapter 2.2), it is up to the individual whether to engage with digital media merely in a receptive way (e.g. reading online papers, watching video clips), in an interactive way (e.g. commenting on articles in discussion boards, sharing a video clip in a social network), or both. The more interactive an individual behaves online, the more difficult it gets to keep media use apart from another dimension in the media literacy model, namely *creating and participating in media*. Chapter 2.3.7 returns and contributes to that thought.

### 2.3.4 Knowing and understanding media

The second theoretical category of the four-dimensional media literacy model presented in this paper is given the label *knowing and understanding media*. Just like *accessing and using media*, this label combines the terminology brought up by various sources on media literacy. Although the words *knowing* and *understanding* might be used interchangeably in many other contexts, they are both deliberately included here in the category label to trigger reflection on nuances in meaning differences.

While the European Commission's (2007a) definition of media literacy largely resembles Livingstone's (2004) concept, two significant amendments can be observed. One is directly related to the dimension discussed in this subchapter because *understanding* has been added to Livingstone's older model as a further category. What is problematic about the Commission's approach, however, is that it lacks a more detailed description of the skills that make up this dimension. At least, the category label appears in the following example, "The various levels of media literacy include [...] understanding the economy of media and the difference between pluralism and media ownership" (European Commission 2007b: 4), which points to one definition of media identified as important in chapter 2.1.

In the search of a comprehensive determination of what it means to understand media, Scheibe and Rogow (2012: 20) offer another piece of the jigsaw puzzle. They translate understanding to the capacity of "comprehending basic, explicit messages from media sources as a precursor to being able to ask analytical questions about those messages."

Summarizing both direct quotes reproduced in this section so far, one might draw two conclusions. First, it might be concluded that understanding media involves knowing facts on the media industry that can be used to consider possible reasons why particular media in particular situations (do not) offer content exactly the way they (do not) do. For instance, knowing that Turkish president Erdogan enforced the shutdown of several media organizations after the military revolt in summer 2016 would help to understand why remaining Turkish media might be less critical in their reports on Erdogan's actions than foreign media. Secondly, the process of understanding could be perceived in a more technical sense, i.e. whether the receiver of a message is in command of the right decoding technique to interpret the message as intended by the sender and, subsequently, to engage in further discussion on the content received. In order to illustrate this point, one might think of a TV news report on the latest statistics on unemployment. Explicit understanding would involve getting the figures right before thinking about the implications of the news for one's own life as well as for society.

The two lines of thought developed above are generally in accordance with Baacke's (1997: 99) dimension *Medienkunde*. Unlike NAMLE and the European Commission, he specifies his ideas to leave less room for interpretation of his work. Baacke introduces the subcategories *background knowledge* ("informative Medienkunde") and *usage-related knowledge* ("instrumentell-qualifikatorische Medienkunde") to separate factual knowledge of the media system from skills that are required for successful media use. Erdogan's zero-tolerance policy against critical journalism, identifying Mark Zuckerberg as the founder and CEO of *Facebook* as well as keeping commercial and public service broadcasting apart would be examples of background knowledge, whereas skills such as connecting a laptop to a Wi-Fi network or solving printer problems would be examples of the latter. Although Scheibe and Rogow (2012) do not directly refer to Baacke (1997) or vice versa, it might be argued that also the capacity to literally understand media content should be associated with usage-related knowledge because (literal) non- or misunderstanding would be an obstacle to beneficial media use just as the disability to open the desired website in the browser.

Despite several similarities outlined above between Baacke's model and other definitions, an important difference in his theory should not be ignored. Other than Scheibe and Rogow (2012) who define the process of understanding media also through ask-

ing analytical questions, his definition does not go that far. His dimension *Medienkunde* focuses exclusively on knowledge, while reflecting on the knowledge and using facts for analysis or interpretation are attributed to the dimension *Medienkritik*, which is described in chapter 2.3.6.

Drawing the line between various dimensions of media literacy, however, is not an easy task. Schorb's (2005: 260-261) classification supports the impression that the distinction between knowledge, understanding and analysis of media is fuzzy rather than clear-cut. His dimension *knowledge of media* ("Medienwissen") consists of the three components *functional*, *structural* and *orientational knowledge* ("Funktions-, Struktur- und Orientierungswissen"), with the first two equaling Baacke's categories *usage-related knowledge* and *background knowledge*. The third component as suggested by Schorb, *orientational knowledge*, connects knowledge to evaluation and enables the individual to analyze his or her responsibility as a media user. In this sense, it serves as an ethical supervisor and may initiate reorientation in the media landscape if personal media habits are found to be one-sided or insufficient in other ways.

The idea of supervision and correction of one's own media routines through deliberate decisions is also inherent in Potter's (2014: 17) dimension *personal locus*. In order not to be controlled by the media, but to be in control of the influence of the media on their lives, individuals are occasionally required to "examine things [they] usually take for granted, gain new insights, and then use those insights to reprogram [their] mental code". According to Potter, the act of questioning and adapting media habits from time to time is essential for achieving "goals for information and entertainment."

### 2.3.5 Analyzing and evaluating media

The preceding paragraphs have already raised the issue of analyzing and evaluating media structures, content, and use. Despite the insight that there is a certain degree of overlap between the second and third category in the media literacy model, the idea of dividing skills into four dimensions is further pursued for the reason of highlighting different key aspects of media literacy.

This section focuses on the notion that a literate media user is also a critical media user. Therefore, it deals with the questions how knowledge can be used to establish a critical attitude on media and which skills are required to attain that goal.

Treumann et al. (2007: 33), who call the ability to analyze and evaluate media *media criticism* (“Medienkritik”), define this category as meta-knowledge apart from knowing facts on particular media and usage-related knowledge. However, it might affect the processes of understanding and using media. Schorb (2005: 261) explains why this could be the case by asserting that evaluating and reflecting on media might either result in amplified pleasure in media use or lead to refusal of particular types of media.

Livingstone (2004: 6) argues that the capability to analyze media necessitates “interpretative skills” that are not only subject to individual cognition, but are also embedded in and influenced by cultural norms and traditions. In order to be a precise and accurate analyst, one must thus be accustomed to the principles and values of the society as well as of the media system that is under examination. Among the core principles that a media literate person should be able to recognize, critically analyze and evaluate are the quality and accuracy of content (European Commission 2007b: 4). This includes “informed, reasoned judgments [...] of media messages for specific purposes” (Scheibe and Rogow 2012: 20), such as assessing the reliability or credibility of information spread by the media (Livingstone 2004: 7; Jenkins 2009: xiv).

Several recent attempts of deliberate misinformation demonstrate that the ability to analyze and evaluate media content on one’s own has become crucial in nowadays’ global, convergent and digital media environment. For example, US-president Trump accused journalists of disseminating fake news right after his inauguration in the end of January 2017 (Morin 2017). Likewise, in the aftermath of the refugee crisis in 2015, right-wing movements in Europe used social networks such as *Facebook* and *Twitter* to attack the mainstream media for censorship and to share news on delinquent asylum seekers that were allegedly kept back by radio and TV stations as well as online media (Die Presse 2016). While analysis and evaluation empower media-literate users to uncover such lies and false allegations, those who lack the ability to assess the credibility of sources might be deluded.

Another current digital media trend highlights the significance of analysis and evaluation: Thanks to likes, shares and recommendations on social media, the popularity of satirical news websites has sharply risen in the past few years. Although parodies of news such as *Die Tagespresse* (Austria), *Der Postillion* (Germany), *The Oxymoron* (United Kingdom) or *The Onion* (United States) do not intend to spread misinformation but to offer entertainment, they might still be misleading. Chances are that on

social networks, satirical content appears next to genuine news coverage in a similar layout; without the capability to distinguish between fact and fiction, one might believe the parody or satire.

The examples given above show that fourth-level media, i.e. media that also enable non-professional publishers to reach large audiences, have brought new challenges to the issue of judging information. While doubting media messages used to be a matter of questioning the authority of popular TV, radio and print media for many decades, these traditional mass media are currently facing competition and – in terms of audience share – a loss of power through alternative digital media. As many of the new publishers are not liable to professional codes of conduct, press councils or other instruments of quality management, analyzing and evaluating content seems to be more important, but also more difficult than ever before. Livingstone (2004: 7), who already anticipated this development more than a decade ago, describes the need for additional or modified skills. She claims that “now that almost anyone can produce and disseminate Internet contents, with fewer—and different kinds of—filters, the basis of critical literacy must alter”. Ideally, media users have developed an understanding of which of the many sources at their disposal are trustworthy and are also able to compare information spread by different sources. Key skills to reach these aims include active media use, i.e. the deliberate choice of media instead of passive consumption, and the intelligent use of search engines (European Commission 2007b: 4).

### 2.3.6 Creating and participating in media

The fourth and last dimension of the media literacy model to be discussed in this paper might be classified as the most characteristic category of the current state of digital media. While the three other dimensions presented above, including media use, knowledge of as well as evaluating media, have been relevant for many decades since the rise of print and audiovisual mass media, creating own media and participating in media productions was not a mass phenomenon until the beginning of the new millennium. Participation, which might be explained as “initiating or joining in collaborative activities that are enabled by interactive media technologies, such as wikis, social networks, and virtual worlds” (Scheibe & Rogow 2012: 20), was neither possible in pre-Internet days nor common with early online services. In the meantime, however, it has become natural for “an ever growing number of Europeans [and

people in other places around the world] to create and disseminate images, information and content” (European Commission 2007b: 4).

The changes in online user activity, shifting from use, or consumption, towards creation, or production, are reflected in IT terminology: As with software updates, consecutive numbers indicate two types of the Internet. On the one hand, the term *Web 1.0* was coined to refer to the traditional role and understanding of media that was initially also projected to digital media. In this sense, the Internet and its services mainly served as a platform for the distribution of content produced by professionals within enterprises. On the other hand, the term *Web 2.0* denotes a new kind of Internet services whose success relies heavily on the private engagement of non-professional users:

One of the key lessons of the Web 2.0 era is this: *Users add value*. But only a small percentage of users will go to the trouble of adding value to your application via explicit means. Therefore, Web 2.0 companies *set inclusive defaults for aggregating user data and building value as a side-effect of ordinary use of the application*. [...] They build systems that get better the more people use them. (O'Reilly 2005)

The quote, which is addressed to software developers, points to the fact that users might participate in media creation to varying extent. Moreover, it states that the most promising way to increase engagement is to integrate tools for production in the “ordinary use of the application”, which means that participation should require no or only little more effort than just using a tool anyway. One of the services that perfectly employs this technique is *Google Maps*: Owners of *Android* smartphones who take pictures of tourist sights on their devices might be asked to upload their photos so that others who look up these sights in *Google's* digital map could access them. While it is easy to submit a picture, several skills – including the knowledge how to disconnect from the global positioning system and from the Internet – are necessary to avoid such requests for photo uploads.

The *Google Maps* example illustrates that in order to control and not to be controlled by digital media, even tools that are relatively simple to use call for a number of abilities. However, the skills that are required might depend on the type of media as well as on the degree of engagement. Jenkins' (2009: xiv) set of skills that is shown in Table 4 covers the range of abilities that underlie digital media creation. He calls for a playful attitude, the willingness to collaborate with other users as well as the capacity to select particular information from various sources and combine them in new ways.

**Table 4:** Skills for creating and participating in digital media (Jenkins 2009: xiv).

Skill <sup>2</sup>	Definition
Play	the capacity to experiment with the surroundings as a form of problem solving
Performance	the ability to adopt alternative identities for the purpose of improvisation and discovery
Simulation	the ability to interpret and construct dynamic models of real-world processes
Appropriation	the ability to meaningfully sample and remix media content
Multitasking	the ability to scan the environment and shift focus onto salient details
Distributed cognition	the ability to interact meaningfully with tools that expand mental capacities
Collective intelligence	the ability to pool knowledge and compare notes with others towards a common goal
Transmedia navigation	the ability to follow the flow of stories and information across multiple modalities
Networking	the ability to search for, synthesize, and disseminate information
Negotiation	the ability to travel across diverse communities, discerning and respecting multiple perspectives, and grasping and following alternative norms

It is remarkable that Jenkins defines the above list as social and cultural skills; by doing so, he separates them from the technical, or usage-related, skills presented in chapter 2.3.4. If creation and participation are understood as social actions, the common stereotype that heavy use of digital media might lead to a reduction of contacts to other people and result in social incompetence is weakened.

Treumann et al. (2007: 34) share Jenkins' notion that creating media are playful processes and ascribe creative, innovative, and esthetic qualities to them. What both sources forget to pay attention to is that there are legal limits to innovation, creativity, and fun. For instance, copyright issues should not be ignored when it comes to the upload of photos or video clips (European Commission 2007b: 4). While technical

<sup>2</sup> Note: *Judgment* is omitted in Table 4 because the skill is associated with analyzing and evaluating media and can thus be found in chapter 2.3.6.

and esthetic skills might be well acquired through learning by trial and error, it is not recommended to develop an awareness of essential legal basics only through experimenting; a copyright infringement lawsuit may end with a heavy fine. For that reason, creation and participation might have to be more guided by media education than other categories of media literacy.

Treumann et al. do not promote this protective standpoint. They rather believe that “Mediengestaltung” (media creation) has pedagogical and educational values by itself that strengthen skills in other dimensions of media literacy:

Den theoretischen Hintergrund [...] bildet die Hypothese, dass sich eine eigenaktive Mediengestaltung auch auf die Medienrezeptionsgewohnheiten und schließlich auch auf andere Bereiche von Medienkompetenz (insbesondere Medienkritik) auswirkt. (Treumann et al. 2007: 34)

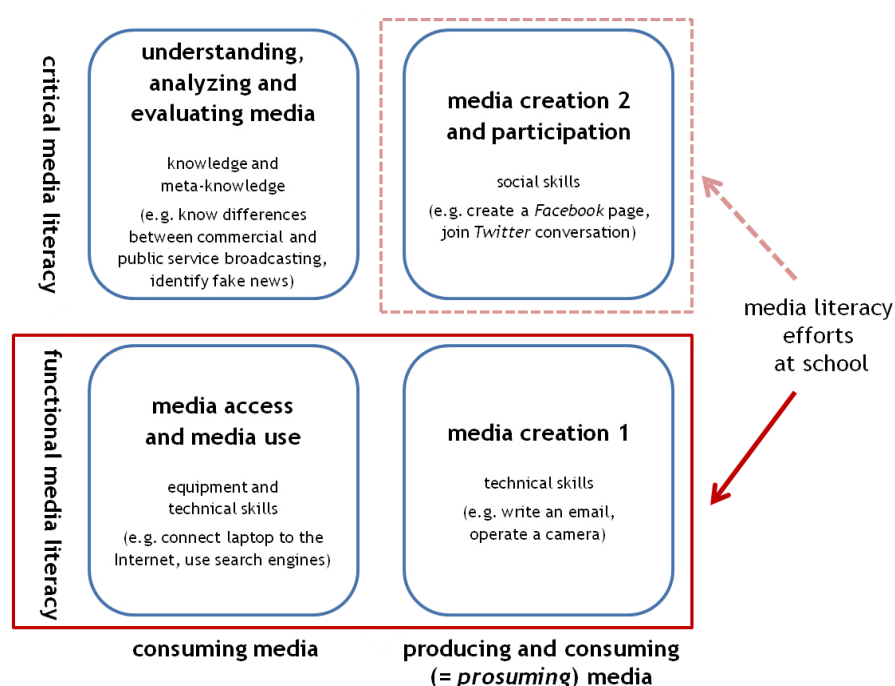
As briefly mentioned in chapter 2.3.2, Schorb’s (2005: 261-262) media literacy model expresses the hypothesized close interrelationship of media use and media creation even more explicitly than Treumann et al. by combining both dimensions in a single category labeled “Medienhandeln” (*taking action in or through media*). Of course, as the roles of the sender, or producer, and the receiver, or user, are converging to prosumers in digital media, this thought is valid. On the other hand, chapter 2.3.5 demonstrated that other dimensions are closely linked as well. Following Schorb’s argumentation, one would have to consider whether knowledge and analysis should also go into the same category, which would result in another reduction of dimensions of the media literacy model. Decreasing the number of categories would certainly bear the risk of missing relevant angles and defining media literacy less comprehensively than necessary in today’s complex media environment. This, among other reasons, is why this paper supports the concept of a four-dimensional model. Each category within this model, however, should not be perceived only in isolation, but also perceived in its impact on other categories. Potter (2014: 14) uses the term “continuum” to characterize the relationship between the dimensions in the media literacy model.

### 2.3.7 Significance of theoretical models of media literacy

As pointed out in the introductory remarks to chapter 2, *media literacy* as well as the German equivalent *Medienkompetenz* have become very popular terms that are used in many different contexts. Even if analysis is confined to school education, which is of particular interest to this paper, media literacy appears in manifold ways. For instance, teachers are offered media literacy lesson plans for download (AIPC



n.d.), and classes are invited to reenact best practice examples (CML n.d.) or to submit their own media productions (mediamanual 2017). At first sight, it seems very welcome that there is such a large number of initiatives and opportunities to engage in media literacy projects. A closer look, however, reveals that many of these projects lack scope by focusing on “functional media literacy” (Lin et al. 2013: 162), i.e. creative production, but neglecting other cognitive skills. While sole content creation can be a worthwhile activity, it remains unclear whether it is also a sufficient means to increasing “critical media literacy” (Lin et al. 2013: 162), i.e. the abilities to analyze and evaluate media. Other than Treumann et al. (see above), who argue for the educational value of media creation, the Austrian Ministry of Education takes a less optimistic, but a more realistic standpoint. In its *Grundsatzrlass Medienerziehung*, secondary school teachers are told that “Medienmachen allein ist jedoch – so verdienstvoll es auch für eine Reihe von Lernzielen sein mag – noch keine Medienerziehung” (BMBF 2014: 4). Figure 1 provides an overview of the theoretical media literacy categories presented in chapters 2.3.3 to 2.3.6 and highlights the dimensions that are primarily addressed by media literacy projects at school.



**Figure 1:** Graphic representation of the theoretical media literacy framework (adapted from Chen et al. 2011; Lin et al. 2013).

The limitations of pedagogical media literacy efforts discussed in this chapter illustrate that classroom activities should not be detached from theoretical concepts. It can be concluded that theory should be used more frequently as a starting point for designing activities and materials.



### 3 Assessing media literacy

The previous chapter closed with the demand to pay more respect to theoretical models of media literacy when it comes to the design of lesson plans and other educational means for media literacy training. The relation of theory and (classroom) practice, however, should not be understood as a hierarchy in which theory is on top and practice at the bottom; instead, both theory and practice should be attributed equal importance. The reason for this is that theoretical concepts of media literacy are too abstract, i.e. too different from people's actual interactions with media, and cannot be considered very useful signposts towards the identification of individual's strengths and weaknesses. Hence, not only should practice be based on theory, but theory should also incorporate practice. A prerequisite in order to do so is the translation of the media literacy framework to empirically measurable units.

The following chapter is devoted to this key task that is also a major issue in current media literacy research. First, the chapter deals with the operationalization of variables of media literacy to make them empirically observable. Secondly, different methods of assessing media literacy are introduced. Thirdly, methodology and findings of several studies on teachers', Lehramt students' and pupils' media literacy are reviewed that have inspired the survey conducted among students at the University of Vienna (see chapters 4 and 5).

#### 3.1 Defining the components for assessment

The four dimensions of media literacy discussed in chapter 2 are:

- accessing and using media,
- knowing and understanding media,
- analyzing and evaluating media,
- creating and participating in media.

Besides definitions, several examples were given to make clearer what it means to be a media literate person in terms of these four categories. As mentioned earlier, the model presented is based on a normative perspective and thus oriented towards ideal media prosumers who have acquired the highest levels of literacy possible in each dimension.

As regards the assessment of the actual media literacy of a particular person, having available only definitions of ideal, fully developed proficiencies is problematic because they do not apply to the vast majority of people. To put it another way: So far, this paper has followed a dichotomous logic, differentiating between media illiterates and media literates. While this simplification works well in theory, it is insufficient to mirror reality because most people can be expected to be neither completely media illiterate nor perfectly media literate, but to be found on various literacy levels somewhere in between. Holme (2004: 1), talking about literacy in the original sense, asks the crucial question, “How much does one have to know about reading and writing to be literate?” Talking about media literacy, a similar question is to be raised: How much does one have to know about media to be media literate? This thought leads to another question: What is the unit of measurement to define different levels of media literacy?

There are, unfortunately, no straightforward answers to these questions. Among others, this is why the “measurement of media literacy remains a critical challenge” (Arke & Primack 2009: 53). Nevertheless, there have been numerous recent attempts to quantify and empirically assess media literacy among different age groups and professions, including Blömeke 2000, Treumann et al. 2007, Lü 2008, Arke and Primack 2009, Biermann 2009, Inan and Temur 2012, Literat 2014 and Koc and Barut 2016. While the comparability of these studies is rather limited due to different methodology and samples, they have in common that media literacy is defined through a set of skills or repertoire of competences.

Taking a skills-based or competence-based approach towards media literacy seems to be part of the answer to the questions of how to define different levels of, and assess media literacy. On the other hand, it also seems to be part of the persistent difficulties in measurement. In order to explain this statement, it is necessary to come back to the debate of *literacy* vs. *literacies*, or *competence* vs. *performance* introduced in chapter 2.3.2.

The German equivalent to the English compound *media literacy*, which reads *Medienkompetenz*, displays the notion that useful and successful interaction with media requires a particular competence – or even several competences – by itself. Through the implementation of standards in school education as well as the participation in programs that assess pupils’ scholastic performance, such as OECD’s PISA study, the term *Kompetenz* has become a common word among Germany’s

and Austria's politicians, teachers, and education researchers. In the context of education, a definition derived from the fields of psychology is dominant (Schaumburg & Hacke 2010: 147). One of the most frequently cited German definitions describes *Kompetenzen* as

[...] 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, die Problemlösungen in variablen Situationen erfolgreich und verantwortungsvoll nutzen zu können. (Weinert 2002: 27f.)

In his definition, Weinert characterizes the complex nature of *Kompetenzen*: First, he discriminates between “bei Individuen verfügbaren” and “erlernbaren kognitiven Fähigkeiten”, which is a reference to both innate talents and skills acquired through formal or informal instruction. Secondly, he points to the fact that a competent individual should not only possess various cognitive abilities, motivation and social skills for problem solving, but should also be able to use them successfully and responsibly in various situations.

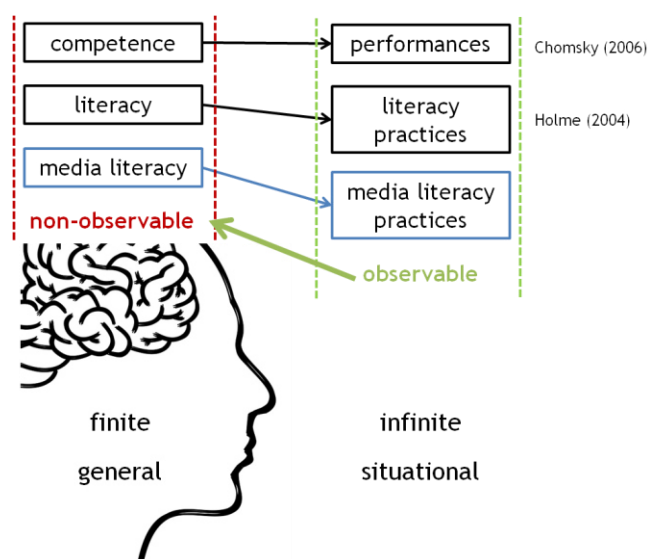
Following Weinert's thoughts, the term *Kompetenz* has a rather broad meaning. Although his reasoning is fully comprehensible and, as indicated above, very popular among German-speaking education researchers, his concept is too unspecific to serve as a basis for feasible empirical assessment. Therefore, it appears to be necessary to leave the context of education and examine definitions of the term in other disciplines, such as linguistics.

Chomsky's (2006) work on transformational generative grammar features several ideas on human cognitive abilities that are similar to Weinert (2002): He also believes in innate talents for language production, which he calls “universal grammar” (Chomsky 2006: 55). Moreover, he states that these (finite) talents are used dynamically in different communicative situations to produce a (potentially infinite) number of utterances (Chomsky 2006: 15). In contrast to Weinert, however, Chomsky does not subsume both the knowledge of language production and its application under one term, but instead distinguishes between *competence* and *performance*:

Rules and principles provide explanations for facts about linguistic *competence* – the knowledge of language possessed by each normal speaker – and about some of the ways in which this knowledge is put to use in the *performance* of the speaker or hearer. (Chomsky 2006: 55; italicization added)

It becomes obvious from the quote that Chomsky's understanding of *competences* in linguistic theory is more precise than Weinert's psychological view. Generally speaking, a *competence* as defined by Chomsky is knowledge and cognitive capacities located in the mind. It is separated from the *performance*, which may be explained as the situational and context-specific use of knowledge to master a particular task.

Adopting the idea of competences and performances to the measurement of media literacy reveals the problem of the competence-based approach: Of course, the researcher would be interested in directly assessing competences, but as they are inaccessibly stored in the human mind, it seems only possible to infer competences from observable performances. Holme (2004) uses different terminology to describe the same phenomenon. He holds that "different practices combine into a larger literacy" (2004: 66). Concerning the assessment of media literacy, this implies that a wide range of *literacy practices* must be measured in order to construct the larger picture of a person's actual media literacy. Figure 2 illustrates the relationship of literacy (= competence) and literacy practices (= performances).



**Figure 2:** Inferring media literacy from observable performances (own illustration).

The example provided in chapter 2.3.2 to explain the difference between *literacy* in theory and *literacies* in practice might also be given here to point to a feasible way of assessing media literacy practices and, subsequently, inferring media literacy. Above, it was said that typing answers in a *WhatsApp* or *Facebook* chat would be two separate contexts of demonstrating the ability to respond to text messages on a cell phone. It now should be added that the more contexts and situations are ob-

served, the higher the chances are to make accurate guesses on the cognitive capabilities that underlie these performances.

Having defined the components for measurement, i.e. performances, or literacy practices, the normative question of how much one needs to know about media to be called media literate yet remains unsolved. A brief review of studies on media literacy shows that this question is not central to empirical research, which rather avoids absolute attributions. Probably guided by the thought that “there is always a way in which a person can be more skilled” (Holme 2004: 11), media literacy researchers instead either tend to prefer relative classifications by drawing and comparing various groups within the sample, or to identify correlations between various aspects of media literacy. For instance, in their project on 12- to 19-year-old Germans, Treumann et al. (2007: 482-644) portray seven types of adolescents<sup>3</sup>, each of which have different strengths and weaknesses concerning their media habits. Similarly, Gysbers (2008: 166-177), after examining German teachers’ professional media use, skills and media-related opinions, arrives at a classification of five different types of educators<sup>4</sup>. Arke and Primack (2009: 59-62), in a pilot study, explain significant correlations between media literacy and critical thinking.

Other than in empirical research, normative media literacy goals for various age groups and professions can be found in national and international policies. Regarding the teaching profession, one of the most comprehensive long-term projects is Wilson et al.’s (2011) “Media and Information Literacy Curriculum for Teachers” that was founded and promoted by UNESCO. It lists seven dimensions, each of which includes a number of abilities teachers should acquire to become media-literate educators. For example, the dimension “Applying New and Traditional Media Formats” comprises four abilities:

- Understand the basics of digital technology, communication tools and networks, and their usage in different contexts for different purposes.
- Use a broad range of media ‘texts’ in order to express his/her own ideas through multiple forms of media (e.g. traditional print, electronic, digital, etc.).
- Undertake basic online information searches.
- Understand for what purposes youths use the Internet. (Wilson et al. 2011: 33)

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<sup>3</sup> Labels are “Allrounder”, “Bildungsorientierte”, “Konsumorientierte”, “Kommunikationsorientierte”, “Depri-vierte”, “Gestalter” and “Positionslose”.

<sup>4</sup> Gysbers calls them “Engagierte Medienprofis”, “Motivierte Pragmatiker”, “Informationstechnische Spezialisten”, “Bewährpädagogische Medienkritiker” and “Passive Medienmuffel”.

UNESCO declares that its curriculum should inspire member states to implement media literacy initiatives within their individual teacher education systems (Wilson et al. 2011: 19). In Germany and Austria, regional or national documents that define media literacy goals for teacher training have recently been developed. Both the draft to the “Hessisches Medienkompetenzportfolio für Lehrkräfte” (Aust et al. 2012) and the “digikompP-Kompetenzmodell” (Brandhofer et al. 2016) cover similar domains, but include more specific descriptions of abilities than Wilson et al. (2011). They are referred to as *indicators* in Hesse, and called *descriptors* in Austria. One of the German indicators that is related to UNESCO’s dimension “Applying New and Traditional Media Formats” cited above reads

Ich bin in der Lage, für mein persönliches Wissensmanagement (Vorbereitung des Unterrichts, Organisation des Schulalltags usw.) in unterschiedlichen Informationssystemen zu recherchieren und diese Informationen adäquat zusammenzustellen, aufzubereiten und auszuwerten. (Aust et al. 2012: 1)

While UNESCO’s formulations leave open whether private or work life is addressed, the Hessian indicator clearly puts digital media use into professional context. The Austrian document combines both approaches; it contains general descriptors as well as descriptors focusing on school education. One of the general descriptors is

Ich kann unter Verwendung passender Dienste und Angebote und Wahl geeigneter Suchmethoden Informationen und digitale Medien gezielt suchen und auswählen (Brandhofer et al. 2016: 5)

In contrast, the descriptor “Ich kann Materialien für den Unterricht online recherchieren, selektieren und sammeln” (Brandhofer et al. 2016: 7) apparently concentrates on teaching. No matter whether one prefers UNESCO’s, Austria’s or Germany’s list of abilities – empirical research could benefit from these international, national, or regional policies by using them as guidelines for the definition of literacy practices that are worthwhile to be studied.

In summary, it can be said that taking a competence-based approach as a basis for the empirical assessment of media literacy leads to the observation of performances, or literacy practices, and necessitates inference. While this paper has already examined that normative standards are part of government-driven policies on education and teacher training, and that previous research has given priority to descriptive and relative findings, it has not reported on the ways in which observations that precede such results can be conducted. This is the aim of chapter 3.2.



## 3.2 Assessment approaches

This chapter is dedicated to methodological issues related to the observation of media literacy practices. It presents and discusses three different assessment approaches that can be found in qualitative and quantitative research, namely self-evaluation, scenarios and tests. The structure of this chapter follows the ideas of a seminar presentation given by Aufenanger (2013).

### 3.2.1 Self-evaluation approach

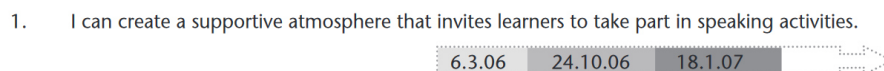
Self-evaluation is a popular method used for manifold academic and non-academic purposes: School books might encourage pupils to self-evaluate their skills at the end of a particular unit, university students could be asked to self-evaluate their progress in their studies, and employees may have to self-evaluate their strengths and weaknesses in their job as part of an annual performance review. Self-evaluation might be a single and non-recurring action, or last over a longer period of time.

In the situations mentioned above, self-evaluation has the function of an individual written reflection on as well as of self-assessment of personal or professional development. Notes that document the reflection may be kept private, or discussed with a supervisor; anyway, self-evaluation of this kind is non-anonymous, and linked to a particular person. The so-called “European Portfolio for Student Teachers of Languages” (Newby et al. 2007), abbreviated EPOSTL, features these characteristics of self-evaluation. As the introduction explains, teacher training students who study languages are given the document “to encourage you to reflect on the competences a teacher strives to attain”, and “to promote discussion between you and your peers and between you and your teacher educators and mentors” (Newby et al. 2007: 5). The core of the EPOSTL is a self-assessment section that includes more than 190 descriptors of didactic and language skills that are divided into seven categories. Figure 3, which reproduces the explanation of the self-assessment scales, shows that each of the skills should be reflected on and measured repeatedly throughout the studies.

### Self-assessment scales

Each descriptor is accompanied by a bar, which will help you to visualise and chart your own competence. You can colour in the bar according to your own assessment. This may take place at different stages of your teacher education.

On completion of your teacher education programme you may have produced a bar which looks something like this.



**Figure 3:** Self-evaluation of didactic and language skills in the EPOSTL (Newby et al. 2007: 6).

Another type of written self-evaluation, apart from keeping a portfolio, is writing a diary. Depending on the age group and desired scope of reflection, the structure and format of note taking may not be completely left over to the diarist, but guided through templates. This is exactly the idea of the project “Medientagebuch” (Microsoft 2017) that is intended for primary school pupils. On the project website, teachers can order or download materials for their students to motivate them to document and analyze their everyday use of media. Figure 4 gives an impression of the diary template’s layout.

	Radio	Buch	Video/DVD	Zeitung / Zeitschrift	Fernseher	Internet	CD/MP3	Schreib- und Bastelsachen	Computer	Spielkonsole	Handy	Fotoapparat / Kamera
<b>Montag</b>												
06:00 - 08:00												
08:00 - 14:00												
14:00 - 18:00												
18:00 - 22:00												
<b>Dienstag</b>												
06:00 - 08:00												
08:00 - 14:00												
14:00 - 18:00												
18:00 - 22:00												

**Figure 4:** Self-evaluation of media use in the “Medientagebuch” (Microsoft 2017).

Elements from the diary or the portfolio methods have been employed in various empirical studies on media literacy in general and media use in particular, such as Grahn et al. (2003), Gysbers (2008), and Chang et al. (2011). Before discussing the approaches of particular projects in more detail, a few general remarks on the different use of the same methods in teaching and research are given. Unlike in education, taking self-evaluation as research approach normally means that data are made

anonymous. A second difference to the classroom is that in research there is less interaction between those producing the reflection and those studying and interpreting the notes because researchers do not have the role of supervisors. Finally, while repetitive self-assessment was considered essential in the context of language learning above, the financial or other resources of many research projects are too limited to enable scholars to conduct longitudinal analyses. Findings are, therefore, frequently based on punctual data only. Instead of a further collection of quantitative data, some studies combine quantitative and qualitative data.

An example of a combination of methods is Gysbers' (2008) project on media literacy of teachers at public elementary and secondary schools in Lower Saxony. Initially, Gysbers conducted twenty qualitative semi-structured interviews. This pre-study was followed by a quantitative paper-and-pencil questionnaire with more than 1,000 participants. The survey included a portfolio-like self-evaluation question aiming at skills for and knowledge of digital media. By asking teachers whether they had learnt about different types of media at university, during their first year on the job, in further education or on their own, respondents also had to reflect on whether they were media literate at all (Gysbers 2008: 236).

The self-evaluation approach was crucial for Chang et al. (2011) who developed and tested a media literacy self-assessment scale for lower secondary school pupils. The approximately 300 teenagers from Taiwan at the age of 12 to 13 years who joined the study were confronted with 13 items that, in terms of phrasing, closely resembled the EPOSTL descriptors presented earlier in this chapter. Like in the portfolio for future language teachers, the survey given to the Taiwanese pupils contained can-do statements, such as

- I can use different media technologies to store/backup the content.
- I can discuss with others the content that media display.
- I can select appropriate media to edit the messages that I want to convey.
- I can use media to carry out daily learning. (Chang et al. 2011: 71)

In contrast to Gysbers (2008) and Chang et al. (2011), Grahn et al. (2003) chose the diary method to explore Germans' media habits in everyday life. The participants – more than 850 people between 14 and 69 years of age from four major cities – took guided notes on their media use, other activities, and location from 5 a.m. to 1 a.m. for a whole week. The diary data were supplemented with data from a survey on media equipment in the household and on attitudes towards media.

Except for some research projects like Chang et al. (2011), the majority of studies reviewed for this diploma thesis does not solely rely on the self-evaluation approach for data gathering. The qualitative and quantitative instruments employed in these studies rather appear to mix various approaches, including scenarios.

### 3.2.2 Scenario approach

A scenario can be described as “a situation that could possibly happen” (Macmillan Dictionary n.d.). According to Aufenanger (2013), using a scenario in a survey means exposing participants to a hypothetical but realistic problem and asking them how they would solve it. Scenario questions are widespread in empirical media literacy research and can be found likewise in German and English surveys. Among others, scenarios were created by Treumann et al. (2007), Lü (2008), Inan and Temur (2012) as well as Literat (2014). As becomes obvious from the examples below, the most popular question type with scenarios seems to be rating scale questions.

Two out of the 121 questions in Treumann et al.’s (2007: 718-751) quantitative survey on adolescents’ media literacy can be associated with the scenario approach. One of them deals with the ways in which participants familiarize themselves with the functions of various devices, such as cell phones or computers. It is reproduced in Table 5. The other one examines problem-solving strategies with digital media.

**Table 5:** Scenario question on learning the functions of various devices (Treumann et al. 2007: 730).

<b>36. Bei einem Gerät (z.B. Handy, Computer) kann man auf ganz unterschiedliche Weise die Bedienung erlernen. Wie ist das bei dir, welche Vorgehensweise trifft auf dich zu und welche trifft nicht zu? (Bitte kreuze in jeder Zeile an)</b>				
	Trifft auf mich ...			
	überhaupt nicht zu	eher nicht zu	eher zu	voll und ganz zu
Ich lerne nur die Funktionen aus der Gebrauchsanweisung, die ich unbedingt brauche	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich lese die Gebrauchsanweisung und probiere alle Funktionen der Reihe nach aus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich probiere die verschiedenen Funktionen aus, ohne dass ich die Gebrauchsanweisung zur Hand nehme	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich lasse mir das Gerät von anderen erklären	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Die Bedienung des Geräts überlasse ich erst einmal anderen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wenn ich die Bedienung des Geräts nicht sofort verstehe, benutze ich es nicht weiter oder gebe es zurück	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Apart from slight differences in the wording and the answer options, the same two scenarios can be found with Lü (2008) who examines media literacy among business university students in China.

The survey questions of both Treumann et al. (2007) and Lü (2008) presented above focus on a subcategory of the dimension *knowing and understanding media* in the media literacy model, namely *usage-related knowledge* (see chapter 2.3.4). Another dimension is addressed by Inan and Temur (2012) whose survey was given to Turkish student teachers. By asking respondents for the immediate reaction when they are disturbed by a particular scene shown on TV, they explored the capacity for evaluation and analysis (see chapter 2.3.5) and in which actions these processes would result. The answers to choose ranged from “I would continue to watch” to “I would show my reaction by calling the TV channel” (Inan and Temur 2012: 278). Thus, at least to some degree, the survey also measured participation in the discussion on the quality of the TV program.

Literat (2014) put the whole set of digital media skills as proposed by Jenkins (2009: xiv; see chapter 2.3.1) into practice. The online questionnaire included four to six statements for each skill in randomized order. Respondents were consequently confronted with 60 statements in total. In Table 6, which provides the statements on the ability of judgment, it can be seen that there is an overlap between the scenario and self-evaluation approach in Literat’s answer options.

**Table 6:** Self-evaluation and scenario items on judging online sources (Literat 2014: 27).

Judgment	strongly disagree	disagree	neither agree nor disagree	agree	strongly agree
I can effectively determine whether or not the information I find online is correct and reliable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When I’m interested in a topic, I gather information from a bunch of different sources (like TV, radio, the internet, etc) to try to get the full picture.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When I search for something online and I get thousands of results, I can effectively decide which ones will be the most useful for me.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am able to enter the right words in a search engine to find what I am looking for.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I can identify prejudice or bias in media (e.g. racism on certain websites, prejudice against women in song lyrics, etc).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The scenario approach is a convenient method to gather literacy practices in a standardized way. Participants can be expected to find it easier to respond to particular situations than to a general phrasing. Because of that, respondents might give more accurate answers to scenario questions. On the other hand, as the project by Literat (2014) proves, inferring competences from scenarios necessitates a consid-

erable number of statements, or questions, within a survey. This could exhaust participants and compromise the reliability of the data. Another potential disadvantage of this type of hypothetical scenarios is that they depend on the respondents' sincerity; incorrect answers can neither easily be detected nor are they of any consequence to the participants. For this reason, a further approach is being discussed among empirical education and media literacy researchers, namely test procedures.

### 3.2.3 Test approach

Other than self-evaluation and scenario questions, tests allow the assessment of responses in terms of accuracy. Aufenanger (2013) as well as Schaumburg and Hacke (2010) describe sophisticated procedures that require test takers to actually perform particular tasks, e.g. create a table of contents in a *Microsoft Word* document. In this type of testing, the performance and the results are monitored. While the basic idea behind such tests is the same as with scenarios, namely the inference of media literacy from literacy practices, the attitude towards and the impact of wrong or inappropriate answers is much different. Depending on task achievement, participants receive a certain score that can then be translated into a particular literacy level. Regarding the test on the creation of a table of contents, there could be three possible scores: Using the automatic TOC function would mean full task achievement, creating the TOC manually would result in scoring half of the points, and the failure to produce a TOC would result in scoring no points at all.

One of the big advantages of this method is definitely the high construct and content validity. Moreover, as respondents are not given the possibility to choose an answer that does not correspond to their actual skills, testing prevents social desirability bias. The drawback, however, is the complexity of inventing a comprehensive media literacy test. Schaumburg and Hacke (2010: 157) point to the fact that in order to arrive at a general conclusion of one's media literacy, each skill would have to be tested for different types of media:

Jemand könnte z. B. umfassende Kenntnisse über das Medium Internet haben und gleichzeitig über das Zeitungswesen kaum Bescheid wissen. Der Umgang mit dem Computer erfordert wesentlich umfangreichere technisch-instrumentelle Fertigkeiten als der mit dem Radio. Jemand sieht häufig fern und liest selten Zeitung. Deshalb wird man bei der Operationalisierung und der Formulierung von Testitems nicht umhin kommen, diese medien-spezifisch zu formulieren.

Schaumburg and Hacke apparently reflect on differences between (mass) secondary, tertiary and (digital) fourth-level media. Considering the rapid development of

hardware and software within digital media as well as the manifold private and professional purposes of use, the aim to construct a thorough instrument would become even more complicated; it would still be a great challenge to cover digital media only.

Despite the difficulties outlined above, the test approach can be used efficiently in media literacy research, especially when it comes to particular dimensions. A look at the work by Lü (2008) and Treumann et al. (2010) raises the impression that testing knowledge and understanding of media is much easier than assessing usage-related skills. Both studies use single-choice questions that ask for specific details on either terminology or background knowledge. For instance, they test whether participants associate the label “Times New Roman” with a font (Treumann et al. 2010: 739), whether they know what “cookies” are (Treumann et al. 2010: 740) or whether they are familiar with the word “browser” (Lü 2008: 279).

In short, this chapter introduced three approaches for assessing media literacy practices, including self-evaluation, scenarios and tests. It was demonstrated that these can be used exclusively or combined in one instrument, such as a survey. Furthermore, the need to find a balance between gathering a comprehensive amount of data and exhausting participants through a too detailed set of questions or tasks was discussed. Chapter 3.2 also referred to several media literacy studies that have employed one or several of the three methods. Chapter 3.3 returns to these and other empirical projects to review relevant findings.

### **3.3 Media literacy in educational contexts: application of theory and empirical findings**

The aim of this chapter is to present the structure and findings of recent media literacy studies that are related to the research interest of this diploma thesis. Therefore, the focus is media literacy of teachers and student teachers (chapters 3.3.1 and 3.3.2). In order to better understand educators’ media habits in the classroom, their professional use of and opinions on media are compared to their media preferences and attitudes in private life. Apart from that, (future) teachers’ media literacy is contrasted to pupils’ media literacy. Chapter 3.3.3 thus focuses on adolescents and media. Due to a lack of research in Austria, the paper also draws on publications from neighboring Germany and Switzerland.

The studies selected and commented on in this chapter fulfill two functions: First, they serve as models for the empirical project of this paper. Secondly, the findings might enrich the interpretation of results from the survey given to Lehramt students at the University of Vienna.

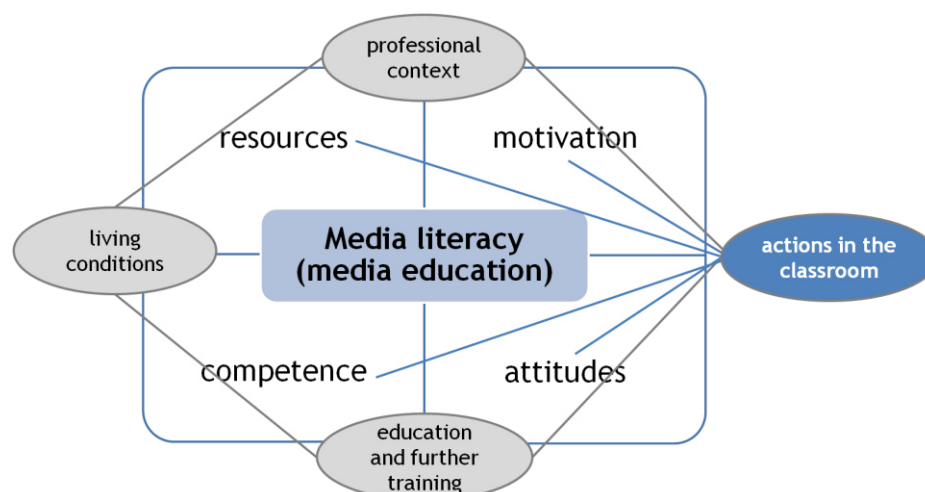
### 3.3.1 Teachers' perspective

As the introduction to this thesis pointed out, education policies put pressure on Austrian teachers to deal with media in any subject. Due to initiatives like *Schule 4.0*, the pressure to use particularly digital media in the classroom can be expected to further increase in the near future. Teachers need two types of abilities to meet the demands: Of course, they have to be confident and critical media users, which necessitates media literacy in all framework dimensions from access to participation. Moreover, teachers must have didactic skills to successfully pass on their own know-how to their pupils.

Schneider et al. (2010) create the German term “Medienpädagogische Kompetenz” as a label for the total of abilities required from teachers regarding media. It can be translated to the separate compounds *media literacy* and *media education*, which reflect the notions of two distinctive, but interrelated proficiency areas even better than the original term. Although the study concentrates on kindergarten teachers, the underlying ideas can be transferred to research on primary and secondary school teachers as well. According to the research design, both media literacy and media education are influenced by various aspects that, in combination, determine an educator's actions in the classroom. Figure 5 shows an adapted and translated version of Schneider et al.'s (2010) media literacy and media education framework.

The core aspects in the framework resemble the media literacy model presented in chapter 2. There are also four dimensions that can partly be associated with the categories discussed above: While *resources* is an alternative wording for media equipment and access, *competence* includes usage-related and background knowledge as well as evaluation skills. *Motivation* and *attitudes*, which were previously not listed as separate categories, have to be understood as teachers' prerequisites or obstacles when it comes to improving their media skills and taking them to the classroom.



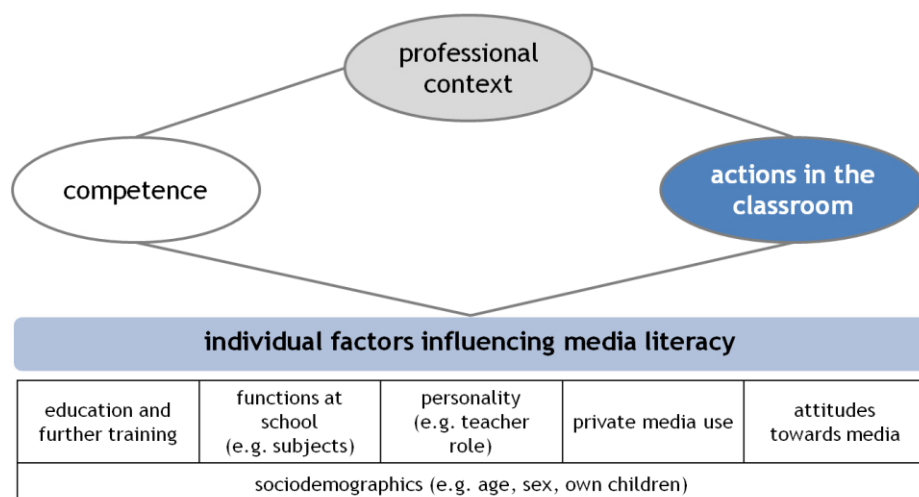


**Figure 5:** Media literacy and media education framework for teachers (adapted and translated from Schneider et al. 2010: 47).

In addition to the core intrinsic dimensions, Schneider et al. (2010) assume that three further extrinsic factors could have a positive or negative impact on educators' media literacy efforts in their teaching. *Living conditions* and *professional context* denote motivating or demotivating forces among family, friends or colleagues. For instance, parents, partners or staff members at school might influence a teacher's own views of or skills for digital media. Likewise, *education and further training* are supposed to shape parts of an educator's media literacy.

Gysbers (2008) identifies a similar list of factors that might affect primary or secondary school teachers' media literacy and their actions in the classroom. Figure 6 highlights the six aspects that should be taken into consideration, including education and further training, the functions teachers hold at their schools, character traits, private media use, attitudes towards media and various socio-demographic data.

Both Gysbers (2008) and Schneider et al. (2010) conducted qualitative interviews and a quantitative survey to examine German teachers' media literacy and to empirically test the aspects proposed in theoretical frameworks (see Figure 5 and Figure 6). Selected results from the two studies are summarized below.

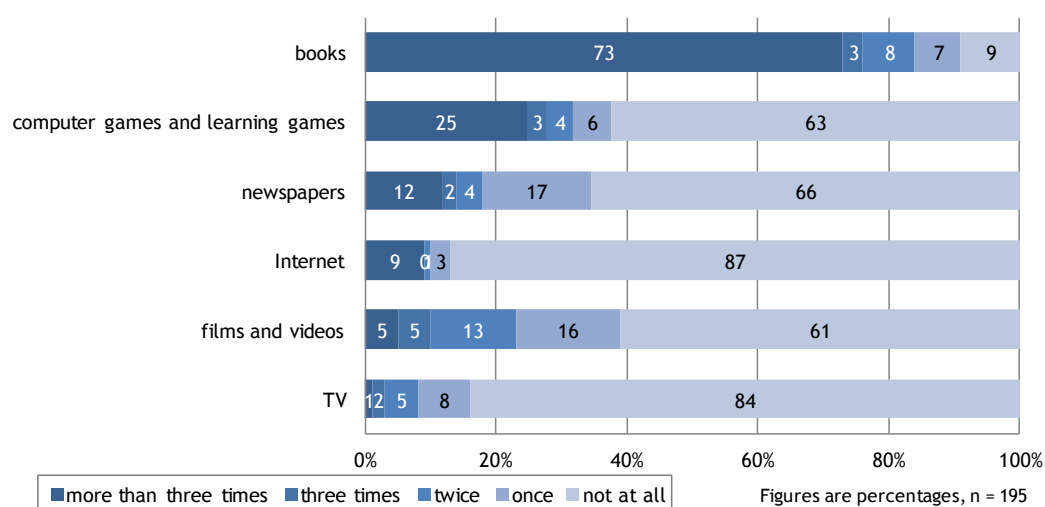


**Figure 6:** Factors influencing teachers' media literacy (adapted and translated from Gysbers 2008: 51).

Schneider et al. (2010: 74-75) report that in self-evaluation, German kindergarten teachers tend to be rather skeptical and pessimistic about their own media skills: On a five-point scale ranging from 1 (= "insufficient") to 5 (= "very good"), the mean value for media education is 2.82. Nevertheless, low self-confidence in media skills does not automatically correspond to abandonment of media in the classroom. Motivation and attitudes are the most important driving factors for media literacy efforts in teaching, followed by the workload, while self-evaluation is only in fourth place (Schneider et al. 2010: 95-97).

A look at the types of media with which children are confronted by their kindergarten teachers reveals that books are the uncontested favorites. Only a tenth of educators reported not to have used books in projects within the previous year; with any other media, the number of non-users is at least six times higher. Figure 7 provides more details.

### How often have you used different media in projects during the past twelve months?

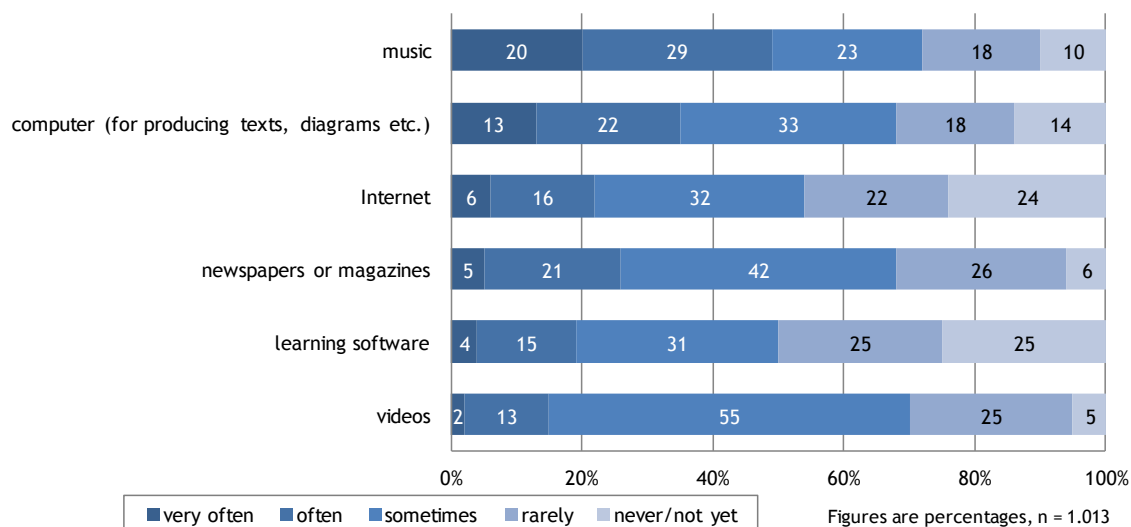


**Figure 7:** Media use in kindergarten projects (translated from Schneider et al. 2010: 87).

Gysbers (2008: 137) does not identify a lack of skills, but a scarcity in resources as the main obstacle to frequent use of (digital) media in the classroom. Out of the more than 1,000 primary and secondary school teachers who completed the questionnaire, only five percent stated that they fear to have fewer skills than their pupils. Also relatively low is the number of teachers who said that they are not capable of operating technical devices – answers amount to 16 percent. In contrast, seven out of ten criticized that equipment must be carried to the classroom, and every second teacher complained that there are too few devices at their schools altogether.

While digital media seem to be used more often in German schools than in kindergartens, elementary and secondary schools are also still far from what could be called a digital classroom. Asked about the frequency of media use, about a third of teachers said that they turn to computers often or very often in their lessons. These figures refer to offline activities such as producing texts or diagrams. Online tasks that require pupils to browse the Internet as well as learning software are chosen regularly by approximately one fifth of educators. As can be seen in Figure 8, newspapers were the only secondary media included in the question; thus, no reference to books can be made.

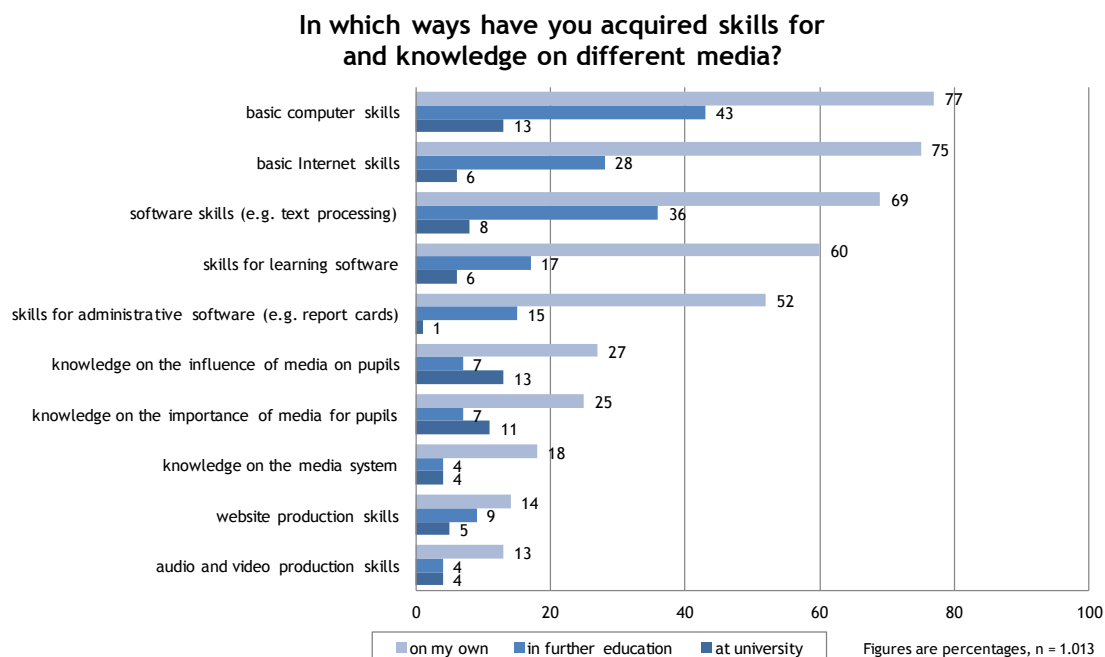
### How often do you use different media for teaching and learning in the classroom?



**Figure 8:** Media use in elementary and secondary schools (translated from Gysbers 2008: 134).

Though school teachers self-evaluate their media skills more positively than kindergarten teachers, Gysbers (2008: 144-147) describes problematic results concerning the acquisition of abilities: The vast majority of primary and secondary school teachers – regardless of their age – reported to have gained knowledge of and skills for media voluntarily on their own. Only a small percentage of teachers, however, have received media literacy training at university (see Figure 9). As learning how to use, critically reflect on and teach digital media is obviously left to educators themselves, high intrinsic motivation and positive attitudes towards media might be called as important among primary and secondary school teachers as among kindergarten staff.

Fortunately, several groups of teachers in Gysbers' (2008: 166-175) study feature motivation for using media in the classroom. About 15 percent of survey participants constitute the relatively small group of *media experts*. They are highly media literate, have many ideas for media education and engage themselves as well as their pupils more frequently in projects than other groups of teachers. Media experts do not only perceive media as professional tools, but are also passionate about traditional and digital media in their private lives. In a similar way, *IT specialists* (17 percent) privately and professionally turn to computers and the Internet. Another quarter of participants belong to the so-called *motivated pragmatists* ("motivierte Pragmatiker") (Gysbers 2008: 169). These teachers are also willing to learn about and make use of media in their lessons, but are not ready to put much extra effort into preparation.



**Figure 9:** How teachers have acquired media skills and knowledge (translated from Gysbers 2008: 146).

This is why pragmatists prefer watching films or analyzing newspapers to dealing with fourth-level media. Still, they are ahead of the remaining two groups who are not very fond of encouraging pupils to work on or with different types of media at school. *Media critics* (“Bewahrpädagogische Medienkritiker”) (Gysbers 2008: 173) and *lazybones* (“Passive Medienmuffel”) (Gysbers 2008: 174) are reluctant to devote lessons on media education for different reasons: Media critics worry about negative influences of media on children and adolescents and thus strive for protecting their pupils. Interestingly, they also appreciate the Internet for preparing lesson plans and materials, but prefer to print them out instead of taking digital versions to the classroom. With lazybones, no particular reservations regarding media can be detected; they just seem to rely on their colleagues’ efforts concerning media education.

Besides availability of resources, motivation and attitudes, Gysbers (2008: 180) points to private media use as another criterion of media-related actions in the classroom. However, there is only a correlation between digital media at home and at school; the domestic use or non-use of print media or TV does not lead to significant changes in teaching:

Lehrkräfte, die zuhause besonders häufig den PC und das Internet nutzen, setzen diese Medien auch intensiver im Unterricht ein und haben sich eine entsprechende Handlungskompetenz erworben. Dieser Zusammenhang lässt sich zum einen dadurch erklären, dass der Einsatz neuer Medien im Unterricht auch eine entsprechende Unterrichtsvorbereitung erfordert, die zwangsläufig die private Nutzung des Computers mit sich bringt. Zum ande-

ren sprechen die Ergebnisse aber auch dafür, dass eine generelle Affinität zu neuen Medien sowohl die private Nutzung als auch den Einsatz im Unterricht begünstigt. Die private Vorliebe für andere („klassische“) Massenmedien steht hingegen in keinem systematischen Zusammenhang zur medienpädagogischen Aktivität. (Gysbers 2008: 180)

While Gysbers' line of argumentation seems plausible, it is in contrast to other analyses of teacher performance, such as the latest Austrian national education report. According to Baumgartner et al. (2016: 97), teachers' private use of digital media does not necessarily inspire professional use. Instead, the following discrepancy in educators' behavior can be observed: Despite high popularity of digital media and online resources for lesson planning – more than 90 percent of Austrian teachers frequently make use of them –, only a fifth of educators regularly draw on these media technologies in their actual teaching. The education report does not hold lacking resources in the classroom, but insufficient media education skills responsible for this problem, which is another contradiction to the findings by Gysbers (2008) and even Schneider et al. (2010). Both German studies conclude that there is a causal link between a teacher's personal media literacy and his or her professional media education practices; Baumgartner et al. (2016: 97), however, do not agree to that notion.

One might suggest that the conflicting findings result from country-specific differences. This may be true for classroom resources, whereas culture and living standard appear to be too similar in Austria and Germany to explain the discrepancy. As several years passed between research in the two countries, time and media development might play a role instead. While digital media more or less equaled computers and notebooks back in 2008, the range of digital media for teachers to choose from was much greater in 2015, including tablet PCs, smart phones etc. It could thus be possible that within those seven years, even a considerable number of former media experts lost track of the rapid technology changes and, as a consequence of feeling insecure, refrains from using digital media in the classroom nowadays.

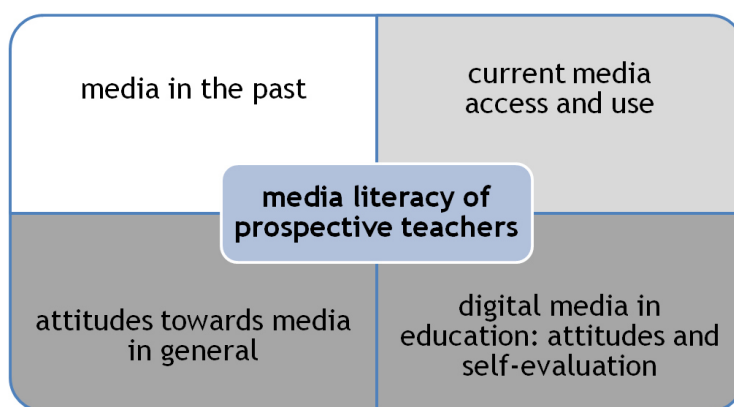
In spite of different observations concerning the relationship between media literacy and media education, or private and professional media use, Gysbers (2008: 187) and Baumgartner et al. (2016: 99) arrive at the same conclusion as regards media literacy and age: In both texts, it is argued that media literacy is no matter of generation. Following the thought that digital media literates and illiterates can be found among young and old teachers alike, it has to be expected that the examination of prospective teachers' private and professional media habits will lead to a similar pic-

ture as the study of educators in employment. Chapter 3.3.2. explores whether this is the case.

### 3.3.2 Prospective teachers' perspective

Unlike chapter 3.3.1, this chapter cannot refer to actual professional performance. As student teachers without a university degree are normally not ready to work in the classroom, except for the purpose of training, their future educational use of media can only be assumed based on predictions. Although the notion that there is a direct relationship between teachers' private media use, i.e. media literacy practices observed outside school, and media literacy efforts in their lessons is controversial (see discussion above), several studies gather data on private media use from prospective teachers to forecast their potential style of teaching media literacy. A second type of data used for explaining the development of private and professional media habits cover the participants' past, i.e. the importance of media among family and friends at different stages of their lives. Memories of media use in the classroom back in their own school days might also be considered.

Biermann (2009) examined student teachers' media literacy and media education goals by means of a quantitative survey. The questionnaire design can be seen in Figure 10; it covers four dimensions, including the significance of media in the past and present as well as attitudes towards media in general and in the context of education. The latter two categories are not listed separately by Biermann, but they are separated in the diagram below to emphasize that private and professional activities or views might not always overlap; they might influence each other with some, but differ with others. Nevertheless, to also indicate the original research design, the dimensions related to media in general and to media in education are given the same background color in Figure 10.

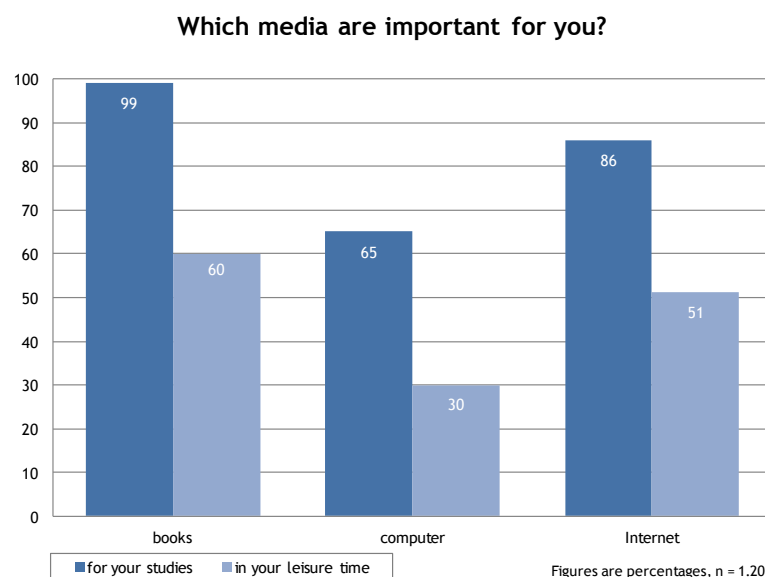


**Figure 10:** Research design for assessing media literacy of student teachers (adapted and translated from Biermann 2009: 91).

The most striking differences between the topical areas of the survey shown in Figure 10 and theory in chapter 2 are the biographical aspect and the focus on attitudes. Borrowing terminology from linguistics once again, one could say that the media literacy model introduced earlier takes a synchronic perspective, i.e. it is only interested in abilities at a certain point of time. Biermann's study, however, combines a synchronic and a diachronic perspective, i.e. it partly attempts to reconstruct the development of skills over a participant's lifetime and to investigate positive as well as negative influences on the acquisition of skills. The questions on attitudes may be interpreted as a type of self-evaluation to gather data on knowledge and analytical capabilities.

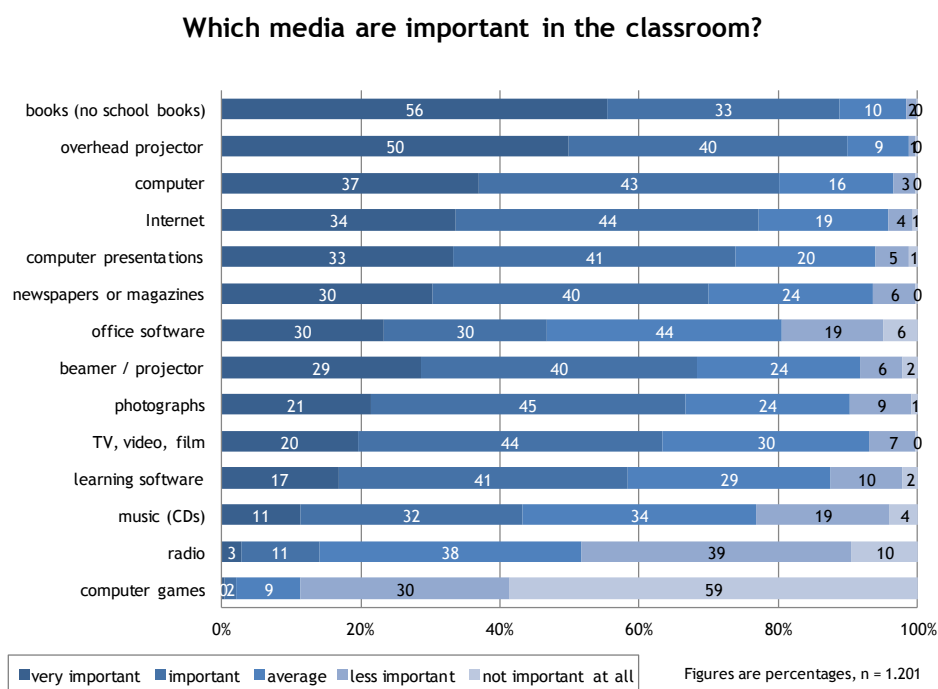
Biermann (2009: 183; 192) provides evidence that personal media preferences positively correlate with the expectations on which media play a significant role in school education. As the comparison of answers from more than 1,200 student teachers in Figure 11 and Figure 12 reveals, books are both considered the most important media for studies as well as leisure time and assumed to be the most essential media in the classroom. On the other hand, digital online resources are clearly more dominant in prospective teachers' personal use than in their imagined future lessons: While the Internet ranks second for university studies and leisure time, it is only in the fourth position concerning media in the classroom.





**Figure 11:** Significance of different media for student teachers (adapted and translated from Biermann 2009: 183).

The high significance student teachers attribute to the overhead projector at school – it is among the top two media in Figure 12 – is apparently linked to their own experiences as pupils. Biermann (2009: 192-193) offers another reason to explain this phenomenon: The use of overhead projectors neither requires particular technical skills nor does it make the preparation for a lesson more time-consuming.



**Figure 12:** Student teachers' expectations on the significance of different media in the classroom (adapted and translated from Biermann 2009: 192).

As regards self-evaluation of media literacy and use of digital media in the classroom, German student teachers seem to have much in common with kindergarten educators. The findings by Biermann (2009: 174-176) are not much more optimistic than those by Schneider et al. (2010) that were presented in chapter 3.3.1. Although more than six out of ten participants experience working with media as exciting and interesting, and though approximately nine out of ten said they have acquired enough skills to cope with computers and the Internet in everyday life, almost half of the respondents admit to quickly losing pleasure when they encounter hardware or software problems. In addition, more than 30 percent stated that they need personal assistance when they want or have to learn about PC functions they have not used before. About a third of prospective teachers feel indifferent or neutral about digital media, and another 15 percent reject them.

According to Biermann's (2009) analysis of his survey's self-evaluation section, the majority of German student teachers are not skilled enough to voluntarily take digital media to the classroom. He argues that many would not feel secure enough to use digital media in front of their pupils and would be afraid of disgracing themselves:

[Es] ist abzusehen, dass auch die angehenden Lehrer neue Medien im Unterricht nicht einsetzen werden. Mit nur ausreichenden Kenntnissen werden sich die befragten Personen wohl kaum der Situation aussetzen, sich durch mangelnde Technikkompetenz bloßzustellen. (Biermann 2009: 175)

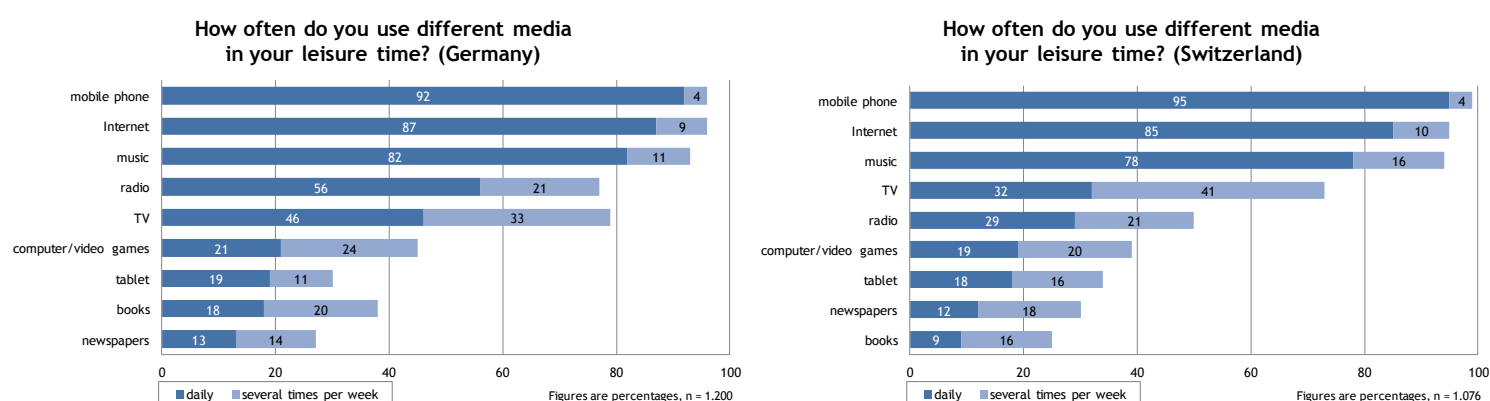
As with older generations of teachers, universities still do not appear to support their students in improving media skills and knowledge on a large scale. Between only seven and forty percent of respondents report to have received training in one or more courses, depending on the particular area within media literacy and media education, such as reflecting on personal media habits or the influence of media on pupils. These data go along with the findings from chapter 3.3.1 and once again illustrate that intrinsic motivation is a key factor regarding the enhancement of teachers' and future teachers' media literacy. In this respect, Biermann (2009: 204) points to an important detail: The (German) teacher studies offer students the freedom to select from a variety of seminars. Apart from a number of mandatory courses, the curriculum allows for individual choices. Thus, demanding from universities to increase their media literacy courses might not fully solve the problem; student teachers would also have to decide – or be obliged to decide – to sign up for them.

### 3.3.3 Pupils' perspective

The review of findings related to media literacy closes with a subchapter on adolescents' media habits. Although pupils are not the research interest of this paper, contrasting their ways of interaction with media to teachers' might provide valuable insights into similarities and differences of both groups' media preferences and skills. Comparison might add another angle to the question which knowledge and abilities a 21<sup>st</sup> century teacher in the digital environment should possess.

While adolescents' media literacy is not regularly studied in Austria, the annual project "JIM – Jugend, Information, (Multi-) Media" (Feierabend et al. 2016) does so in Germany. In Switzerland, the biannual project "JAMES – Jugend, Aktivitäten, Medien Schweiz" (Waller et al. 2016) has been established for this purpose. Both quantitative studies focus on 12- to 19-year-olds and questions mainly cover the literacy dimension *media access and use*.

From JIM and JAMES, it becomes evident that the media predominantly used by teachers in the classroom and regarded as important for school education by prospective teachers are in diametrical opposition to the media currently favored by pupils in their spare time. In Germany as well as in Switzerland, almost all participants say they use their cell phones daily or at least several times per week. More than nine out of ten also surf on the Internet and listen to music that often (see Figure 13). In view of the fact that three quarters of German respondents most often turn to their cell phone when they want to access the Internet (Feierabend et al. 2016: 25), chances are that the top three media activities in leisure time are connected.



**Figure 13:** German and Swiss adolescents' media use in leisure time (adapted and translated from Feierabend et al. 2016: 11; Waller et al. 2016: 23).

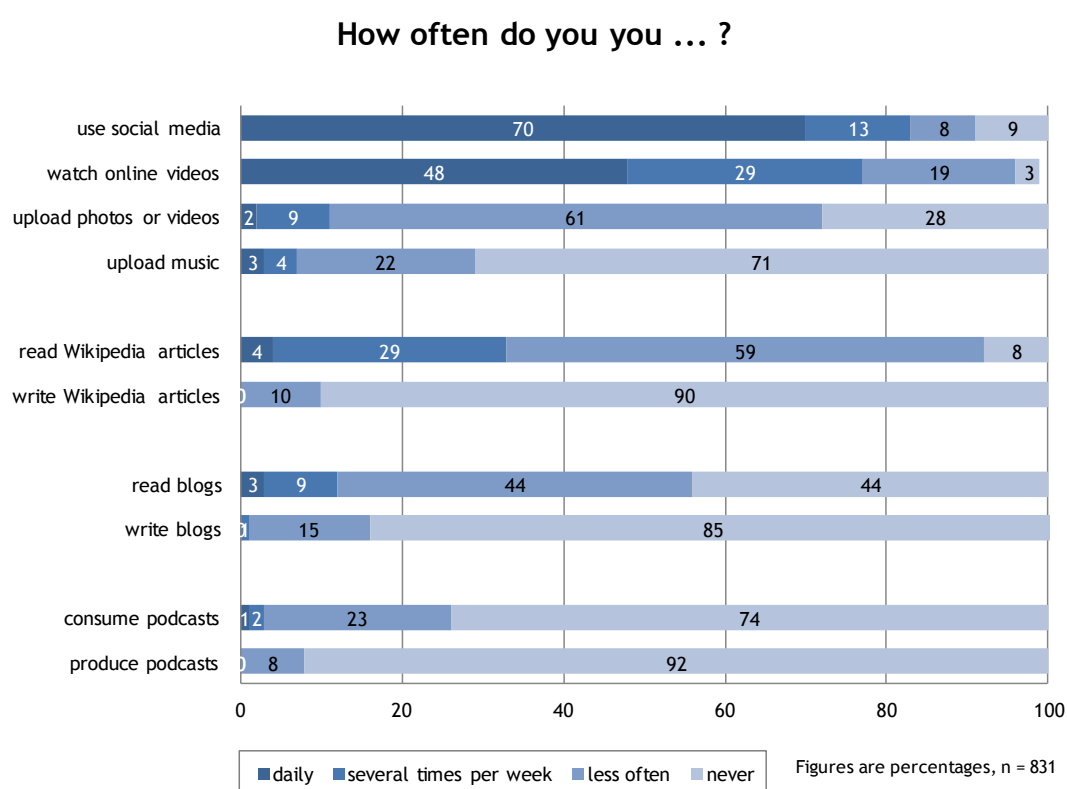
What can also be learned from Figure 13 is that print media, such as newspapers and books, which were found to be the favorites among teachers and student teachers, are frequent spare time activities for one quarter to two fifth of 12- to 19-year old Germans and Swiss.

One might object to the way findings on the teaching profession and on pupils are compared in this chapter. As up to eight years passed between the publication of results referred to in chapters 2.3.1 to 2.3.2 and the release of the latest JIM and JAMES editions, the idea that teachers' views and use of media might have changed in the meantime and may not be that far apart from adolescents' preferences would be a reasonable assumption. Unfortunately, no more recent studies on teachers' and student teachers' media literacy have come to the attention of the author of this diploma thesis, which makes it impossible to prove or disprove the objection. However, the JIM study has been conducted annually since 1998, which allows examining the claim the other way round. According to the 2009 edition of the JIM study (Feierabend & Rathgeb 2009: 16), German adolescents most frequently turned to the cell phone on a daily basis even back then – eight out of ten participants said they used it in their free time every day. Moreover, books were not much more popular among youth than they are nowadays: In 2009, 23 percent (compared to 18 percent in 2016) said they spent time on books every day. It can thus be concluded that the role of books as well as of the cell phone in young people's private lives have remained relatively stable throughout the last decade. For this reason, comparing older data on teachers with more recent research on teenagers is not as far-fetched as it might have seemed at first sight.

Other than at home, the majority of German adolescents are confronted with rigid restrictions at school concerning the use of digital media. In the 2009 survey, around 45 percent noted that they are not allowed to take their smart phones to the classroom or use them there. About a third stated cell phones are strictly banned from lessons, but they are given permission to keep and to use them during breaks. The smallest group, but a quarter of participants after all, said some teachers encourage them also to use their smart phones during lessons for learning or solving particular tasks (Feierabend et al. 2016: 47).

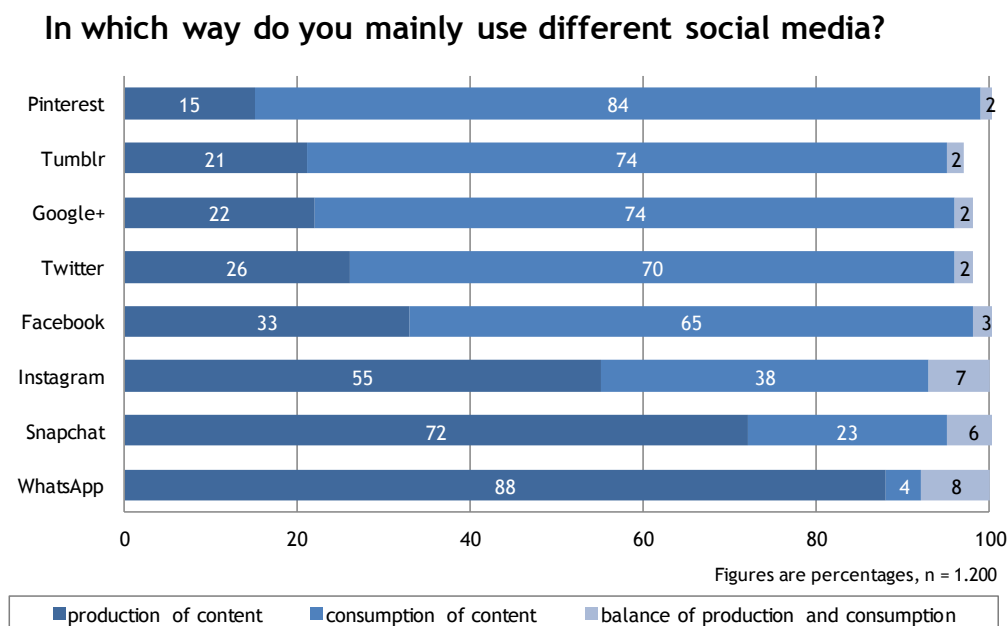
The responses from German pupils support the impression that school lessons are mostly taught in a traditional way and many teachers tend to keep digital media out of their classrooms. Hopefully, the primary reason for educators to do so is not the

one identified by Biemann (2009: 175), namely the fear of being less skilled than pupils (see chapter 3.3.2). As Figure 14 reveals, the average 12- to 19-year old does not resemble a digital media genius whose hobby is to regularly create and share online content, but prefers consumption to production. On social networks, *Wikipedia* or blogs, reading, watching and listening to the content published by others by far outreaches the upload of own photos, videos and texts.



**Figure 14:** Frequency of consumption and production of online content among Swiss adolescents (adapted and translated from Waller et al. 2016: 37-38).

A more detailed look at teenagers' social media usage patterns corroborates the idea that pupils are not the great prosumers the tools at their disposal would allow them to be. On five out of eight popular social networking sites, adolescents are rather passive consumers than active producers. Figure 15, however, shows that there are three exceptions, *Instagram*, *Snapchat* and *WhatsApp*. With the latter two, it should not really come as a surprise that teenage users experience themselves as producers because two-way communication between selected people is the essential function of these messaging services. As soon as potentially larger and unknown audiences are involved, such as on *Facebook* and *Twitter*, adolescents preferably leave production to others.



**Figure 15:** German adolescents' activities on different social media (adapted and translated from Feierabend et al. 2016: 32).

In short, the review of findings on teachers', prospective teachers' and adolescents' media literacy pointed to substantial differences in habits and attitudes concerning digital media. Results suggest that print media are more popular among (future) educators in private and professional context, while pupils love to spend their leisure time with digital media, particularly their mobile phones. Whether teachers' personal use of digital media has a positive impact on classroom use could not be clarified. However, as media literacy was neither found to be an obligatory component of teacher studies nor systematically taught at university and further education nowadays, individual passion and voluntary engagement could be determined as the driving forces for media literacy improvement within the teaching profession. Finally, it was argued that the low self-confidence many teachers have in their own media (education) skills is rather unfounded. As the average pupil does not make use of the full prosuming potential of digital media, but is happy to mainly consume digital content, educators should not give in to their own doubts, but convince themselves that they are not too old to be able to keep up with the younger generation.

## **B. EMPIRICAL PART**





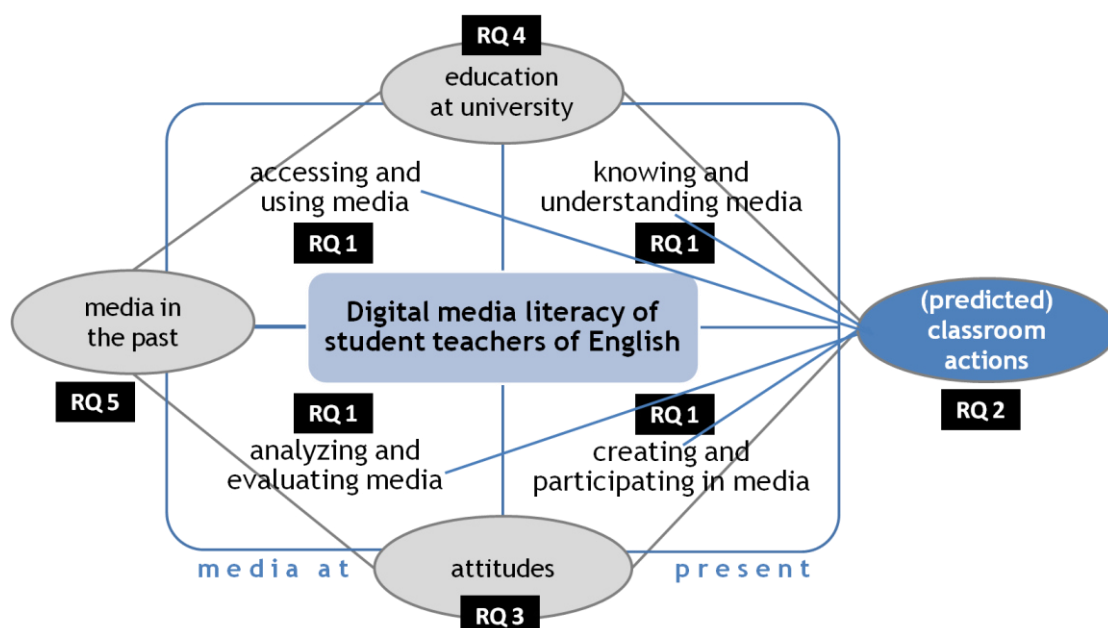
## 4 Methodology

The theoretical part of this diploma thesis raised several issues related to the definition and assessment of media literacy, including problems in terminology and observation. The aim of the empirical part of this paper is to overcome these problems in order to examine digital media literacy among Lehramt students at the Department of English at the University of Vienna. Answers to the research questions are sought through a quantitative approach and consequently survey methodology is used to explore English students' media literacy practices as well as attitudes and expectations on digital media use in the language classroom.

Chapter 4.1 explains the design of the research instrument and comments on items that were adapted from previous empirical projects. Chapter 4.2 offers detailed socio-demographic information on the participants in the survey. The results can be found in chapter 5. Finally, chapter 6 briefly reviews problems encountered during research.

### 4.1 Survey design

The research questions (see chapter 1.2) focus on the various dimensions of media literacy and which implications different levels of media literacy might have for student teachers' future classroom actions. Consequently, the survey needs to operationalize the four-dimensional media literacy model (see chapter 2.3) and cover expectations as well as preferences concerning prospective language classes. In addition to these basic aspects, university education, living conditions in the past and present and attitudes on media inside and outside the classroom have to be studied as further factors that might also influence student teachers' media literacy or media education efforts. Figure 16 offers a graphic representation of the areas that have to be considered in the design of the survey.



**Figure 16:** Research design for assessing digital media literacy of student teachers of English (own illustration).

The survey developed on basis of the ideas above comprises 14 sections that deal with information relevant for the research interest of this thesis. Within these sections, several question types and assessment approaches that were introduced in chapter 3.2 are combined. A number of items are inspired by various studies also presented in chapter 3; partly, they are translated from German into English; partly, the original wording is adapted<sup>5</sup>.

As can be seen in Table 7, the survey uses self-evaluation (in section 7) and scenarios (in sections 9 and 10) to gather data on media literacy practices. The third type of assessment discussed in the theoretical part, the test approach, is omitted in the final version of the survey. Questions targeting declarative knowledge were included in earlier draft versions, but as digital media are such a complex subject, it turned out to be an insoluble task to come up with a small number of test questions that qualify for inferring the full picture of a participant's knowledge of digital media. Of course, it would have been possible to devote a more extensive section to testing knowledge, yet the self-evaluation of skills also asks for many details. In order to avoid a high dropout rate due to survey length, test questions were excluded on advice of the supervisor.

<sup>5</sup> The full questionnaire is included in the appendix (p. 111-132).

**Table 7:** Sections of the quantitative survey.

Section name	Question type/ assessment approach	Comments/references/ connections to RQs
01: Introduction		
02: About your university studies	open-ended question, single choice, multiple choice	research question 4 socio-demographic data
03: Importance of media	open-ended question, Likert scale (agreement)	research question 1/4
04: Your activities on the Internet	single choice, Likert scale (frequency)	research question 1/4 Biermann 2009, Wilson et al. 2011
05: Digital media in your university studies (1)	Likert scale (agreement)	research question 4 Lü 2008
06: Digital media in your university studies (2)	Likert scale (quality), single choice, multiple choice	research question 4
07: Your digital media skills	self-evaluation, Likert scale (quality)	research question 1 digi.kompP 2016 Koc and Barut 2016, Wilson et al. 2011
08: Digital media at school	single choice, multiple choice	research question 3 Blömeke 2000, Biermann 2009
09: Expectations of your future language classroom (1)	classroom scenarios, single choice, Likert scale (quality)	research question 2
10: Expectations of your future language classroom (2)	classroom scenarios, Likert scale (frequency), single choice, multiple choice	research question 2 Gysbers 2008
11: Your views towards media inside and outside the classroom	Likert scale (agreement)	research question 3 Blömeke 2000, Gysbers 2008, Schneider et al. 2010
12: Media in your childhood and adolescence	single choice, multiple choice	research question 5
13: Last page of questions	single choice, multiple choice	research question 5 additional socio-demographic data
14: E-Mail address page		

In addition to discussing the questionnaire with the supervisor, five Lehramt students at the English department were asked to pretest the survey in September and October 2016. Due to their feedback, the wording of several items was clarified in the final version to avoid misunderstandings.

## 4.2 Survey sample

The questionnaire, whose structure was described above, was published and distributed online in winter term 2016/17. It was produced with *Google Forms* because the software offers responsive web design, i.e. an optimized survey layout on different screen types and sizes, without programming effort. This allowed participants to use any device that comes with a web browser and an Internet connection, such as desktop computers, laptops or smartphones, to fill out the questionnaire. The first call for participation was sent out via the student representatives' email newsletter to all Lehramt students enrolled at the Department of English in October 2016. At the same time, the link to the survey was also made available on the English student representatives' *Facebook* page. In November and December 2016, several lecturers at the department were asked to post the call for participation to the *Moodle* forums of their courses. Additionally, flyers were handed out to students in the corridors. In December 2016 and January 2017, two reminders were posted to the *Facebook* page.

Though students' attention was drawn to the thesis project several times in different ways, the response rate is unfortunately low. While the email newsletter and *Facebook* postings reached approximately 2,500 of English students each, only 87 participants completed the survey. As *Google Forms* does not count incomplete responses, the number of dropouts remains unknown.

Before the results were analyzed, the dataset retrieved from the survey software was inspected for peculiar answers. During the data-cleansing phase, the responses from three participants were removed on grounds of unreliability, such as no variation in choices with rating scale questions or fake school subjects.

The vast majority of people within the remaining sample ( $n = 84$ ) are women: Table 8 shows that more than eight out of ten participants are female students. The imbalance in terms of gender is not a distortion brought about by convenience sampling, but reflects reality at the campus. Other socio-demographic data reveal that the average respondent to the survey is an upper-intermediate student at the age of 24.5 years who has already spent 7.31 semesters at the Department of English. During this period of time, only a minority have attended one or several courses with a particular focus on media.

**Table 8:** Overview of method and sample.

<b>Method and target group</b>	quantitative online survey (published with <i>Google Forms</i> ) Lehramt students at the Department of English	
<b>Inquiry period</b>	October 2016 to February 2017	
<b>Calls for participation</b>	<ul style="list-style-type: none"> <li>▪ student representatives' email newsletter,</li> <li>▪ student representatives' <i>Facebook</i> page,</li> <li>▪ <i>Moodle</i> forums of selected courses,</li> <li>▪ flyers handed out to students in the Department's corridors</li> </ul>	
<b>Sample size</b>	n = 84	
<b>Gender</b>	female participants: 86% (72)	male participants: 14% (12)
<b>Age</b>	24.51 years (mean)	24.00 (median)
	18-20 years: 17% (14)	
	21-25 years: 54% (45)	
	26-30 years: 22% (19)	
	> 30 years: 7% (6)	
<b>Degree type</b>	Mag. 70% (59)	B.Ed. 30% (25)
<b>Second subject</b> <small>Note: two participants study three subjects</small>	languages: 37% (31)	natural sciences: 26% (22)
	social sciences: 33% (28)	other: 6% (5)
<b>Semesters enrolled</b>	7.31 semesters (mean)	7.00 (median)
	semester 1-2: 16% (13) (beginners)	
	semester 3-5: 14% (12) (1 <sup>st</sup> study section)	
	semester 6-9: 43% (36) (2 <sup>nd</sup> study section)	
	> 9 semesters: 27% (23)	
<b>Fachbezogenes Praktikum (FAP) completed</b>	English: 19% (16)	second subject: 37% (31)
	English and other subject: 2% (2)	not yet: 41% (35)
<b>Course(s) with focus on media attended</b>	yes: 33% (28)	no: 67% (56)
	at Department of English: 16% (13)	
<b>Intention to become a teacher</b>	yes: 76% (64)	no: 0% (0)
	one of several options: 20% (17)	not decided yet: 4% (3)
<b>Work experience as a teacher</b>	at present: 11% (9)	ever before: 16% (13)

Despite the fact that the standard period of study in the magister program – which is the degree type of 70 percent of participants – amounts to 9 semesters, more than two fifths of respondents have not yet completed their *Fachbezogenes Praktikum* in either of the subjects they study. The proportion of language and non-language subjects in the second subject is about one to two thirds: Besides English, 37 percent study another language; 33 percent study social sciences like history and philosophy, and 26 percent study natural sciences, such as biology, chemistry, geography, mathematics, or physics. According to their answers, the participants have decided for the right study program: Three quarters stated that they intend to become a teacher after graduation from university, and one fifth said that teaching is one of several options, whereas no one in the sample has definitely decided against taking a job as a teacher.

## 5 Findings

This chapter describes the results of the survey research conducted in the winter term 2016/17 among Lehramt students at the Department of English at the University of Vienna. Chapters 5.1 to 5.5 present findings to particular research questions and, where applicable, also examine correlations between various aspects covered by the online questionnaire. The correlation analysis aims at identifying positive and negative influences on prospective teachers' media literacy and media education efforts.

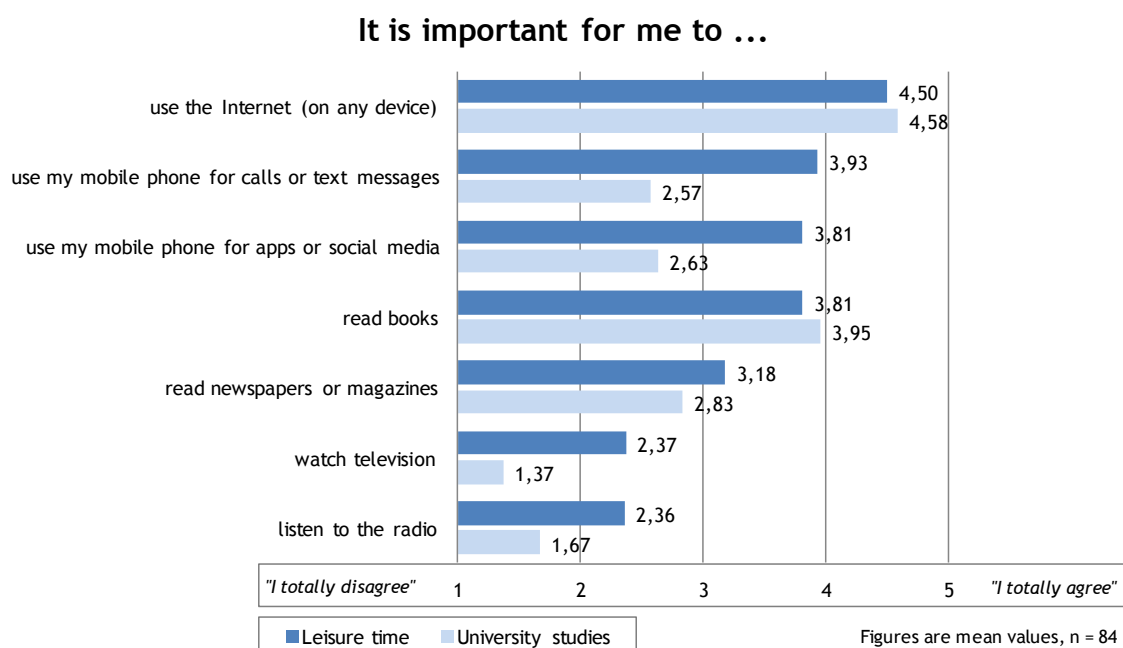
### 5.1 Digital and media literacy: strengths and weaknesses

The underlying research question to this chapter is: *What are students' strengths and weaknesses in various dimensions of digital and media literacy?* Answers to this question were gathered in three survey sections (see Table 7): Two of them focused on media access and use, and the third one required participants to self-evaluate their knowledge and skills by means of a set of 21 media literacy practices. Self-evaluation considered all of the four media literacy dimensions discussed in the theoretical part of this diploma thesis, including *accessing and using media*, *knowing and understanding media*, *analyzing and evaluating media* as well as *creating and participating in media*.

#### 5.1.1 Key media and activities

As regards the importance of different types of media, student teachers at the Department of English stated to be in need of secondary print media and fourth level digital media, while secondary broadcast media rather play a subordinate role. For both leisure time and university studies, the Internet is the most essential medium: Mean values for private and educational use amount to impressive 4.50 and 4.58 on a five-point scale. The second most important medium varies according to the context: In students' spare time, calls or text messages on the mobile phone rank second ( $\bar{x} = 3.93$ ), whereas books ( $\bar{x} = 3.95$ ) are in second place when it comes to media use for or at university. However, books also seem to be important leisure time companions. Reading books as a spare time activity is as popular as using the mobile phone for apps or social media in the free time ( $\bar{x} = 3.81$ ). In contrast, watching television or listening to the radio are neither crucial for private (TV:  $\bar{x} = 2.37$ ; radio:  $\bar{x} = 2.36$ ) nor for educational (TV:  $\bar{x} = 1.37$ ; radio:  $\bar{x} = 1.67$ ) purposes. Figure 17 visual-

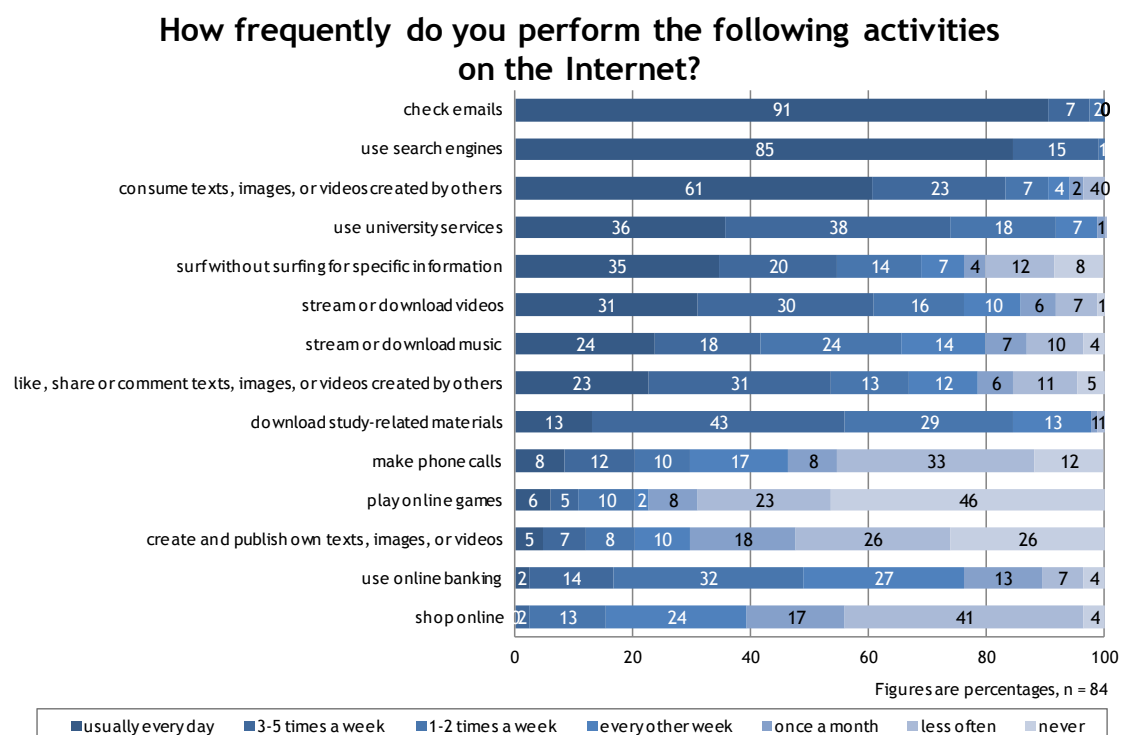
izes the significance of different types of media for the prospective English teachers surveyed.



**Figure 17:** Importance of different types of media for Lehramt students at the Department of English (own illustration).

Looking in more detail at respondents' most important medium, the Internet, leads to the frequency of and reasons for going online. What can be seen in Figure 18 is that several online activities are performed by the majority of survey participants every day, namely checking mails (91%), using search engines like *Google* (85%) and consuming texts, images, or videos (61%). Online activities in which most of the sample engage themselves at least once a week include the use of university services like *Univis* or *u:search* (92%), the download of study-related materials from e-learning platforms like *Moodle* (85%) and streaming or downloading videos (77%). Furthermore, about two thirds said that they access the Internet at least once a week to surf without looking for specific information (69%), like, share or comment content on social media (67%) or to stream or download music (66%). On the other hand, the diagram below also shows a number of activities that are not regularly performed by a majority and therefore cannot be considered typical of student teachers' Internet use. Almost seven out of ten respondents stated to play online games less often than once a month or not at all; with the creation and online publication of own texts, images, or videos, it is every second participant.





**Figure 18:** What Lehramt students at the Department of English do online (own illustration).

The activities performed by the survey participants on the Internet and the frequency of performance point to the fact that student teachers of English are rather consuming than producing digital media users. High popularity and frequency of downloading, watching and reading online content is opposed to a considerably lower popularity and frequency of commenting and creating online content. In this respect, prospective teachers have much in common with nowadays' teenagers, i.e. the current generation of secondary school pupils, who in chapter 3.3.3 were also found to favor digital media consumption and take relatively little action as digital media producers.

### 5.1.2 Self-evaluation

A comprehensive look at Lehramt students' media literacy strengths and weaknesses requires a comparison of media use to other dimensions of media literacy. In this subchapter, results from the survey's self-evaluation section on the four different media literacy categories are presented and contrasted. As can be seen in Table 9, each of the 21 literacy practices included in the survey is associated with a particular dimension. Nevertheless, they were displayed to participants in random order to avoid response bias. Since there were additional items to examine *media access and use* (see chapter 5.1.1), this category was covered only by two self-evaluation statements, while three to four statements each dealt with the other dimensions. The

sub-dimensions within the category *knowing and understanding media*, however, were found to be too distinct to be combined. This is why separate statements were developed for the assessment of *usage-related knowledge* and *background knowledge*. The full list of statements is reproduced below; it also features the mean values of self-evaluation.

**Table 9:** Media literacy practices included in the survey for self-assessment.

Accessing and using media	mean ( $\bar{x}$ )	Knowing and understanding media	mean ( $\bar{x}$ )
<i>I am able to ...</i>	3.88	<i>I am able to ...</i> [Usage-related knowledge offline]	4.18
... search for specific information on the Internet.	4.55	... create a text file (e.g., Word), enter text, and save it.	4.75
... use digital media to individualize my (future) lessons.	3.21	... prepare slides for a presentation.	4.55
<b>Analyzing and evaluating media</b>	mean ( $\bar{x}$ )	... create graphics in a spreadsheet software (e.g., Excel).	3.24
<i>I am able to ...</i>	4.24	<i>I am able to ...</i> [Usage-related knowledge online]	3.15
... distinguish between serious information and satire on news websites.	4.39	... send large amounts of data that do not fit an e-mail attachment.	3.30
... identify sources/websites that offer credible and/or reliable information.	4.24	... protect my devices from viruses or hacking attacks.	3.17
... keep journalistic pieces and advertising apart.	4.08	... delete personal data from social media and/or exclude them from search engines.	2.99
<b>Creating and participating in media</b>	mean ( $\bar{x}$ )		
<i>I am able to ...</i>	2.63	<i>I am able to ...</i> [Usage-related knowledge: problems]	2.84
... record a video and upload it to YouTube.	2.85	... produce a backup copy of important data on the computer or smart phone.	3.76
... officially report cases of cyber mobbing or right-wing activities.	2.71	... diagnose software problems and solve them.	2.46
... produce online material that inspires the learning of my (future) pupils.	2.69	... diagnose hardware problems and solve them.	2.30
... edit a video and upload it to YouTube.	2.25	<i>I am able to ...</i> [Background knowledge]	3.34
		... adjust my social media appearance to my role as a (future) teacher.	3.60
		... use images from websites without violating copyright laws.	3.35
	<i>n</i> = 84	... use cloud storages to organize my documents responsibly and critically.	3.07

On basis of self-assessment and regarding mean values as observable instances of behavior that qualify for the inference of digital and media literacy, the strengths and weaknesses of student teachers of English at the University of Vienna are as follows: Concerning analysis and evaluation of digital media, the respondents are close to the

expert level. The high self-esteem is not only evident in the category mean value ( $\bar{x} = 4.24$ ), but also in the self-assessment of every single category statement. No matter whether participants were asked about their abilities to distinguish between serious information and satire on news websites, to identify sources that offer credible or reliable information, or to keep journalistic pieces and advertising apart – the answers they gave translate into mean values that are all above 4.00 on a five-point scale.

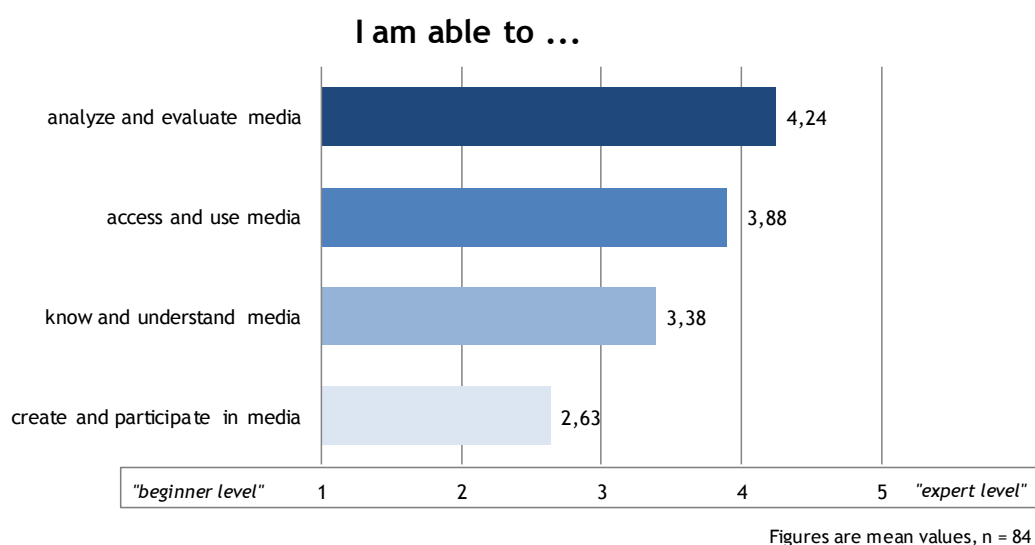
Besides analysis and evaluation capacities, the prospective teachers surveyed appear to trust in their skills to access and use digital media. At least the high category mean value ( $\bar{x} = 3.88$ ) suggests an advanced literacy level. It must not be ignored, though, that the self-assessment on the two category statements diverges. While participants attribute expert skills to themselves when it comes to the use of search engines ( $\bar{x} = 4.55$ ), they feel less talented to employ digital media in their future lessons ( $\bar{x} = 3.21$ ). Obviously, the students have a different perception of their skills to use digital media in private and professional context.

The overall assessment of the media literacy dimension *knowing and understanding media* ( $\bar{x} = 3.38$ ) points to an upper-intermediate proficiency level, but mean values strongly differ between and even within the sub-dimensions of *usage-related* and *background knowledge*. First, respondents are much more familiar with digital offline media ( $\bar{x} = 4.18$ ) than online media ( $\bar{x} = 3.15$ ). The inconsistent self-evaluation with different types of offline software may be simply due to the fact that language teachers are more often asked to produce texts or presentation slides than spreadsheet charts and therefore have less experience with the latter. Secondly, the participants feature a rather low self-esteem concerning their abilities to solve hardware or software problems ( $\bar{x} = 2.84$ ). It might be of relevance here that only two percent of the respondents have chosen information technology as their second subject, whereas more than two thirds have neither selected a technical subject nor natural sciences in addition to English.

According to self-evaluation, *creating and participating in digital media* is the weakest of all four examined media literacy dimensions. The overall mean is 2.63, which corresponds to a lower-intermediate level. Comparison of single statements shows that students gave relatively consistent answers: Be it uploading a recorded or edited video to sharing websites like *YouTube*, reporting cyber crime to official authorities or

producing online material for educational purposes – none of the four literacy practices associated with this category features a mean value that exceeds the 3.00 benchmark. The low self-esteem concerning the creation of online content and participation in critically reviewing others' content that was expressed by the participants fits the patterns of digital media use, i.e. the preference of consumption over production, which were discussed in chapter 5.1.1.

Figure 19 summarizes English students' self-evaluation of knowledge and skills related to the four dimensions of media literacy.

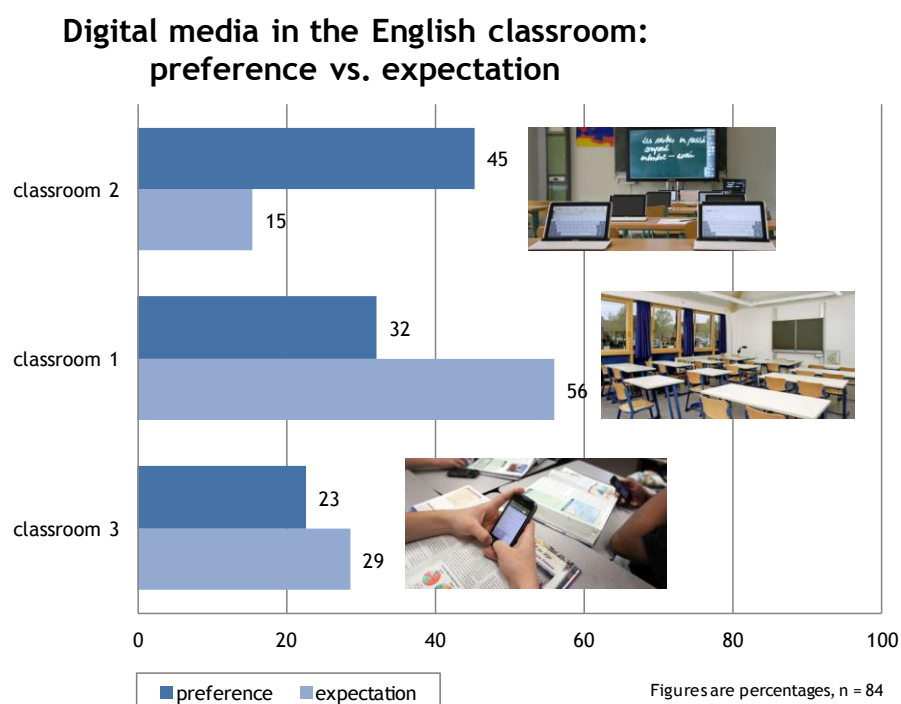


**Figure 19:** Self-evaluation of media literacy by Lehramt students at the Department of English (own illustration).

In short, the findings from the self-assessment section in the survey suggest different levels of media literacy with different dimensions. While respondents feature expert analytical and evaluative skills, their confidence in skills for digital media creation is low. This comes as no surprise as participants' most frequent online activities may be classified as passive consumption. Nevertheless, the examination of media use for university and during leisure time has shown that the Internet is prospective English teachers' most important medium. Chapter 5.2 explores in which way private and personal media routines influence students' readiness to employ and teach digital media in the classroom. Before doing so, preferences for and expectations of IT facilities at the future workplace are analyzed.

## 5.2 Teaching digital and media literacy: expectations and preparedness

This chapter is based on the following research question: *How ready do the students feel to teach digital and media literacy in their prospective English classes?* Survey sections 9 and 10 used the scenario approach to find answers. Participants were presented with three different environments. Scenarios included a conventional classroom equipped with a chalkboard and an overhead projector (= classroom 1), a classroom in which a laptop is provided for each pupil (= classroom 2) as well as a classroom in which the young language learners are encouraged to use their cell phones (= classroom 3). Instead of verbal scenario descriptions, the photographs reproduced in Figure 20 were shown to the respondents.

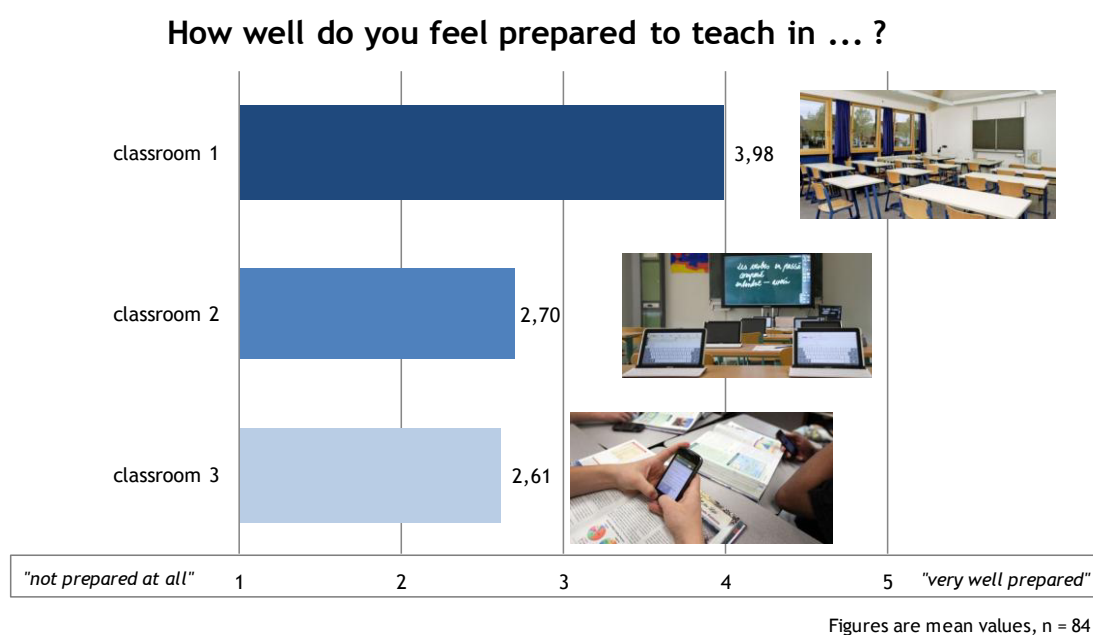


**Figure 20:** Classrooms in which Lehramt students at the Department of English would like to and expect to teach (own illustration).

The diagram above informs readers that participants' classroom preferences and expectations clearly deviate: Almost half of the respondents stated that they would like to teach English in the laptop classroom, whereas only one out of six believes that this will actually be the case. With classroom 2, the situation is the other way round. Only a third desire to work in the conventional classroom as a language teacher, but six out of ten assume it to be their future workplace. When it comes to

smartphones in the classroom, preferences (23%) and expectations (29%) are nearly even.

Although the wish to have a laptop classroom at one's disposal is dominant, mean values in Figure 21 predict that prospective teachers would feel most comfortable at the chalkboard. While the respondents suppose that they are well prepared to teach in classroom 1 ( $\bar{x} = 3.98$ ), they do not feel that ready yet for computer- ( $\bar{x} = 2.70$ ) or cell phone-assisted ( $\bar{x} = 2.61$ ) English lessons.



**Figure 21:** Classrooms for which Lehramt students at the Department of English (do not) feel ready yet (own illustration).

Lehramt students' unease regarding classrooms equipped with digital media could be rooted in troubles expected to occur while using this technology. Participants' guesses on problems that might arise when going digital or that even prevent them from doing so in an English lesson are listed in Table 10. Above all, there are organizational concerns. More than two fifths share the fear that there could be a lack of devices, which offers a reasonable explanation for the low expectations to teach in a room like classroom 2. The idea that pupils could be easily distracted through digital media is also widespread among the respondents – four out of ten think so. The list of possible problems moreover provides evidence that the prospective teachers trust less in their own than their future pupils' digital media skills: On the one hand, ten percent each said they are afraid that either things could go wrong in front of the learners or that learners probably know better than themselves how to operate the

devices. On the other hand, no one believes that digital media use in the classroom could fail because pupils have too few skills. However, it must not be ignored that one third of participants, which is the third largest group within the sample, is optimistic that no problems would occur at all.

**Table 10** : Why the use of digital media could be problematic for language teachers.

Expected problem	percent	Expected problem	percent
There is a lack of devices at my school.	43%	There is no content/software that fits to the lesson aims.	5%
Pupils are easily distracted.	39%	My headmaster probably does not understand/support me.	5%
Preparation of equipment takes too much time.	24%	Lessons are less effective.	4%
Devices are old or do not work properly.	24%	It is difficult to operate the devices.	2%
Pupils only communicate with their devices, but not with their teacher any more.	15%	I doubt there is a didactic value.	2%
Preparation of content (lesson planning) takes too much time.	11%	Pupils do not remember what they learn.	1%
I am afraid that things go wrong in front of pupils.	10%	Pupils are not skilled enough.	0%
I am afraid that some pupils have more skills than myself.	10%	I don't expect any problems.	35%
Because my teacher colleagues probably do not understand/support me.	10%	other	4%

Respondents were allowed to select up to five answers, n = 84

In chapters 3.3.1 and 3.3.2, the question whether teachers' and prospective teachers' private media use has an impact on their professional media use was controversially discussed. While some of the studies reviewed arrive at the conclusion that personal media preferences positively influence classroom expectations and behavior, others do not identify a significant relationship. Because of the contradicting results in previous research, a correlation analysis of the survey data of student teachers of English appears helpful to learn more about this issue.

Table 11 shows the Pearson correlation coefficients ( $r$ ) for participants' answers on the importance of different types of media and their preparedness to teach in conventional, computer- or smartphone-assisted classrooms. Values identified as significant by SPSS statistics software are highlighted in the table: Green cells point to positive, red cells to negative linear correlations. For the interpretation of effect size, one needs to be aware that  $r$  can range from 1 to -1. Moreover, a widely recognized

guideline is to interpret Pearson's  $r$  around 0.1 as a small, around 0.3 as a medium and higher than 0.5 as a large effect size (Cohen 1992; Statistics Solutions 2013).

**Table 11:** Pearson's  $r$  – preparedness to teach in different classrooms and importance of media.

Preparedness	Importance of media for university studies						
I feel prepared to teach English in ...	It is important for me to ...						
	watch television	listen to the radio	read books	read newspapers or magazines	use my mobile phone for calls or text messages	use my mobile phone for apps or social media	use the Internet (on any device)
classroom 1	0.103	0.142	-0.023	0.196	-0.022	0.015	-0.077
classroom 2	0.199	-0.027	0.154	0.128	0.219*	0.079	-0.243*
classroom 3	0.098	-0.121	0.351**	0.220*	0.153	0.255*	0.110
Preparedness	Importance of media in leisure time						
I feel prepared to teach English in ...	It is important for me to ...						
	watch television	listen to the radio	read books	read newspapers or magazines	use my mobile phone for calls or text messages	use my mobile phone for apps or social media	use the Internet (on any device)
classroom 1	0.103	0.154	-0.044	0.160	0.050	0.121	-0.116
classroom 2	0.012	-0.089	-0.194	-0.207	-0.140	-0.145	-0.188
classroom 3	-0.122	-0.037	0.043	0.011	-0.038	-0.081	0.066

\*\* . Correlation is significant at the 0.01 level (2-tailed); \* . Correlation is significant at the 0.05 level (2-tailed).  $n = 84$

The table above does not feature any significant correlations between student teachers' media preferences in their free time and their feelings as to how ready they are to teach in different classrooms. Concerning correlations between media for university studies and preparedness for various teaching scenarios, however, five significant values can be found:

- The more important the Internet is for studies, the less prepared students feel to teach in the laptop classroom ( $r = -0.243$ ; small effect). A possible explanation for this paradox is that students might infer from their own Internet habits at university



(e.g. being online during a seminar) the problem of distraction in the computer-assisted classroom.

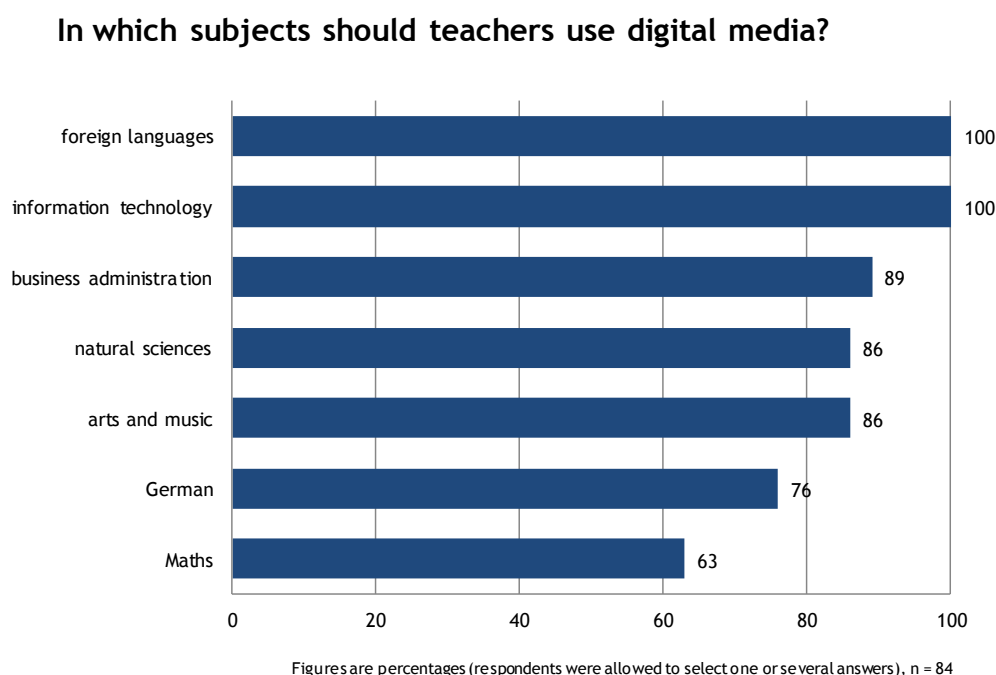
- The more important calls and text messages on the mobile phone are for studies, the more prepared students feel to teach in the laptop classroom ( $r = 0.219$ ; small effect). This correlation suggests that the experienced benefits of one digital device (mobile phone) are apparently transferred to another (laptop).
- The more important apps and social media on the mobile phone are for studies, the more prepared students feel to teach in the smartphone-assisted classroom ( $r = 0.255$ ; small effect). This positive correlation should not be surprising. It seems reasonable that students who are familiar with and appreciate learning apps are motivated to share their experiences with their future pupils.
- The more important newspapers and magazines are for studies, the more prepared students feel to teach in the smartphone-assisted classroom ( $r = 0.220$ ; small effect).
- The more important books are for studies, the more prepared students feel to teach in the smartphone-assisted classroom ( $r = 0.351$ ; medium effect). Other than the positive influence of apps on using cell phones during English lessons, it might come as a surprise that print media appear to increase the preparedness to use mobile devices at school as well. This correlation possibly indicates that media-savvy students – no matter which particular media they turn to for university – are more open-minded concerning digital media use in the classroom than students less experienced with media. An alternative explanation for this unexpected finding would be lesson plans and didactic concepts aiming at digital media in the classroom that respondents have encountered in books and magazines.

Altogether, the results from the scenario section of the survey demonstrate that the computer-assisted classroom would be the preferred future workplace for almost half of the respondents despite rather low approval to the question whether they feel prepared to teach there. Lack of devices and distraction of pupils are the main problems expected by prospective teachers to occur in the digital media classroom. While there is no evidence that private media habits influence professional media efforts, several correlations between the importance of media for university studies and the preparedness to teach English in a computer- or smartphone-assisted classroom can be identified.

### 5.3 Attitudes towards digital media inside and outside the classroom

The third research question to be considered is: *What is the relationship between students' digital and media literacy and their attitudes towards digital media inside and outside the classroom?* Survey sections 8 and 11 collected prospective teachers' views on digital media in general and in connection with secondary school education in particular. First, this chapter presents results on both aspects. Secondly, correlations between views and digital media skills are analyzed.

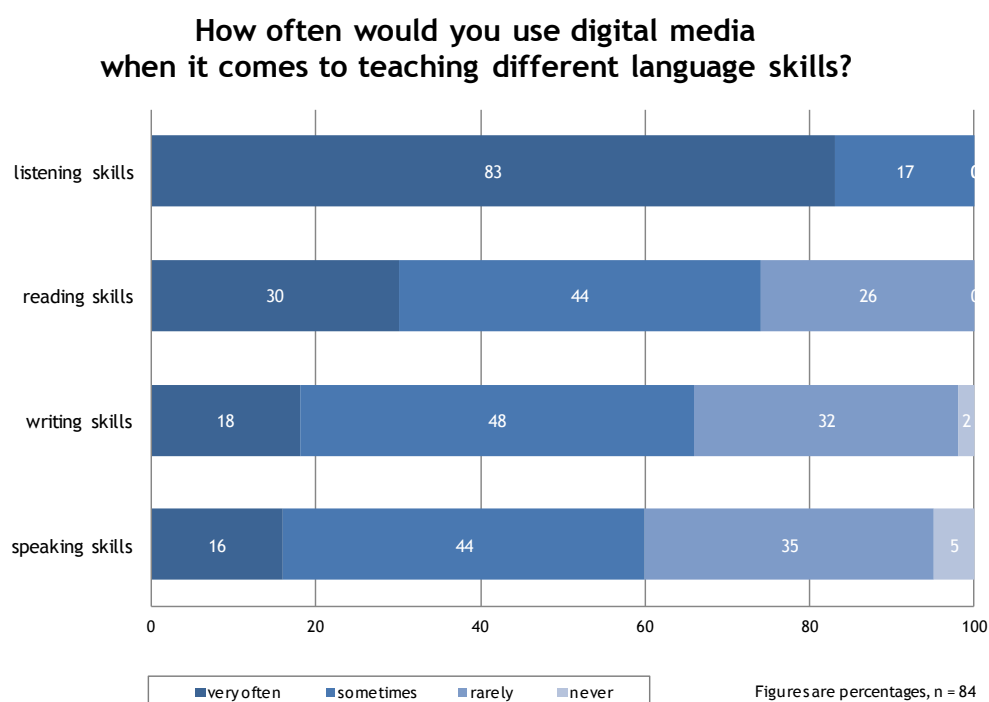
According to Figure 22, respondents are highly convinced that digital media and language teaching go well together. All of the students surveyed expressed the opinion that secondary school teachers should use digital media in English and foreign language classes. Information technology is the only other subject that also received 100 percent agreement on the question whether digital media should be used in the classroom.



**Figure 22:** Lehramt students' views on digital media use in various subjects (own illustration).

Examining the functions that future English teachers associate with digital media in language teaching, the idea of using them for the practice of listening skills is particularly prevalent among the participants. All respondents claimed that they would use digital media for listening comprehensions at least sometimes, whereas turning to digital media for working on other language skills seems to be less popular within the

survey sample. With reference to writing and speaking activities, about a third each said they would rarely or never employ digital media. Details on digital media use for teaching different skills are given in Figure 23.



**Figure 23:** Lehramt students' views on digital media use for the practice of various language skills (own illustration).

Apart from the general questions on digital media use concerning different subjects and language skills, the survey included more specific items on the types of media that students would choose for their English lessons as well as on the purposes of digital media use in secondary education.

Regarding media types, students were presented a list from which they could choose up to five options; moreover, they were allowed to add further tools. Table 12 shows the default options and percentages; answers additionally typed in are reproduced in italics in the right column. Among default options, the most favored media are quizzes and blogs, which were selected by seven and five out of ten respondents, respectively. The answer most frequently added to the list is videos, which matches the widespread idea of practicing receptive language skills through digital media use.

**Table 12:** Lehramt students' digital media choices for classroom use.

Which of the following digital media would you like to use with your pupils in your language classroom?

Type of medium	percent	Type of medium	percent	Type of medium	percent
quizzes	71%	e-books	38%	social media	20%
blogs	54%	web quests	36%	<i>videos</i>	27%
e-mail	43%	apps	35%	<i>Moodle</i>	4%
wikis	39%	games	32%	<i>radio</i>	1%

Respondents were allowed to select up to five and add *additional answers*, n = 84

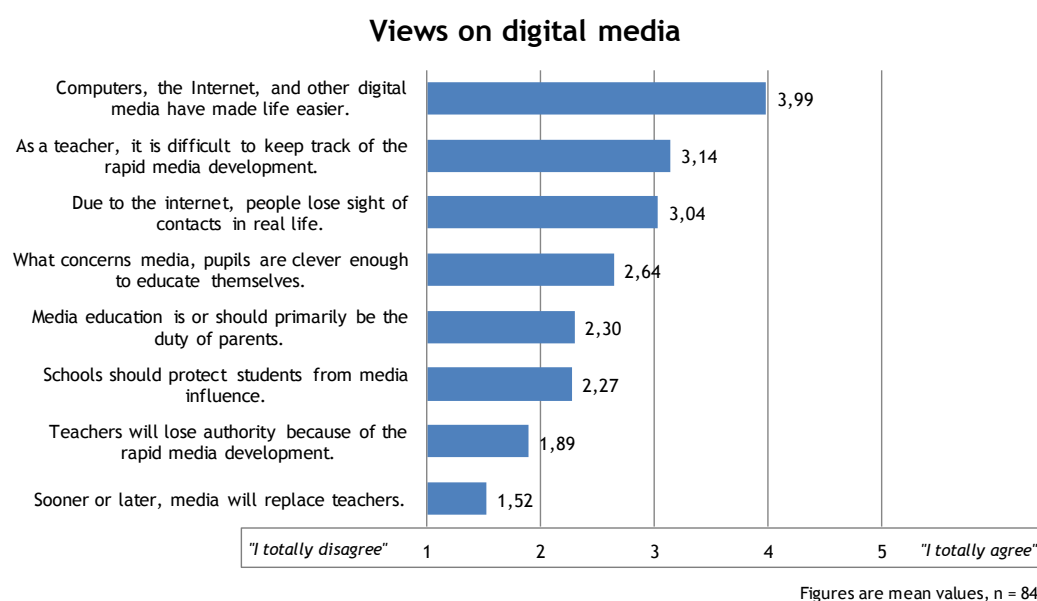
Students' views on purposes of digital media in secondary education – which are not limited to language teaching – are provided by Table 13. The most common association, expressed by almost nine out of ten respondents, is bringing more variety into school routine. It is followed by the idea that digital media might have a motivational effect on pupils, which is shared by slightly more than half of the participants. Remembering that chapter 5.2 listed distraction as the second most expected problem with digital media in the classroom, it is remarkable that such a large number of students believe in positive aspects like increasing motivation, encouraging pupils to work on their own responsibility and inspiring creativity. Generally speaking, answers in the table below evoke the impression that prospective teachers foreground pleasant purposes of digital media while omitting rather unpleasant ones. For instance, any activity related to grading, including the collection of assignments as well as testing and assessment of pupils' work, is relatively unpopular.

**Table 13:** Lehramt students' views on purposes of digital media in secondary education.

Purpose of digital media use	percent	Purpose of digital media use	percent
for making lessons rich in variety	85%	for homework	23%
for motivating pupils	56%	for entertainment after an assignment	17%
for helping students to work on their own	48%	for collecting assignments	15%
for creative tasks	48%	for asking pupils for their feedback	15%
for practising	48%	for revising important tasks shortly before an assignment	13%
for introducing a new topic	43%	for replacing printed school books/copies	10%
for giving pupils the possibility to work at their own speed	35%	for testing and assessing	7%
for presenting tasks or results of pupils' work	26%	Respondents were allowed to select up to five answers, n = 84	

Respondents' positive attitude towards digital media is not confined to the classroom, but also becomes evident from their general view on technological developments. They strongly approve of the statement that computers, the Internet and other digital media have simplified life – the mean value of agreement is 3.99 on a five-point scale (see Figure 24). Besides, the sample is very optimistic about future employment in the teaching profession – the assertion that media innovations could threaten educators' jobs is rejected ( $\bar{x} = 1.52$ ). Prospective teachers neither seem to worry about authority loss ( $\bar{x} = 1.89$ ) nor about harmful influences of media on pupils that would require protective measures ( $\bar{x} = 2.27$ ). Instead, they implicitly call on schools and their own profession to engage in media education by opposing the claim that it is solely the duty of parents to introduce children and adolescents to the risks and benefits of media ( $\bar{x} = 2.30$ ). Another implicit hint at self-commitment to media literacy efforts is the assumption that pupils are not capable of learning about media on their own ( $\bar{x} = 2.64$ ).

In spite of the optimistic view on digital media and the acknowledgment that teachers should involve themselves in media literacy efforts, limitations to the positive attitude can be observed. The Lehramt students surveyed are undecided whether teachers have difficulties keeping themselves up to date with the ever-changing digital media ( $\bar{x} = 3.14$ ). Likewise, they are uncertain if an increase of virtual communication leads to a decline of contacts in reality ( $\bar{x} = 3.04$ ).



**Figure 24:** Lehramt students' views on digital media in professional and private context (own illustration).

As regards the relationship between prospective teachers' views on digital media and their media literacy, several significant correlations can be found. Figures in Table 14 indicate that a skeptical or pessimistic attitude correlates negatively with digital media skills, whereas there is a positive correlation between optimism and skills. For instance, the ability to effectively protect personal devices from viruses or hacking attacks is negatively influenced by the fear of losing track of the rapid media development ( $r = -0.333$ ; medium effect), authority loss in the classroom ( $r = -0.231$ ; small effect) as well as social impoverishment ( $r = -0.254$ ; small effect). Another example of negative correlations can be observed with video skills: The more prospective teachers hold parents responsible for media education and the more they believe schools should protect pupils from (bad) media influence, the poorer they self-assess their abilities to record and upload audiovisual content ( $r = -0.239$  and  $r = -0.225$ ; small effect).

The leftmost column in Table 14 features a set of positive correlations: The more Lehramt students agree to the idea that computers, the Internet, and other digital media have led to a simplification of life, the better they self-evaluate their abilities to send data that exceed the size of an e-mail attachment ( $r = 0.234$ ; small effect), their abilities to use cloud storages ( $r = 0.226$ ; small effect), their video recording ( $r = 0.388$ ; medium effect) and editing skills ( $r = 0.252$ ; small effect) as well as their capability to report instances of cyber crime ( $r = 0.258$ ; small effect).

In conclusion, the analysis of participants' attitudes towards digital media inside and outside the classroom showed that prospective English teachers have a positive view towards digital technology. When it comes to teaching languages and other subjects, they strongly believe in motivational effects of digital media and that lessons are richer in variety through the use of digital tools and devices. The optimistic attitude is very important as it was found to positively correlate with self-assessment of media literacy. Students' outlook on the future, however, is ambivalent: On the one hand, they have confidence in a stable job situation by dismissing the idea of being replaced by information technology. On the other hand, they tend to be anxious regarding the question whether they are able to keep track of the media development.

**Table 14:** Pearson's  $r$  – digital media skills and views on digital media.

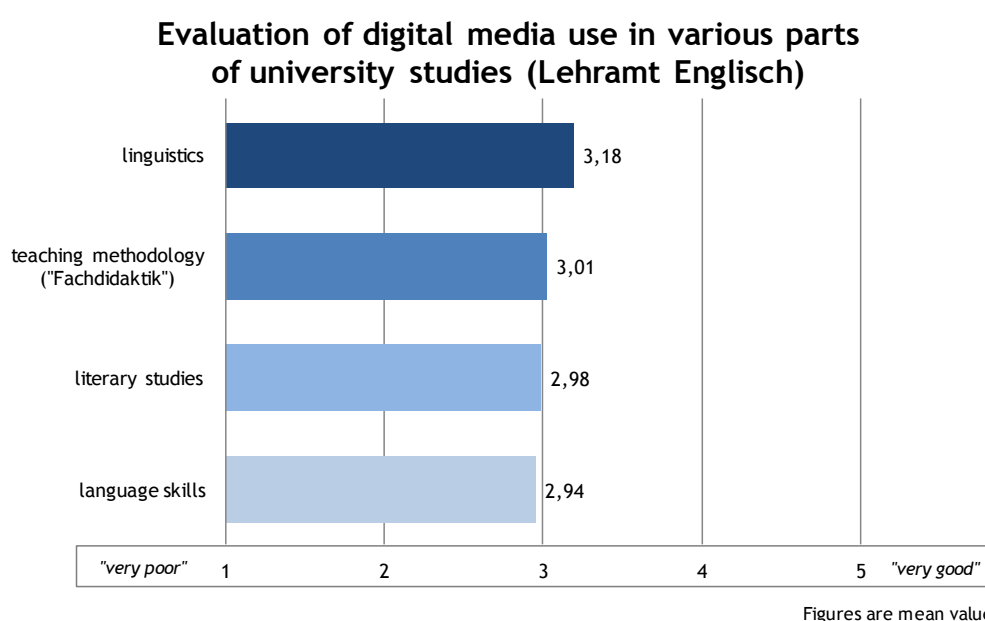
Skills	Views on digital media							
I am able to ...	Computers, the Internet, and other digital media have made life easier.	What concerns media, pupils are clever enough to educate themselves.	As a teacher, it is difficult to keep track of the rapid media development.	Schools should protect students from media influence.	Media education is or should primarily be the duty of parents.	Teachers will lose authority because of the rapid media development.	Due to the internet, people lose sight of contacts in real life.	Sooner or later, media will replace teachers.
use images from websites without violating copyright laws.	0.061	-0.139	0.033	-0.069	-0.068	-0.032	-0.239*	-0.109
send large amounts of data that do not fit an e-mail attachment.	0.234*	-0.001	-0.119	-0.123	-0.173	-0.154	-0.237*	-0.128
protect my devices from viruses or hacking attacks.	0.117	-0.031	-0.333**	-0.039	-0.157	-0.231*	-0.254*	-0.098
use cloud storages to organize my documents responsibly.	0.226*	-0.026	-0.045	-0.175	-0.118	-0.193	-0.232*	-0.097
record a video and upload it to YouTube.	0.388**	-0.034	-0.142	-0.225*	-0.239*	-0.066	-0.013	0.108
edit a video and upload it to YouTube.	0.251*	-0.294**	-0.177	-0.252*	-0.129	-0.124	-0.124	0.038
officially report cases of cyber mobbing or right-wing activities.	0.258*	-0.127	-0.131	-0.044	-0.121	0.049	-0.049	-0.032
delete personal data from social media and/or exclude them from search engines.	0.126	-0.034	-0.296**	-0.057	-0.090	-0.169	-0.162	-0.112
produce a backup copy of important data on the computer or smartphone.	0.210	-0.128	-0.063	-0.140	-0.065	-0.337**	-0.289**	-0.268*
keep journalistic pieces and advertising apart.	0.186	-0.108	-0.085	0.088	-0.027	-0.156	-0.264*	-0.159
diagnose hardware problems and solve them.	0.109	-0.022	-0.275*	-0.070	-0.100	-0.187	-0.331**	-0.178
diagnose software problems and solve them.	0.141	-0.031	-0.348**	-0.017	-0.047	-0.185	-0.285**	-0.136

\*\* . Correlation is significant at the 0.01 level (2-tailed); \* . Correlation is significant at the 0.05 level (2-tailed). n = 84

## 5.4 Education at university

Research question 4 – in addition to research questions 1 and 2 – aimed at gathering more detailed information on the role of university studies for respondents' media literacy levels. Hence, the question that is central to this chapter was: *What is the relationship between students' digital and media literacy and their education at university?* Findings presented below are based on data from survey sections 5 and 6, which asked respondents to give their opinions on and evaluate digital media use at the Department of English.

The survey included items that focus on particular classes within the Lehramt studies as well as items which addressed experiences at university in general. Figure 25 shows that there is little variation in participants' evaluation of various areas of their studies. As mean values in the bar chart only range from  $\bar{x} = 2.94$  (language skills classes) to  $\bar{x} = 3.18$  (linguistics classes) on a five-point scale, the students surveyed hardly seem to perceive any differences with different courses and lecturers, but attribute average quality of digital media use to all areas of their Lehramt studies.

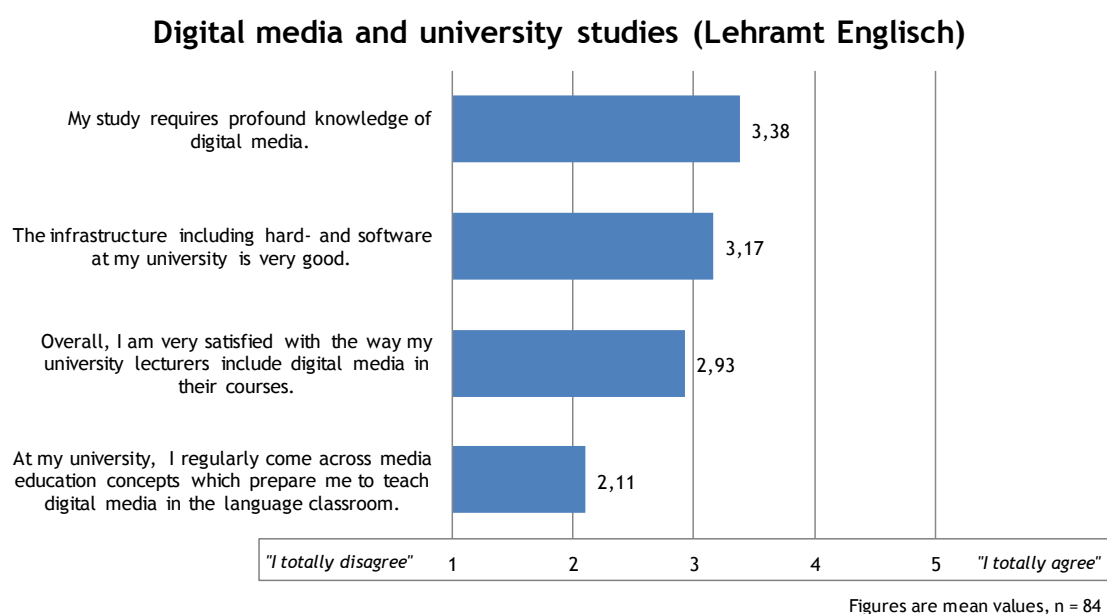


**Figure 25:** Lehramt students' evaluation on digital media use in various parts of their studies (own illustration).

The impression of a mediocre performance is supported by students' general views on digital media in their studies at the English department (see Figure 26). While overall satisfaction with the lecturers' way of teaching (with) digital media ( $\bar{x} = 2.93$ ) as well as with the hard- and software available on the university premises ( $\bar{x} = 3.17$ )



closely resemble the findings reproduced in the bar chart above, the differing results on two further statements might help to understand the reasons why respondents did not rate their Lehramt studies any better: First, agreement to the claim that the study “requires profound knowledge of digital media” is slightly above average ( $\bar{x} = 3.38$ ). Secondly, the thought that university courses offer ideas for using digital media in the prospective language classroom is rejected ( $\bar{x} = 2.11$ ). These figures may indicate that students’ discontent with digital media at university primarily does not originate from a lack of use of digital tools and devices, but from missing links between academic and pedagogical purposes. In other words: Respondents – at least to some degree – appear to be encouraged to engage themselves in digital media throughout their studies. However, they seem to perceive that too little guidance is offered as regards passing on digital media skills and knowledge to learners in secondary school education.



**Figure 26:** Lehramt students’ views on digital media use in university studies (own illustration).

The interpretation of results provided in the previous paragraph goes well together with participants’ answers to the questions whether and for which reason they would like to deal more with digital media in their English studies: Among those who would welcome to be confronted with digital media at university more frequently, more than eight out of ten say that their motivation to learn more about tools and devices is to be able to train others. The wish to become a more qualified teacher, which is prevalent with roughly two thirds of those who would appreciate to engage more with digital media at university, is greater than the desire to increase one’s own skills.

**Table 15:** Lehramt students' reasons for the desire to learn more about digital media in their studies.

Would you like to deal more with digital media in your English studies?	percent
Yes.	77%
No.	23%
n = 84	
If you selected "yes" above, why would you like to deal more with digital media in your English studies?	percent
I would like to learn more about digital media to increase my own skills.	83%
I would like to learn more about digital media to be able to train others.	69%

Respondents were allowed to select several answers, n = 65

Chapter 5.2 described several significant correlations between the importance of digital media for university studies and prospective teachers' preparedness to teach in the digital classroom (see Table 11 in particular). Likewise, the correlation analysis of views on courses at the English department in relation to digital media and respondents' digital media skills points to various significant influences of university education on student teachers' media literacy:

- The better survey participants rate the quality of digital infrastructure, the better they self-assess their skills in several media literacy dimensions. In particular, significances can be observed with *usage-related knowledge offline* (creating text files:  $r = 0.229$ ; small effect) and *online* (deleting personal data:  $r = 0.255$ ; small effect), *background knowledge* (using images without violating copyright laws:  $r = 0.312$ ; medium effect) as well as *creating and participating in media* (reporting cyber crimes:  $r = 0.270$ ; small effect / producing online teaching materials:  $r = 0.246$ ; small effect / editing and uploading videos:  $r = 0.226$ ; small effect).
- The more satisfied survey participants are with the way university lecturers include digital media in their courses, the better they self-assess their skills to adjust their social media profiles to their role as teachers ( $r = 0.315$ ; medium effect) as well as their skills to report cyber crimes to official authorities ( $r = 0.255$ ; small effect).
- The more satisfied survey participants are with digital media in literary studies classes and classes on language skills, the better they self-assess their skills to adjust their social media profiles to their role as teachers ( $r = 0.287$  and  $r = 0.246$ ; small effects). An overview of the correlations explained above is given in Table 16.

**Table 16:** Pearson's  $r$  – digital media skills and views on university studies.

Skills	Digital media and university studies							
	My study requires profound knowledge of digital media.	The infrastructure including hard- and software at my university is very good.	At my university, I regularly come across media education concepts which prepare me to teach digital media ...	Overall, I am very satisfied with the way my university lecturers include digital media in their courses.	Digital media use in my teaching methodology ("Fachdidaktik") classes is/was ...	Digital media use in my linguistics classes is/was ...	Digital media use in my literary studies is/was ...	Digital media use in my classes on language skills is/was ...
I am able to ...								
create a text file (e.g., Word), enter text, and save it.	0.039	.229*	-0.065	-0.050	0.119	-0.005	0.027	-0.070
use images from websites without violating copyright laws.	0.090	.312**	0.108	0.154	-0.155	-0.097	0.097	-0.058
edit a video and upload it to YouTube.	0.180	.226*	-0.049	-0.159	-0.058	-0.027	-0.124	-0.070
adjust my social media appearance to my role as a (future) teacher.	0.067	0.197	0.063	.315**	0.084	0.119	.287**	.246*
officially report cases of cyber mobbing or right-wing activities.	0.161	.270*	0.187	.255*	-0.031	0.034	0.211	0.191
delete personal data from social media and/or exclude them from being found by search engines.	0.165	.255*	0.001	0.132	-0.163	-0.104	-0.018	-0.034
produce online material that inspires the learning of my (future) pupils.	-0.012	.246*	0.147	0.139	-0.127	0.067	0.177	0.079

\*\* . Correlation is significant at the 0.01 level (2-tailed); \* . Correlation is significant at the 0.05 level (2-tailed).  $n = 84$

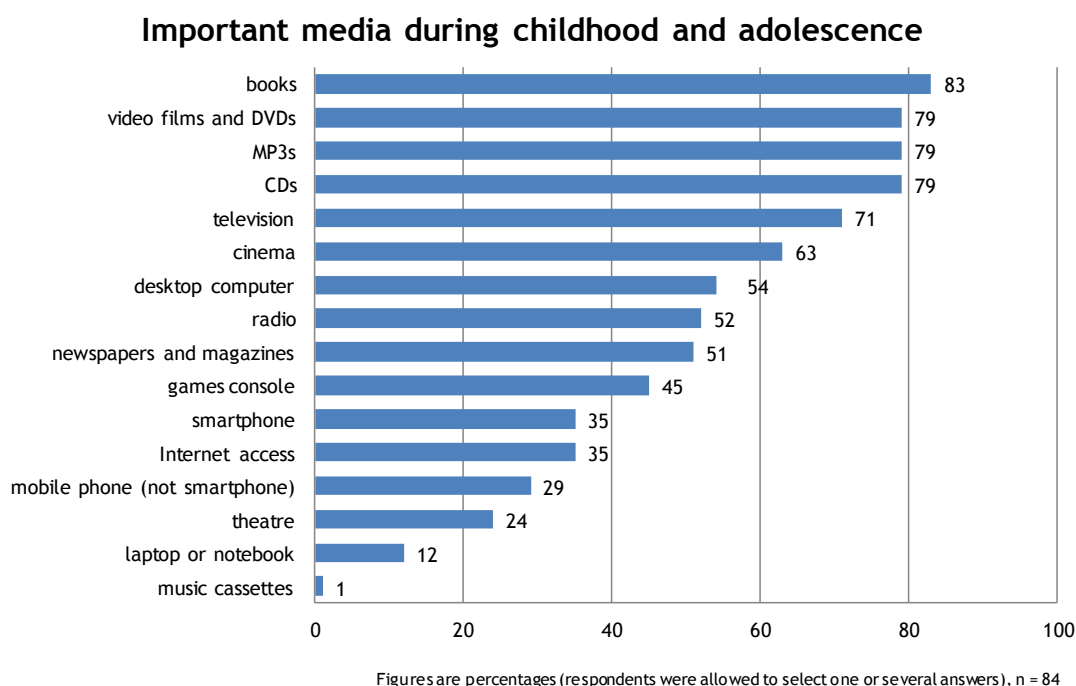
In summary, findings on the role of Lehramt studies for student teachers' media literacy suggest that university can have a considerable impact on the digital media skills of prospective educators. As survey respondents – referring to digital media use – ascribe only average quality to their linguistics, literary studies, language skills and teaching methodology courses, it is open to further debate whether classes are effective in fulfilling that goal at present. From students' perspective, the Department of English would be well advised to put more efforts into linking academic use of digital media to pedagogical concepts for language teaching at secondary schools.

## 5.5 Media in childhood and adolescence

In contrast to the research questions 1 to 4, which were either concerned with student teachers' current living conditions or with predictions of their potential future classroom actions, the final research question of this thesis is interested in the past. Research question 5, which is the focus of this subchapter, reads: *In which ways does today's digital media environment differ from the media with which students were socialized in childhood and adolescence?* By examining survey participants' past in both private and school contexts, the author of this paper hopes to find out when and where prospective teachers started to work on their digital media skills. Moreover, insights into the importance of memories as role models for future teaching are sought.

In chapter 5.1, accessing the Internet was identified as student teachers' most essential media activity in their current lives, no matter whether they work for their studies or spend their leisure time (see Figure 17). The Internet is followed by cellular phone use and reading books.

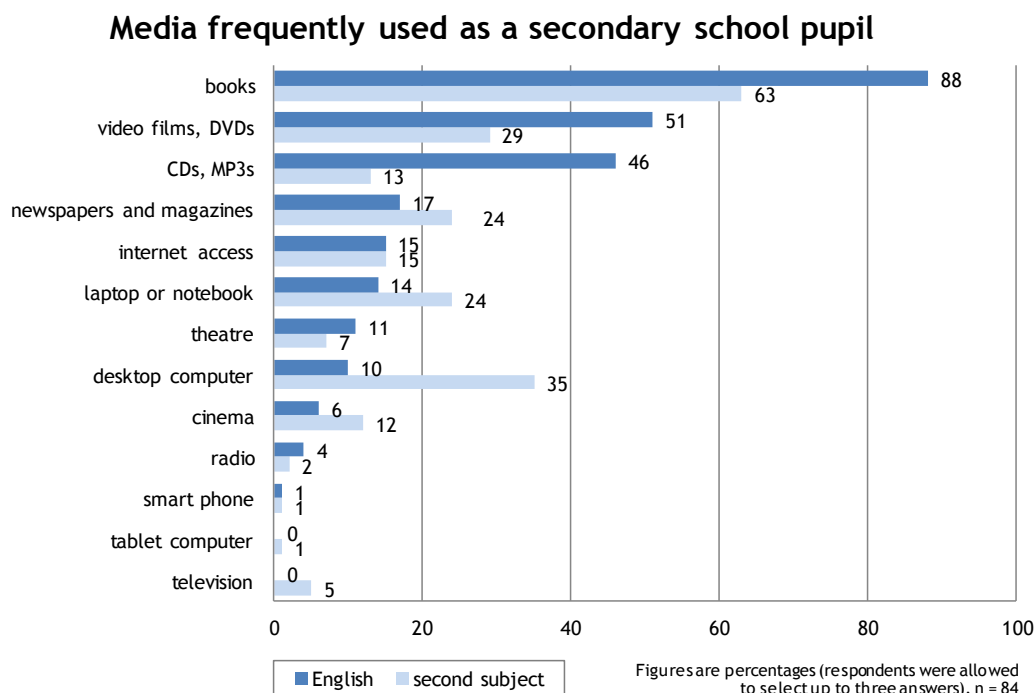
The ranking of most important media used to be different in respondents' past. As Figure 27 shows, childhood and adolescence of the sample were dominated by secondary and tertiary mass media: Among family and friends, more than eight out of ten retrospectively put books first. Video films, CDs and music files shared the second place (79%); TV and cinema were the third (71%) and fourth (63%) important types of media. Regarding digital fourth level media, the participants recall diverse memories: While about half of them state that offline software on desktop computers played a substantial role in their teenage lives, the rest did not make that experience. Considering access to the Internet and smartphones, the group of respondents is even smaller: About a third says they were important for them at home or their friends' places when they were still a child or adolescent. Laptops or notebooks back then were a minority phenomenon.



**Figure 27:** Lehramt students' past – media use as a child and teenager among family and friends (own illustration).

The typical English classroom the students surveyed remember from secondary school featured similar media as their parents' homes: Again, books were prevalent (88%), followed by audiovisual media like video films (51%) and CDs or MP3 files (46%). Computers or laptops (24% combined) and Internet access (15%), on the other hand, were clearly less common for language teaching than for private purposes. Figure 28, however, reveals that memories of IT use in English lessons diverge strongly from those of the second subject of studies: Five out of ten say they frequently used desktop computers or laptops at school in the subject that they now study apart from English.

The data on important media during childhood and adolescence introduced above disclose that the survey sample is heterogeneous in terms of IT use in the past. Some of the respondents already made experiences with computers and the Internet at home and at school as young teenagers, while others had digital technology at their disposal only later in life. In order to explore the effect of media socialization on prospective language teachers' classroom preferences and media literacy, the two groups are compared below.



**Figure 28:** Lehramt students' past – media use as a pupil at school (own illustration).

The information in Tables 17 and 18 is the basis for the analysis of the question whether student teachers' past – in terms of computer and Internet use in secondary school – has an impact on their present views on the ideal language classroom as well as their digital media skills. Participants who neither selected to have used desktop PCs, laptops, or the Internet in English nor to have used these types of media in their second subject are labeled *IT non-users*. They are opposed to the so-called *IT users in any subject* who said to have frequently employed PCs, laptops, or the Internet either in English, their second subject, or both. Additionally, the tables separately list *IT users in English*, who stated to have had access to computers and the World Wide Web in their foreign language classes only.

The comparison of IT users', non-users' and the total sample's classroom preferences shows that there is only little variation between the groups. As the wish to teach English in a chalkboard, computer-assisted or smartphone-assisted classroom does not strongly vary with different types of lessons experienced in the past, the function of memories as role models for future teaching is obviously limited. When asked about their ideal classroom, students do not seem to simply re-enact their own experiences, but to take other factors into consideration as well. As regards expectations of the future workplace, *IT users in English* appear to be more optimistic about IT infrastructure than *IT non-users* and the total sample.

**Table 17:** Lehramt students' classroom preferences and expectations in relation to their IT use as secondary school pupils.

		IT use as a pupil at school		
I would like to teach English in ...	total (N = 84)	IT non- users (n = 42)	IT users in English (n = 22)	IT users in any subject (n = 42)
classroom 1 (chalkboard)	32%	29%	27%	36%
classroom 2 (computer-assisted)	45%	48%	45%	43%
classroom 3 (smartphone-assisted)	23%	23%	27%	21%
I expect to teach English in ...	total (N = 84)	IT non- users (n = 42)	IT users in English (n = 22)	IT users in any subject (n = 42)
classroom 1 (chalkboard)	56%	62%	45%	50%
classroom 2 (computer-assisted)	16%	10%	27%	24%
classroom 3 (smartphone-assisted)	29%	28%	27%	26%

Just as classroom preferences, self-evaluation of media literacy does not feature great differences between various groups of participants. However, one interesting tendency can be observed, namely that former *IT non-users* self-assess all 21 literacy practices of the survey better than *IT users*. Hence, mean values for the four dimensions of media literacy in Table 18 are lower among the latter, particularly among the *IT users in any subject*.

**Table 18:** Lehramt students' self-evaluation of media literacy in relation to their IT use as secondary school pupils.

		IT use as a pupil at school		
Media literacy dimension mean ( $\bar{x}$ ) calculated from assessment of media literacy practices	total (N = 84)	IT non- users (n = 42)	IT users in English (n = 22)	IT users in any subject (n = 42)
1) Accessing and using media	3.88	3.94	3.93	3.82
2) Knowing and understanding media				
<i>Usage-related knowledge offline</i>	4.18	4.23	4.13	4.13
<i>Usage-related knowledge online</i>	3.15	3.59	3.56	3.07
<i>Usage-related knowledge: problems</i>	2.84	2.90	2.80	2.79
<i>Background knowledge</i>	3.34	3.43	3.21	3.25
3) Analyzing and evaluating media	4.24	4.29	4.21	4.19
4) Creating and participating in media	2.63	2.60	2.51	2.50

As paradoxical as the lower self-assessment of *IT users in any subject* at first sight may seem, there are several possible interpretations that make it sound logical. First, under the assumption that those who have started to use computers earlier have engaged themselves more frequently or intensively with digital technology, it is likely that they have also encountered more problems with hardware, software, or content. These problems may have helped them to develop a realistic feeling about their digital media skills, while those who use computers less frequently just might have been lucky and not been confronted with severe problems so far. That is why the *IT non-users* may overestimate their skills. Secondly, because of a lack of experience as a pupil, *IT non-users* might also have a naïve view on how digital media can be successfully used by teachers and learners in the classroom, which again could result in overestimation.

Verification or falsification of the interpretations offered above is beyond reach of this thesis. However, the consideration that results could be inaccurate is a serious methodological issue as it points to a weakness of self-assessment. Chapter 6 comes back to that thought.

In conclusion, analysis of survey responses shows that student teachers' current media environment clearly differs from the types of media that dominated their childhood and adolescence. Back then, computers, the Internet, and smartphones were still not that widespread. Those who familiarized themselves with digital technology at secondary school or their parents' home do not appear to have any advantage over those who started to use digital tools and devices only later. There is no empirical evidence that earlier IT use increases media literacy or the willingness to teach in a digital classroom.



## 6 Evaluation of methodology

Despite the overall impression that the empirical research presented in this paper worked well, there are several points to consider for future survey projects. Before replicating the study at hand or starting a similar one, thoughts should particularly be spent on the ways of addressing potential participants, the selection of the survey software as well as the choice of assessment approaches.

As regards the call for participation, two of the measures taken proved successful, whereas two other measures were below expectations. The most effective measure in terms of responses was the English student representatives' email newsletter, which attracted more than half of the respondents to the online questionnaire. Almost all the other participants responded to one of the several postings on the student representatives' *Facebook* page. Unfortunately, neither calls on *Moodle* message boards nor flyers spread at the department paid off and could thus be omitted next time.

Although the survey software used features a broad range of question types and ran consistently without service interruptions throughout the entire inquiry period, it is debatable whether *Google Forms* is a suitable choice for academic projects. The fact that only complete answers are recorded, but incomplete responses are dismissed might be an issue because the researcher does not receive any feedback by the tool on problematic items that might be responsible for an increase in the dropout rate.

The third concern to be raised here was only mentioned on the previous page, namely doubts about the accuracy of participants' answers in the self-evaluation section. This problem is of course inherent with most surveys and not a particular flaw of self-assessment. Still, with this approach, researchers are not only reliant on respondents' willingness to give truthful answers, but must also trust people's ability to be fully aware of their own strengths and weaknesses. Apart from responses, the definition or selection of literacy practices that represent a particular media literacy dimension is another crucial aspect that might impair the accuracy of findings. Due to the versatile and fast moving nature of digital media, it is a challenge to include a limited number of statements that cover the full range of knowledge and skills. Even more elaborate IT-assisted test procedures that require participants to actually perform particular tasks are not immune from failing to pay attention to all relevant skills. Therefore, the self-assessment method might be called a good compromise for this diploma thesis.



## 7 Conclusion

The objective of this paper was to study the media literacy of future foreign language teachers who are trained at the Department of English at the University of Vienna. By means of a quantitative online survey, 84 Lehramt students (in the magister and bachelor programs) self-evaluated their knowledge of and skills for different types of digital media. They were also questioned on their readiness to teach (with) digital media in their prospective English classes. Moreover, participants had to give their opinions on digital media in general as well as in a professional context. Additional survey sections focused on the role of media in university education and during childhood and adolescence.

Prior to the completion and presentation of the empirical project, the four-dimensional model of media literacy (see chapter 2.3) had to be translated to observable units (see chapter 3.1). A further necessary task was the definition of particular assessment approaches (see chapter 3.2). Besides, previous research on teachers', student teachers' and teenagers' media literacy was reviewed (see chapter 3.3) to enable a comparison between prospective teachers at the English department, their potential future pupils and members of the teaching profession elsewhere.

Research question 1 was interested in the strengths and weaknesses in various media literacy dimensions. The results of the self-assessment section suggest that future foreign language teachers at the University of Vienna feel more confident with examining media on an abstract level than applying creative skills. First, they seem to be experts when it comes to analyzing and evaluating different types of media. Secondly, findings accredit profound knowledge and understanding of digital media to the sample. While the prospective teachers surveyed also seem to trust in their skills to access and use digital media, their confidence in skills for digital media creation is rather low (see chapter 5.1.2). This is in line with respondents' most frequent activities on the Internet, which reflect preferences for consumption over production: High popularity and frequency of downloading, watching and reading online content is opposed to a considerably lower popularity and frequency of commenting and creating online content (see chapter 5.1.1).

Findings on research question 2, which covered predilections and expectations regarding the infrastructure in future language classes, reveal a paradox: On the one hand, the survey participants stated to favor computer-assisted classrooms as their prospective workplace. On the other hand, they said to feel more comfortable at the chalkboard than in a room full of laptops or smartphones. Among other factors, several problems expected to occur in the digital classroom could be reasons for the low preparedness to teach there. Respondents mainly expressed worries about a lack of devices and that pupils could be easily distracted, but it is also worth mentioning that more than a third of participants are optimistic that no problems would occur at all. While correlation analysis did not detect any significant influences of private media use on the readiness to conduct lessons in the digital classroom, several small and medium effects of media use for university on the preparedness to teach English in a computer- or smartphone-assisted classroom were found (see chapter 5.1.2).

Answers to research question 3, which asked about attitudes towards media inside and outside the classroom, provide evidence for a positive view towards digital technology. Student teachers of English disapprove of the idea that schools should protect pupils from negative media influence, but are convinced that digital tools and devices in the language classroom have a motivating effect on learners and make lessons richer in variety. Furthermore, they strongly agree to the notion that computers, the Internet, and other digital media have simplified everyday life. Thus, it comes as no surprise that all survey participants stated that digital media should be used in foreign language teaching. A look at the ways in which respondents would employ digital media as professionals once again shows a focus on receptive activities, particularly the practice of listening skills. As future English teachers reject the statements that pupils are capable of learning about media on their own and that parents have the sole responsibility of media education, it can be assumed that they perceive media literacy efforts in the classroom as part of the job description. Despite the optimistic view on digital media, which positively correlates with the self-evaluation of media literacy, survey responses point to unease concerning the speed of media development (see chapter 5.1.3).

Research question 4 dealt with the impact of the Lehramt studies on prospective teachers' media literacy. Correlation analysis provides evidence that good IT infrastructure on university premises as well as satisfaction with lecturers' use of digital media have a positive effect (small or medium) on student teachers' self-evaluation

of skills. Unfortunately, survey participants express only a moderate degree of satisfaction with their linguistics, literary studies, language skills and teaching methodology courses as regards the use of digital media. They particularly seem to lack connections between academic and pedagogic purposes of turning to digital technology (see chapter 5.1.4).

Research question 5 addressed consistencies and differences in student teachers' past and current lives concerning the importance of various types of media. Survey responses on relevant media at home and at school during childhood and adolescence show that the sample is heterogeneous, but varying experiences were not found to be significant for self-evaluation of media literacy or the willingness to teach in a digital classroom (see chapter 5.1.5).

The juxtaposition of results from the non-representative study on future English teachers at the University of Vienna with previous research leads to a number of pleasant insights. For one thing, self-evaluation does not support the pessimistic claim made by Biermann (2009) that the majority of student teachers lack the skills to voluntarily take digital media to the classroom (see chapter 3.2.2). Besides, what concerns favorite media, prospective teachers do not appear to be as far apart from teenage pupils as suggested on basis of other studies in chapter 3.2.3. Although books have remained relevant for Lehramt students, the Internet and smartphones have also clearly gained importance, which might be interpreted as a good sign for the approaching *Schule 4.0*.

Apart from the positive conclusions, the empirical project of this diploma thesis points to several problems that could be serious obstacles to the digital classroom. In accordance with Schneider et al. (2010), who report skepticism among German kindergarten teachers about the sufficiency of their media skills in professional context (see chapter 3.2.1), a disposition to understatement can also be found with prospective language teachers at the English department. Despite good self-evaluation in three of four media literacy dimensions, they feel poorly prepared to teach a computer- or smartphone-assisted English lesson. In this respect, Biermann's claim dismissed in the paragraph above might be reintroduced in the following modified version: Except for listening to an audio file or watching a video clip, the majority of student teachers seem to lack the self-confidence to voluntarily take digital media to the classroom.

The fact that the acquisition of (digital) media skills and knowledge has so far been left to the individual student, but not been implemented as a compulsory component in the teacher training program, is another obstacle to the digital classroom. The literature review in chapter 3.2.1 includes Gysbers' (2008) findings on primary and secondary school teachers in Germany who predominantly stated to have received media literacy training voluntarily outside university. Likewise, from the limited satisfaction with digital media use in the Lehramt studies expressed by the surveyed future English teachers it can be inferred that the University of Vienna does not provide enough support as to how to employ digital tools and devices in the classroom.

Though the research sample of the empirical project devised for this paper was rather small, it might offer some useful ideas for a media literacy curriculum within the Austrian Lehramt studies that helps to fulfill the ambitious goals of *Schule 4.0*. Drawing on the findings from the survey, the author of this diploma thesis believes that especially the following points would be worth consideration:

- Student teachers should not be given the possibility to escape media literacy training at university any longer. At least basic courses on digital media should be integrated into the obligatory core of the Lehramt studies. The Ministry of Education's announcement on *Schule 4.0* from January 2017 goes into that direction (see introduction). As it promotes mandatory media literacy training, this measure will not be expanded here in more detail.
- Compulsory and additional optional courses should pay attention to all four dimensions of media literacy. They should not only focus on complex abilities such as the analysis and evaluation of technical, social or economic aspects related to different types of digital media, but also devote some time to the application of skills in practical projects. Of course, every teacher confronted with media education should have profound knowledge and be able to reflect critically on nowadays' media system. In order to be a convincing role model in the classroom, however, he or she needs to be familiar with media use and creation as well. It would be interesting to establish self-evaluation in a similar way as included in the online survey to receive feedback on the success of the university media literacy curriculum.
- Media literacy courses should establish links between academia and pedagogy. If they inspire student teachers how to best discuss and use digital media with pupils, the feeling of being prepared to teach in a computer- or smartphone-assisted classroom will hopefully grow stronger.

- Media literacy training should definitely not end after graduation from university. Attractive and continuous further education could reduce the fear of losing track of media development.

This paper is in favor of the changes proposed above because media literate teachers are a crucial step towards a digital future at Austrian schools. The most important step, however, is that there are many passionate teachers who do not experience digital media education as an annoying duty, but as a natural part of their job in which they love to fully engage. Only then *Schule 4.0* will be able to develop the full potential of each pupil.





# References

- Alaska Injury Prevention Center [AIPC]. n.d. *Media Literacy Teaching Manual*. [http://www.alaska-ipc.org/documents/media\\_literacy\\_manual.pdf](http://www.alaska-ipc.org/documents/media_literacy_manual.pdf) (25 April 2017).
- Arke, Edward T.; Primack, Brian A. 2009. "Quantifying media literacy: development, reliability, and validity of a new measure." *Educational Media International*, 46(1), 53-65.
- Aufenanger, Stefan. 2013. *Messung von Medienkompetenz bei Schülerinnen und Schülern*. Seminar presentation. [http://www.fwu.de/wp-content/uploads/2013/03/Messung-von-Medienkompetenz\\_0113\\_H.pdf](http://www.fwu.de/wp-content/uploads/2013/03/Messung-von-Medienkompetenz_0113_H.pdf) (25 April 2017).
- Aust, Wolfgang; Molter, Arnold; von Specht, Jörn E. 2012. *Kompetenzraster Medienkompetenz – Hessisches Medienkompetenzportfolio für Lehrkräfte*. [https://mefobian.files.wordpress.com/2012/11/medien\\_kompetenzraster\\_3\\_0\\_mefobian1.pdf](https://mefobian.files.wordpress.com/2012/11/medien_kompetenzraster_3_0_mefobian1.pdf) (25 April 2017).
- Baacke, Dieter. 1997. *Medienpädagogik. Grundlagen der Medienkommunikation: Band 1*. Tübingen: Niemeyer.
- Baumgartner, Peter; Brandhofer, Gerhard; Ebner, Martin; Gradingner, Petra; Korte, Martin. 2016. "Medienkompetenz fördern – Lehren und Lernen im digitalen Zeitalter". In Bruneforth, Michael; Eder, Ferdinand; Krainer, Konrad; Schreiner, Claudia; Seel, Andrea; Spiel, Christiane (eds.). *Nationaler Bildungsbericht Österreich 2015, Band 2: Fokussierte Analysen bildungspolitischer Schwerpunktthemen*. Graz: Leykam, 95-131.
- Biermann, Ralf. 2009. *Der mediale Habitus von Lehramtsstudierenden. Eine quantitative Studie zum Medienhandeln angehender Lehrpersonen*. Wiesbaden: Springer VS.
- Blömeke, Sigrid. 2000. *Medienpädagogische Kompetenz. Theoretische und empirische Fundierung eines zentralen Elements der Lehrerbildung*. München: KoPäd.
- Brandhofer, Gerhard; Kohl, Angela; Miglbauer, Marlene; Nárosy, Thomas; Buchner, Josef; Großböck, Peter; Lechner, Ingeborg; Prinz, Julia; Prohaska, Julia; Zaynard, Nadine; Fikisz, Walter. 2016. *Das digi.kompP Kompetenzmodell*. <http://www.virtuelle-ph.at/wp-content/uploads/2016/09/digi.kompP-Grafik-und-Deskriptoren-1.pdf> (25 April 2017).
- Buchanan, Jennifer; Kelley, Beth; Hatch, Alicia. 2016. *Digital workplace and culture. How digital technologies are changing the workforce and how enterprises can adapt and evolve*. <https://www2.deloitte.com/content/dam/Deloitte/us/Documents/human-capital/us-cons-digital-workplace-and-culture.pdf> (25 April 2017).
- Bundesgesetz über die Presse und andere publizistische Medien* [MedienG]. 1981. BGBl. Nr. 314/1981 idF BGBl. I Nr. 50/2012.
- Bundesministerium für Bildung [BMB]. 2017. *Schule 4.0. – jetzt wird's digital*. <https://www.bmb.gv.at/schulen/schule40/index.html> (25 April 2017).
- Bundesministerium für Bildung und Frauen [BMBF] (ed.). 2014. *Grundsatzpapier Medienerziehung*. [https://www.bmb.gv.at/schulen/unterricht/uek/medienerziehung\\_5796.pdf?4dzgm2](https://www.bmb.gv.at/schulen/unterricht/uek/medienerziehung_5796.pdf?4dzgm2) (25 April 2017).
- Castells, Manuel. 2010. *The Rise of the Network Society* (2<sup>nd</sup> edition). Cambridge, M.A.: Wiley-Blackwell.
- Center for Media Literacy [CML]. n.d. *Best Practices* <http://www.medialit.org/best-practices> (25 April 2017).
- Chang, Chiung-Siu; Liu, Eric Zhi-Feng; Lee, Chun-Yi; Chen, Nian-Shing; Hu, Da-Chian; Lin, Chun-Hung. 2011. "Developing and validating a media literacy self-evaluation scale (MLSS) for elementary school students". *The Turkish Online Journal of Educational Technology*, 10(2), 63-71.
- Chen, Der-Thang; Wu, Jing; Wang, Yu-mei. 2011. "Unpacking New Media Literacy." *Journal of Systemics, Cybernetics and Informatics*, 9(2), 84-88.
- Chomsky, Noam. 2006. *Language and mind* (3<sup>rd</sup> edition). Cambridge, New York: Cambridge University Press.
- Cohen, Jacob. 1992. "A Power Primer". *Psychological Bulletin*, 112(1), 155-159.
- Die Presse. 2016. "Gratis-iPhone für Asylanten: Caritas will Hofer-Unterstützer klagen." *Die Presse (electronic edition)*, 29 July. [http://diepresse.com/home/innenpolitik/5059787/GratisiPhone-fuer-Asylanten\\_Caritas-will-HoferUnterstuetzer-klagen](http://diepresse.com/home/innenpolitik/5059787/GratisiPhone-fuer-Asylanten_Caritas-will-HoferUnterstuetzer-klagen) (25 April 2017).
- Encyclopaedia Britannica n.d. *Media convergence*. <https://www.britannica.com/topic/media-convergence> (25 April 2017).
- European Commission. 2007a. *Media literacy in the digital age*. [http://europa.eu/legislation\\_summaries/information\\_society/strategies/l24112\\_en.htm](http://europa.eu/legislation_summaries/information_society/strategies/l24112_en.htm) (25 April 2017).
- European Commission. 2007b. *A European approach to media literacy in the digital environment*.

- <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM%3A2007%3A0833%3AFIN%3AEN%3APDF> (25 April 2017).
- European Commission. n.d. *Media literacy. General fact sheet 73 EN*. [http://ec.europa.eu/information\\_society/doc/factsheets/073-media-literacy.pdf](http://ec.europa.eu/information_society/doc/factsheets/073-media-literacy.pdf) (25 April 2017).
- Feierabend, Sabine; Rathgeb, Thomas. 2009. *JIM-Studie 2009: Jugend, Information, (Multi-) Media. Basisuntersuchung zum Medienumgang 12- bis 19-Jähriger*. Stuttgart: Medienpädagogischer Forschungsverbund Südwest. [https://www.mpfs.de/fileadmin/files/Studien/JIM/2009/JIM\\_Studie\\_2009.pdf](https://www.mpfs.de/fileadmin/files/Studien/JIM/2009/JIM_Studie_2009.pdf) (25 April 2017).
- Feierabend, Sabine; Plankenhorn, Theresa; Rathgeb, Thomas. 2016. *JIM-Studie 2016: Jugend, Information, (Multi-) Media. Basisstudie zum Medienumgang 12- bis 19-Jähriger in Deutschland*. Stuttgart: Medienpädagogischer Forschungsverbund Südwest. [https://www.mpfs.de/fileadmin/files/Studien/JIM/2016/JIM\\_Studie\\_2016.pdf](https://www.mpfs.de/fileadmin/files/Studien/JIM/2016/JIM_Studie_2016.pdf) (25 April 2017).
- Grahn, Almut; Lehmann, Andreas; Schmitz, Edgar; Breinker, Carsten. 2003. *MIT – Medien im Tagesablauf 2003*. Köln: IP Deutschland. [http://www.ip.de/fakten\\_und\\_trends/mediennutzung/mit\\_medien\\_im\\_tagesablauf\\_20.cfm](http://www.ip.de/fakten_und_trends/mediennutzung/mit_medien_im_tagesablauf_20.cfm) (25 April 2017).
- Gysbers, Andre. 2008. *Lehrer – Medien – Kompetenz. Eine empirische Untersuchung zur medienpädagogischen Kompetenz und Performanz niedersächsischer Lehrkräfte*. Berlin: Vistas.
- Holme, Randal. 2004. *Literacy: an introduction*. Edinburgh: Edinburgh University Press.
- Inan, Taskin; Temur, Turan. 2012. "Examining Media Literacy Levels of Prospective Teachers". *International Electronic Journal of Elementary Education*, 4(2), 269-285.
- Jenkins, Henry. 2006. *Convergence culture: where old and new media collide*. New York: NYU Press.
- Jenkins, Henry. 2009. *Confronting the Challenges of Participatory Culture. Media Education for the 21<sup>st</sup> century*. Cambridge, M.A.: MIT.
- Koc, Mustafa; Barut, Esra. 2016. "Development and validation of New Media Literacy Scale (NMLS) for university students". *Computers in Human Behavior*, 63, 834-843.
- Levy, David A. L. 2005. *Europe's Digital Revolution. Broadcasting regulation, the EU and the Nation State*. London/New York: Routledge.
- Lin, Tzu-Bin; Li, Jen-Yi; Deng, Feng; Lee, Ling. 2013. "Understanding New Media Literacy: An Explorative Theoretical Framework." *Educational Technology & Society*, 16(4), 160-170.
- Lister, Martin; Dovey, Jon; Giddings, Seth; Grant, Iain; Kelly, Kieran. 2009. *New Media: a critical introduction* (2<sup>nd</sup> edition). New York: Routledge.
- Literat, Ioana. 2014. "Measuring New Media Literacies: Towards the Development of a Comprehensive Assessment Tool". *Journal of Media Literacy Education*, 6(1), 15-27.
- Livingstone, Sonia. 2004. "Media literacy and the challenge of new information and communication technologies". *The Communication Review*, 1(7), 3-14.
- Lü, Qiaoping. 2008. *Medienkompetenz von Studierenden an chinesischen Hochschulen*. Wiesbaden: VS Verlag für Sozialwissenschaften.
- Macmillan Dictionary. n.d. scenario – definition and synonyms. <http://www.macmillandictionary.com/dictionary/american/scenario> (25 April 2017).
- McQuail, Denis. 2000. *McQuail's Mass Communication Theory* (4<sup>th</sup> edition). London: Sage.
- Mediamanual. 2017. *Media Literacy Award*. <https://www.mediamanual.at/media-literacy-award/> (25 April 2017).
- Microsoft. 2017. *Bestellung Medientagebuch*. [http://www.sicherheit-macht-schule.de/Home/1464\\_Bestellung.htm](http://www.sicherheit-macht-schule.de/Home/1464_Bestellung.htm) (25 April 2017).
- Morin, Rebecca. 2017. "Trump: New York Times is 'fake news'". *Politico (electronic edition)*, 28. Jan. <http://www.politico.com/story/2017/01/trump-calls-the-new-york-times-washington-post-dishonest-234304> (25 April 2017).
- National Association for Media Literacy Education [NAMLE]. n.d. *Media Literacy defined*. <https://namle.net/publications/media-literacy-definitions/> (25 Feb. 2017).
- Newby, David; Allan, Rebecca; Fenner, Anne-Brit; Jones, Barry; Komorowska, Hanna; Soghikyan, Kristine. 2007. *European Portfolio for Student Teachers of Languages: A reflection tool for language teacher education*. [http://archive.ecml.at/mtp2/fte/pdf/C3\\_Epostl\\_E.pdf](http://archive.ecml.at/mtp2/fte/pdf/C3_Epostl_E.pdf) (25 April 2017).
- O'Reilly, Tim. 2005. *What Is Web 2.0? Design Patterns and Business Models for the Next Generation of Software*. <http://www.oreilly.com/pub/a/web2/archive/what-is-web-20.html?page=3> (25 April 2017).
- Ostermann, Gudrun. 2017. "Bildungsministerin: Digitale Kompetenzen schon ab der Volksschule". *Der Standard (electronic edition)*, 23 Jan. <http://derstandard.at/2000051343610/Bildungsministerin-Digitale-Kompetenzen-schon-ab-der-Volksschule> (25 April 2017).
- Potter, James W. 2014. *Media Literacy* (7<sup>th</sup> edition). London: Sage.
- Pross, Harry. 1970. *Publizistik: Thesen zu einem Grundcolloquium*. Neuwied: Luchterhand.
- Rein, Antje. 1996. *Medienkompetenz als Schlüsselbegriff*. Bad Heilbrunn: Julius Klinkhardt.

## References

- Schaumburg, Heike; Hacke, Sebastian. 2010. "Medienkompetenz und ihre Messung aus Sicht der empirischen Bildungsforschung". In Herzig, Bardo; Meister, Dorothee M.; Moser, Heinz; Niesyto, Horst (eds.). *Jahrbuch Medienpädagogik 8: Medienkompetenz und Web 2.0*. Wiesbaden: VS Verlag für Sozialwissenschaften, 147-162.
- Scheibe, Cyndy; Rogow, Faith. 2012. *The Teacher's Guide to Media Literacy. Critical Thinking in a Multimedia World*. Thousand Oaks, California: Corwin.
- Schorb, Bernd. 2005. "Medienkompetenz". In Hüther, Jürgen; Schorb, Bernd (eds.). *Grundbegriffe Medienpädagogik* (4<sup>th</sup> edition). München: kopaed, 257-262.
- Schneider, Beate; Scherer, Helmut; Gonser, Nicole; Tiele, Annekaryn. 2010. *Medienpädagogische Kompetenz in Kinderschuhen. Eine empirische Studie zur Medienkompetenz von Erzieherinnen und Erziehern in Kindergärten*. Berlin: Vistas.
- Schulz, Winfried. 2009. "Kommunikationsprozess". In Noelle-Neumann, Elisabeth; Schulz, Winfried; Wilke, Jürgen (eds.). *Fischer Lexikon Publizistik Massenkommunikation*. Frankfurt am Main: Fischer, 169-199.
- Shannon, Claude Elwood. 1948. "A Mathematical Theory of Communication". *The Bell System Technical Journal*, 27(3), 379-423.
- Statistics Solutions. 2013. Effect Size. <http://www.statisticssolutions.com/academic-solutions/resources/directory-of-statistical-analyses/effect-size/> (25 April 2017).
- The Law Dictionary. n.d. *What is MEDIA?* <http://thelawdictionary.org/media/> (25 April 2017).
- Toffler, Alvin. 1980. *The Third Wave*. New York: Morrow.
- Tornero Pérez, José Manuel; Celot, Paul. 2007. *Current trends and approaches to media literacy in Europe*. <http://www.europeanmilobservatory.org/index.php/library/publications?pid=1878&sid=2681:Current-trends-and-approaches-to-media-literacy-in-Europe> (25 April 2017).
- Treumann, Klaus Peter; Meister, Dorothee M.; Sander, Uwe; Burkatzki, Eckhard; Hagedorn, Jörg; Kämmerer, Manuela; Strotmann, Mareike; Wegener, Claudia. 2007. *Medienhandeln Jugendlicher: Mediennutzung und Medienkompetenz: Bielefelder Medienkompetenzmodell*. Wiesbaden: VS Verlag für Sozialwissenschaften.
- Waller, Gregor; Willemse, Isabel; Genner, Sarah; Suter, Lilian; Süss, Daniel. 2016. *JAMES – Jugend / Aktivitäten / Medien – Erhebung Schweiz: Ergebnisbericht*. Zürich: Zürcher Hochschule für Angewandte Wissenschaften. [https://www.swisscom.ch/content/dam/swisscom/de/ghq/verantwortung/documents/james2016/ergebnisbericht\\_james2016de.pdf](https://www.swisscom.ch/content/dam/swisscom/de/ghq/verantwortung/documents/james2016/ergebnisbericht_james2016de.pdf) (25 April 2017).
- Webster, Frank. 2014. *Theories of the Information Society* (4<sup>th</sup> edition). New York: Routledge.
- Weiner, Joachim. 2011. "Medienkompetenz – Chimäre oder Universalkompetenz?" *Aus Politik und Zeitgeschichte [APuZ]*, n.d.(3), 42-46. <http://www.bpb.de/system/files/pdf/LOT0MN.pdf> (25 April 2017).
- Weinert, Franz E. 2002. "Vergleichende Leistungsmessung in Schulen – eine umstrittene Selbstverständlichkeit". In Weinert, Franz E. (ed.). *Leistungsmessungen in Schulen* (2<sup>nd</sup> edition). Weinheim: Beltz, 17-32.
- Wilson, Carolyn; Grizzle, Alton; Tuazon, Ramon; Akyempong, Kwame; Cheung, Chi-Kim. 2011. *Media and Information Literacy: Curriculum for teachers*. Paris: UNESCO. <http://unesdoc.unesco.org/http://www.bpb.de/system/files/pdf/LOT0MN.pdf> images/0019/001929/192971e.pdf (25 April 2017).
- Wilke, Jürgen. 2009. "Multimedia/Online-Medien". In Noelle-Neumann, Elisabeth; Schulz, Winfried; Wilke, Jürgen (eds.). *Fischer Lexikon Publizistik Massenkommunikation*. Frankfurt am Main: Fischer, 329-358.
- Winter, Carsten. 2006. "TIME-Konvergenz als Herausforderung für Management und Medienentwicklung – Einleitung". In Karmasin, Matthias; Winter, Carsten (eds.). *Konvergenzmanagement und Medienwirtschaft*. München: Fink, 13-53.
- Zeglovits, Eva. 2017. *#MeinNetz – Internetnutzung & Medienkompetenz junger Menschen in Österreich. Eine Studie im Auftrag der BJV, durchgeführt von IFES, mit finanzieller Unterstützung des Bundesministeriums für Bildung*. Wien: Institut für empirische Sozialforschung. <http://images.derstandard.at/2017/01/24/27600002-BJV-Internet-und-Medienkompetenz-PK-2017-01-24.pdf> (25 April 2017).



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# **APPENDIX**



# Digital media survey

\* Required

**How important is the Internet for you?**

---

**Are you satisfied with the way your university lecturers include digital media in their courses?**

---

**Do you feel prepared to use digital media in the English classroom?**

---

Welcome to this survey!

This questionnaire is part of my diploma thesis which deals with the digital media use of prospective teachers of English at the University of Vienna. This is why I would like to learn more about your views towards digital media and your media consumption habits.

It takes about 15 minutes to complete the survey. None of your answers can be incorrect or inadequate because I am interested in your opinion. Your responses are completely anonymous and will only be used for my thesis.

Please note: As the time you devote to my questionnaire is valuable, all survey participants have the chance to win a 50 EUR Amazon gift card. If you are interested in winning the prize, you can enter your e-mail address after completing the survey.

READY? – Click the button below to start with the first question.

Thank you very much for your help!  
Markus

## WARM UP - ABOUT YOUR UNIVERSITY STUDIES

**For a start, please provide some details about your teacher training ("Lehramtsstudium") at the University of Vienna.**

---

1. Which subject(s) do you study (apart from English)? \*

---

2. Which program do you study? \*

*Mark only one oval.*

☐ UF Diplom (Mag.)

☐ B.Ed.

☐ M.Ed.

3. What semester are you in? \*

---

4. Have you already successfully completed the course "Fachbezogenes Schulpraktikum (FAP)" in one or more of your subjects? \*

You may select one or several answers, depending on the progress in your studies.

Check all that apply.

- ☐ Yes, in English.
- ☐ Yes, in my other subject(s).
- ☐ Not yet.
- ☐ There is no such course in my program.

5. Have you so far attended any course (e.g., Vorlesung, Übung, Seminar) that particularly focused on digital media in any of the subjects you study? If so, please provide the title of the course.

---

## IMPORTANCE OF MEDIA

Please complete the following sentence with whatever comes to your mind first.

---

6. The most important digital media for me are ... \*

---

Please think about the importance of different types of media for you.

---

For each statement, please select the number that best represents your opinion. The scale ranges from 1 ("totally disagree") to 5 ("totally agree"). By selecting one of the numbers in between, you may specify your opinion.

7. In my leisure time, it is important for me to ... \*

Mark only one oval per row.

	1 = totally disagree	2	3	4	5 = totally agree
watch television	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
listen to the radio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
read books	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
read newspapers or magazines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
use my mobile phone for calls or text messages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
use my mobile phone for apps or social media (e.g., Facebook, WhatsApp)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
use the Internet (on any device)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For each statement, please select the number that best represents your opinion. The scale ranges from 1 ("totally disagree") to 5 ("totally agree"). By selecting one of the numbers in between, you may specify your opinion.

**8. When I study for university, it is important for me to ... \***

*Mark only one oval per row.*

	1 = totally disagree	2	3	4	5 = totally agree
watch television	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
listen to the radio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
read books	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
read newspapers or magazines	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
use my mobile phone for calls or text messages	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
use my mobile phone for apps or social media (e.g., Facebook, WhatsApp)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
use the Internet (on any device)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## YOUR ACTIVITIES ON THE INTERNET

**Which of the following devices do you use most frequently to access the Internet?**

**9. \***

Please select ONE device.

*Mark only one oval.*

- ☐ desktop computer
- ☐ laptop or notebook
- ☐ tablet computer
- ☐ smart phone
- ☐ smart TV (TV with internet connection)
- ☐ Other: \_\_\_\_\_

**How frequently do you perform the following activities on the Internet?**

10. \*

For each statement, please select the answer that best represents your situation.

Mark only one oval per row.

	usually every day	3-5 times a week	1-2 times a week	every other week	once a month	less often	never
shop online (e.g., Amazon)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
make phone calls (e.g., Skype)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
check e-mails	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
stream or download videos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
use search engines (e.g., Google)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
surf without searching for specific information	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
stream or download music	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11. \*

For each statement, please select the answer that best represents your situation.

Mark only one oval per row.

	usually every day	3-5 times a week	1-2 times a week	every other week	once a month	less often	never
download study-related materials	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
use online banking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
create and publish own texts, images, or videos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
play online games	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
use university services (e.g., Univis, u:search)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
consume texts, images, or videos created by others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
like, share or comment texts, images, or videos created by others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Is anything missing above?

If so, feel free to use the text box below to give an individual statement on the activities you frequently perform on the Internet.

---



---



---



---



---

## DIGITAL MEDIA IN YOUR UNIVERSITY STUDIES (1)

**Please consider your experiences with digital media as a student of English at the University of Vienna and give your opinion on the following statements.**

---

For each statement, please select the number that best represents your opinion. The scale ranges from 1 ("totally disagree") to 5 ("totally agree"). By selecting one of the numbers in between, you may specify your opinion.

13. **My study requires profound knowledge of digital media.** \*

*Mark only one oval.*

	1	2	3	4	5	
I totally disagree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I totally agree.

14. **The infrastructure including hard- and software at my university is very good.** \*

*Mark only one oval.*

	1	2	3	4	5	
I totally disagree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I totally agree.

15. **At my university, I regularly come across media education concepts which prepare me to teach digital media in the language classroom.** \*

*Mark only one oval.*

	1	2	3	4	5	
I totally disagree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I totally agree.

16. **Overall, I am very satisfied with the way my university lecturers include digital media in their courses.** \*

*Mark only one oval.*

	1	2	3	4	5	
I totally disagree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I totally agree.

## DIGITAL MEDIA IN YOUR UNIVERSITY STUDIES (2)

**Drawing on the opinions you have just expressed, how would you evaluate various parts of your English curriculum in terms of digital media use?**

---

For each statement, please select the answer that best represents your experiences.

**17. Digital media use in my English studies is/was ... \***

Mark only one oval per row.

	very poor	poor	average	good	very good
teaching methodology ("Fachdidaktik")	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
language skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
linguistics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
literary studies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

**18. Would you like to deal more with digital media in your English studies? \***

Mark only one oval.

☐ Yes.

☐ No.

**19. If you selected "yes" above, why would you like to deal more with digital media in your English studies?**

You may select none, one or several answers.

Check all that apply.

☐ I would like to learn more about digital media to increase my own skills.

☐ I would like to learn more about digital media to be able to train others.

☐ Other: .....

## YOUR DIGITAL MEDIA SKILLS

**Please self-evaluate how good you are at using digital media for the following purposes.**

---

For each statement, please select the number that best represents your opinion. The scale ranges from 1 ("beginner level") to 5 ("expert level"). By selecting one of the numbers in between, you may specify your opinion.



**20. Part 1: I am able to ... \****Mark only one oval per row.*

	1 = beginner level	2	3	4	5 = expert level
protect my devices from viruses or hacking attacks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
search for specific information on the Internet.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
create graphics in a spreadsheet software (e.g., Excel).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
prepare slides for a presentation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
use images from websites without violating copyright laws.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
send large amounts of data that do not fit an e-mail attachment.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
create a text file (e.g., Word), enter text, and save it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
edit a video and upload it to YouTube.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
record a video and upload it to YouTube.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
use cloud storages to organize my documents responsibly and critically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For each statement, please select the number that best represents your opinion. The scale ranges from 1 ("beginner level") to 5 ("expert level"). By selecting one of the numbers in between, you may specify your opinion.

## 21. Part 2: I am able to ... \*

Mark only one oval per row.

	1 = beginner level	2	3	4	5 = expert level
officially report cases of cyber mobbing or right-wing activities.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
delete personal data from social media and/or exclude them from being found by search engines.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
produce online material that inspires the learning of my (future) pupils.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
diagnose software problems and solve them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
diagnose hardware problems and solve them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
produce a backup copy of important data in case the computer or smart phone is damaged or stolen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
adjust my social media appearance to my role as a (future) teacher.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
distinguish sources/websites that offer credible and/or reliable information.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
use digital media to individualize my (future) lessons.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
distinguish between serious information and satire on news websites.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
keep journalistic pieces and advertising apart.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>


**ATTENTION!**


---

Please make your way to the end of the survey! Your answers will only be recorded if you click the submit button on the last page. Thank you!

## DIGITAL MEDIA AT SCHOOL

### According to you, in which subjects should teachers in secondary education use digital media?

---

22. \*

You may select one or several answers.  
*Check all that apply.*

- ☐ arts and music
- ☐ information technology
- ☐ business administration
- ☐ none
- ☐ foreign languages
- ☐ natural sciences
- ☐ German
- ☐ maths
- ☐ Other: .....

### At which level(s) should teachers in secondary education use digital media?

---

23. \*

You may select one or several answers.  
*Check all that apply.*

- ☐ lower secondary
- ☐ upper secondary
- ☐ none

### For which purposes should teachers in secondary education use digital media?

---

24. \*

Please select UP TO FIVE answers that are the most important for you.

*Check all that apply.*

- ☐ for motivating pupils
- ☐ for introducing a new topic
- ☐ for asking pupils for their feedback
- ☐ for collecting assignments
- ☐ for creative tasks
- ☐ for homework
- ☐ for practising
- ☐ for replacing printed school books/copies
- ☐ none
- ☐ for entertainment after an assignment
- ☐ for testing and assessing
- ☐ for giving pupils the possibility to work at their own speed
- ☐ for helping students to work on their own
- ☐ for revising important tasks shortly before an assignment
- ☐ for presenting tasks or results of pupils' work
- ☐ for making lessons rich in variety
- ☐ Other: \_\_\_\_\_

## EXPECTATIONS OF YOUR FUTURE LANGUAGE CLASSROOM (1)

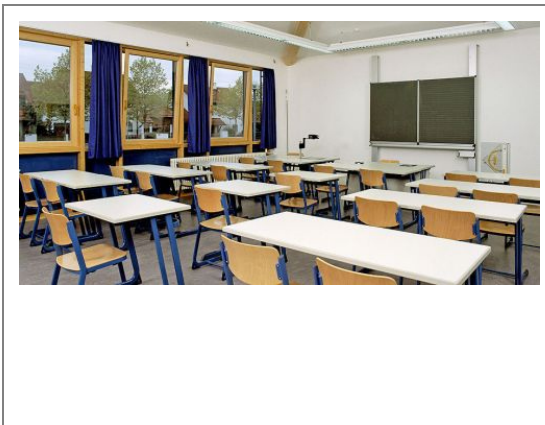
**In which classroom would you like to teach English after finishing your studies?**

---

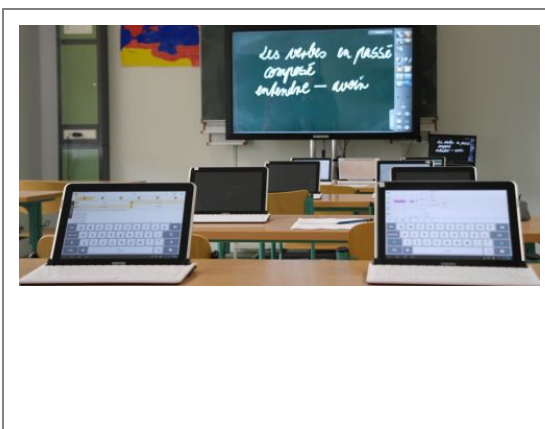
Please look at the images below and select the one that best represents your preference.

25. I would like to teach English in ... \*

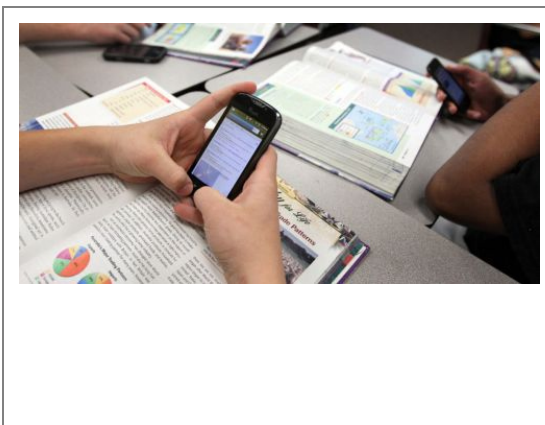
Mark only one oval.



☐ classroom 1



☐ classroom 2



☐ classroom 3

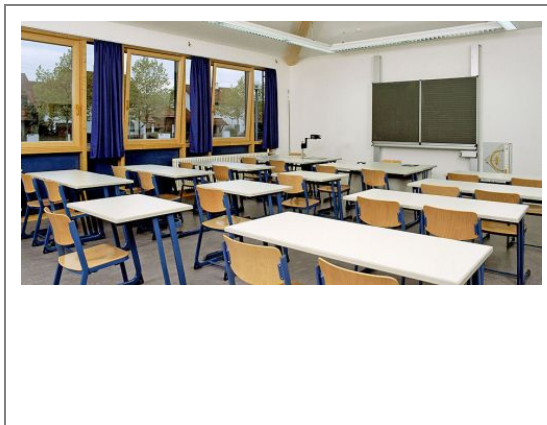
**In which classroom would you expect to teach English after finishing your studies?**

---

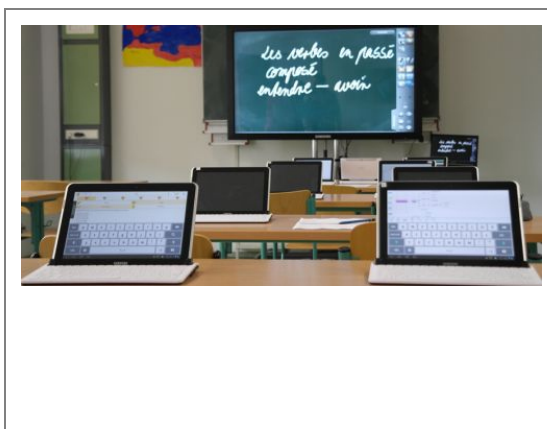
Please look at the images below and select the one that best represents your expectations.

## 26. I expect to teach English in ... \*

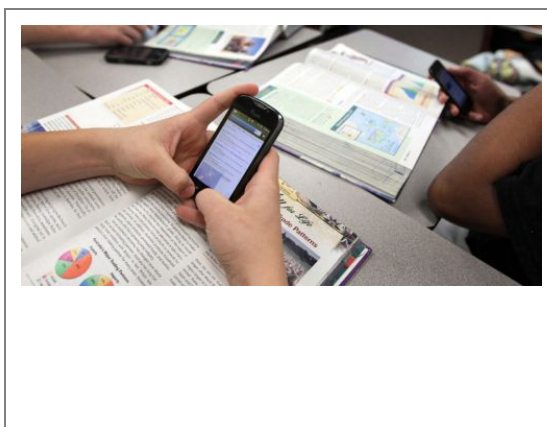
Mark only one oval.



☐ classroom 1



☐ classroom 2



☐ classroom 3

### How well do you feel prepared to teach English in the classrooms shown in the images above?

---

For each classroom, please select the number that best represents your opinion. The scale ranges from 1 ("not prepared at all") to 5 ("very well prepared"). By selecting one of the numbers in between, you may specify your opinion.

27. For teaching English in classroom 1, I feel ... \*

Mark only one oval.

	1	2	3	4	5	
not prepared at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very well prepared

28. For teaching English in classroom 2, I feel ... \*

Mark only one oval.

	1	2	3	4	5	
not prepared at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very well prepared

29. For teaching English in classroom 3, I feel ... \*

Mark only one oval.

	1	2	3	4	5	
not prepared at all	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	very well prepared

## EXPECTATIONS OF YOUR FUTURE LANGUAGE CLASSROOM (2)

**Please think of your future career as an English teacher in a secondary school. How often would you use digital media when it comes to teaching different language skills?**

For each set of skills, please select the answer that best represents your opinion.

30. \*

Mark only one oval per row.

	very often	sometimes	rarely	never
speaking skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
listening skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
reading skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
writing skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

31. Which of the following digital media would you like to use with your pupils in your language classroom? \*

Please select UP TO FIVE answers that are the most important for you.

Check all that apply.

- ☐ e-mail
- ☐ quizzes
- ☐ apps
- ☐ none
- ☐ games
- ☐ wikis
- ☐ web quests
- ☐ social networks (e.g., Twitter, Facebook)
- ☐ blogs
- ☐ e-books
- ☐ Other: \_\_\_\_\_

**Do you think that the use of digital media in your language classroom could be problematic for you as a teacher?**

---

32. \*

Mark only one oval.

- ☐ Yes.
- ☐ No.



**33. If you selected "yes" above, why could the use of digital media in your language classroom be problematic for you as a teacher?**

Please select UP TO FIVE answers that are the most important for you.

*Check all that apply.*

- ☐ Because there is a lack of devices at my school (i.e., not every pupil can work on their own device).
- ☐ Because preparation of equipment takes too much time (e.g., devices need to be booked in advance, need to be carried to the classroom).
- ☐ Because preparation of content (lesson planning) takes too much time.
- ☐ Because devices are old or do not work properly.
- ☐ Because it is difficult to operate the devices.
- ☐ Because there is no content/software that fits to the lesson aims.
- ☐ Because I doubt there is a didactic value.
- ☐ Because I am afraid that things go wrong in front of pupils.
- ☐ Because I am afraid that some pupils have more skills than myself.
- ☐ Because pupils are not skilled enough.
- ☐ Because pupils are easily distracted.
- ☐ Because my teacher colleagues probably do not understand/support me.
- ☐ Because my headmaster probably does not understand/support me.
- ☐ Because pupils only communicate with their devices, but not with their teacher any more.
- ☐ Because pupils do not remember what they learn.
- ☐ Because lessons are less effective (i.e., more time is needed to cover a particular issue).
- ☐ Other: \_\_\_\_\_

## YOUR VIEWS TOWARDS MEDIA INSIDE AND OUTSIDE THE CLASSROOM

### What do you think of the following statements?

For each statement, please select the number that best represents your opinion. The scale ranges from 1 ("totally disagree") to 5 ("totally agree"). By selecting one of the numbers in between, you may specify your opinion.

**34. Computers, the Internet, and other digital media have made life easier. \***

*Mark only one oval.*

	1	2	3	4	5	
I totally disagree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I totally agree.

**35. What concerns media, pupils are clever enough to educate themselves. \***

*Mark only one oval.*

	1	2	3	4	5	
I totally disagree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I totally agree.

36. **As a teacher, it is difficult to keep track of the rapid media development.** \*

*Mark only one oval.*

	1	2	3	4	5	
I totally disagree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I totally agree.

37. **Schools should protect students from media influence.** \*

*Mark only one oval.*

	1	2	3	4	5	
I totally disagree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I totally agree.

38. **Media education is or should primarily be the duty of parents.** \*

*Mark only one oval.*

	1	2	3	4	5	
I totally disagree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I totally agree.

39. **Teachers will lose authority because of the rapid media development.** \*

*Mark only one oval.*

	1	2	3	4	5	
I totally disagree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I totally agree.

40. **Due to the internet, people lose sight of contacts in real life.** \*

*Mark only one oval.*

	1	2	3	4	5	
I totally disagree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I totally agree.

41. **Sooner or later, media will replace teachers.** \*

*Mark only one oval.*

	1	2	3	4	5	
I totally disagree.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	I totally agree.

## ATTENTION!

---

Please make your way to the end of the survey! Your answers will only be recorded if you click the submit button on the last page. Thank you!

## MEDIA IN YOUR CHILDHOOD AND ADOLESCENCE

**Please remember your childhood and adolescence. Which of**

## the following media were important leisure-time activities among your family and friends?

---

42. \*

You may select one or several answers.

*Check all that apply.*

- ☐ books
- ☐ cinema
- ☐ CDs, MP3s
- ☐ desktop computer
- ☐ games console
- ☐ internet access
- ☐ laptop or notebook
- ☐ mobile phone (not smart phone)
- ☐ newspapers and magazines
- ☐ radio
- ☐ smart phone
- ☐ tablet computer
- ☐ television
- ☐ theatre
- ☐ video films, DVDs
- ☐ none
- ☐ Other: .....

## Please remember your secondary school experiences as a pupil. Which media were regularly used in the following subjects?

---

With each subject, you may select ONE to THREE different media by choosing them from the dropdown menu. If you went to more than one secondary school, please focus on the one where you attended the most semesters.

**43. Media frequently used in English classes: \***

ANSWER 1

*Mark only one oval.*

- ☐ books
- ☐ cinema
- ☐ CDs, MP3s
- ☐ desktop computer
- ☐ games console
- ☐ internet access
- ☐ laptop or notebook
- ☐ mobile phone (not smart phone)
- ☐ newspapers and magazines
- ☐ radio
- ☐ smart phone
- ☐ tablet computer
- ☐ television
- ☐ theatre
- ☐ video films, DVDs
- ☐ none
- ☐ other

**44. ANSWER 2***Mark only one oval.*

- ☐ books
- ☐ cinema
- ☐ CDs, MP3s
- ☐ desktop computer
- ☐ games console
- ☐ internet access
- ☐ laptop or notebook
- ☐ mobile phone (not smart phone)
- ☐ newspapers and magazines
- ☐ radio
- ☐ smart phone
- ☐ tablet computer
- ☐ television
- ☐ theatre
- ☐ video films, DVDs
- ☐ none
- ☐ other

## 45. ANSWER 3

*Mark only one oval.*

- ☐ books
- ☐ cinema
- ☐ CDs, MP3s
- ☐ desktop computer
- ☐ games console
- ☐ internet access
- ☐ laptop or notebook
- ☐ mobile phone (not smart phone)
- ☐ newspapers and magazines
- ☐ radio
- ☐ smart phone
- ☐ tablet computer
- ☐ television
- ☐ theatre
- ☐ video films, DVDs
- ☐ none
- ☐ other

46. **Media frequently used in classes of the subject you now study apart from English: \***

ANSWER 1

*Mark only one oval.*

- ☐ books
- ☐ cinema
- ☐ CDs, MP3s
- ☐ desktop computer
- ☐ games console
- ☐ internet access
- ☐ laptop or notebook
- ☐ mobile phone (not smart phone)
- ☐ newspapers and magazines
- ☐ radio
- ☐ smart phone
- ☐ tablet computer
- ☐ television
- ☐ theatre
- ☐ video films, DVDs
- ☐ none
- ☐ other

## 47. ANSWER 2

*Mark only one oval.*

- ☐ books
- ☐ cinema
- ☐ CDs, MP3s
- ☐ desktop computer
- ☐ games console
- ☐ internet access
- ☐ laptop or notebook
- ☐ mobile phone (not smart phone)
- ☐ newspapers and magazines
- ☐ radio
- ☐ smart phone
- ☐ tablet computer
- ☐ television
- ☐ theatre
- ☐ video films, DVDs
- ☐ none
- ☐ other

## 48. ANSWER 3

*Mark only one oval.*

- ☐ books
- ☐ cinema
- ☐ CDs, MP3s
- ☐ desktop computer
- ☐ games console
- ☐ internet access
- ☐ laptop or notebook
- ☐ mobile phone (not smart phone)
- ☐ newspapers and magazines
- ☐ radio
- ☐ smart phone
- ☐ tablet computer
- ☐ television
- ☐ theatre
- ☐ video films, DVDs
- ☐ none
- ☐ other

**YOU'RE ALMOST DONE - HERE'S THE LAST PAGE OF QUESTIONS!**

## Finally, I would like to ask you to provide a few more details about yourself.

---

Don't worry: At a department with thousands of students, it is not possible to identify you through the data you type in here.

**49. Your gender: \***

*Mark only one oval.*

- ☐ Female
- ☐ Male
- ☐ Other

**50. Your age: \***

Please type in your age in years.

---

**51. Are you currently working as a teacher (e.g., on a "Sondervertrag") in at least one of the subjects you study? \***

*Mark only one oval.*

- ☐ Yes
- ☐ No

**52. Have you ever already worked as a teacher (e.g., on a "Sondervertrag") in at least one of the subjects you study? \***

*Mark only one oval.*

- ☐ Yes
- ☐ No

**53. Do you intend to take up a job as a teacher in at least one of the subjects you study after being awarded your university degree?**

*Mark only one oval.*

- ☐ Yes, definitely.
- ☐ That's one of several options.
- ☐ No, definitely not.
- ☐ I don't know yet.

**54. Which type(s) of secondary school did you go to? \***

You may select one or more answers.

*Check all that apply.*

- ☐ Hauptschule, Kooperative Mittelschule, Neue Mittelschule
- ☐ Allgemeinbildende höhere Schule
- ☐ Oberstufenrealgymnasium
- ☐ Berufsbildende Höhere Schule
- ☐ Montessori-, Waldorf-Schule
- ☐ Other: \_\_\_\_\_

**55. Where was your secondary school located? \***

Please provide the ZIP-/postal code.

Alternatively, you can enter the name of the town. If you went to more than one secondary school, please choose the one where you attended the most semesters.

---

## **NOW YOU HAVE THE CHANCE TO WIN AN AMAZON GIFT CARD!**

---

Among all survey participants who completed the questionnaire and leave their e-mail address, I will give away one 50 EUR Amazon gift card. The random winner will receive a message.

**56. If you are interested in winning the prize, please leave your e-mail address here:**

---

## **ATTENTION!**

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Please don't forget to click the "submit" / "Senden" button below to record all your answers!

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## Abstract

At the beginning of 2017, the Federal Ministry of Education announced *Schule 4.0*, a digitization strategy for the Austrian education system. The initiative aims at a more extensive use of digital media in the classroom.

This diploma thesis examines how prepared future English teachers feel for the digital school. It is particularly interested in the situation of prospective foreign language teachers who study at the Department of English at the University of Vienna. Based on a multi-dimensional literacy model, a quantitative online survey was developed. Survey questions focused on the self-assessment of strengths and weaknesses concerning digital media use, but also covered media habits, attitudes towards digitization, the role of the teacher training program for the acquisition of media skills and the importance of digital media when giving English lessons. The survey was completed by 84 respondents during the winter term 2016/17.

Findings suggest that Lehramt students have a positive view on digital media. Among others, almost half of the participants would prefer to teach in computer-assisted classrooms despite rather low approval to the question whether they feel prepared to work there. The doubts many future teachers have about their own digital literacy is rather unfounded. As the average pupil does not make use of all possibilities offered by digital media, but is happy to mainly consume digital content instead of producing it, educators are able to keep up with the younger generation. Due to these results, The University of Vienna and University Colleges of Teacher Education would be well advised to put more efforts into strengthening prospective teachers' self-confidence in their digital literacy.



# Zusammenfassung

Anfang 2017 hat das Bundesministerium für Bildung die Digitalisierungsstrategie *Schule 4.0* präsentiert. Diese verspricht fächerübergreifend eine stärkere Nutzung digitaler Medien im Unterricht.

Die vorliegende Diplomarbeit befasst sich mit der Frage, wie gut künftige Englischlehrerinnen und -lehrer für den digitalen Alltag an Österreichs Schulen gerüstet sind. Ausgehend von einem mehrdimensionalen Kompetenzmodell wird die digitale Medienkompetenz von Lehramtsstudentinnen und -studenten am Institut für Anglistik und Amerikanistik der Universität Wien empirisch untersucht. Dazu kam eine quantitative Onlinebefragung zum Einsatz, deren Kernelement die Selbsteinschätzung von Stärken und Schwächen im Umgang mit digitalen Medien darstellte. Außerdem wurden Mediennutzungsgewohnheiten, Einstellungen zur fortschreitenden Digitalisierung, die Rolle des Lehramtsstudiums beim Erwerb von Medienkompetenz sowie der Stellenwert digitaler Medien in der persönlichen Unterrichtsgestaltung erhoben. An der Befragung, die im Wintersemester 2016/17 stattfand, nahmen 84 Personen teil.

Die Ergebnisse deuten darauf hin, dass Lehramtsstudierende der Digitalisierung positiv gegenüberstehen. So würde es etwa die Hälfte der Befragten bevorzugen, in Computersälen zu unterrichten, wenngleich sie sich auf die Abhaltung IT-gestützter Schulstunden nur unzureichend vorbereitet fühlt. Die Selbstzweifel in Bezug auf die digitale Kompetenz erscheinen allerdings eher unbegründet, denn die angehenden Lehrerinnen und Lehrer stehen beim Umgang mit digitalen Medien – die auch von Jugendlichen vorrangig rezeptiv und weniger häufig produktiv genutzt werden – ihren potentiellen Schülerinnen und Schülern um nichts nach. Daraus lässt sich für die Universität Wien und die Pädagogischen Hochschulen der Auftrag ableiten, in der Lehreraus- und Weiterbildung das Selbstbewusstsein künftiger Lehrkräfte hinsichtlich ihrer Medienkompetenz zu stärken.