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Visual Literacy: Preconditions and Considerations for Implementing Digital Innovations in English as a Foreign Language in Student Teacher Training and in Class

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ABSTRACT

This paper sheds light on visual literacy with regard to teaching English as a foreign language (EFL). It sets out to bring together approaches to the term 'visual literacy' from diverse backgrounds. The focus is on preconditions that have to be met for the effective use of digital innovations. Moreover, considerations here deal with the implementation of visual literacy training within EFL student teacher training and in class.

INTRODUCTION

Watching toddlers swipe a picturebook like a touchscreen smartphone or tablet computer definitely shows the advent of a new era. However, generation digital faces serious challenges because caregivers and educators have often not kept up with the rate at which technological innovation progresses and lack knowledge on technology as well as computer skills (Asselin, 2007; Goktas, Yildirim & Yildirim, 2009; Hutchison & Reinking, 2011; Mundy, Kupczynski & Kee, 2012; Shan Fu, 2013; Eshetu, 2015). This may result in precarious developments in terms of "tool literacies", i. e. operational computer skills, and "literacies of representations" (Tyner, 1998, p. 92), i. e. the critical assessment of content.

Literacy in reading and writing used to be the key factor for participating successfully in society. Yet this is not sufficient anymore. Today, digitally illiterate people are left out of processes of worldwide dimensions including access to information. Thus, they are not able to construct meaning when it comes to decoding communication based on visual tokens and digital representations. Hence, it is of utmost importance to foster the development of media literacy by simultaneously training their 'analogous' reading and writing skills. An approach focusing on "multiliteracies" (The London Group, 1996) embraces cultural diversity and nurtures a multitude of skills.

With reference to English as a Foreign Language (EFL), listening, reading, speaking and writing are defined as skills to be developed in the Austrian scholastic standards for Foreign Languages (bifie, 2011). These are based on the Common European Framework of Reference for Languages (CEFR; Council of Europe, 2001). Culture, Media and Literature are compressed into only one item on a list of 17 subject areas that are to be included at lower secondary school level (bifie, 2011, p.14). A more detailed reference to digital media is merely mentioned in the description of learning goals assigned to listening skills (ibid, p. 11). Here, pupils are required to understand simple audio and video files. It is then the

teacher's decision to take a broader view on literacy with an emphasis on the visual and media. Above mentioned decision is totally determined by his or her interests and Information and Communication Technology (ICT) skills. Thus it is not a matter of course for the pupils to be supplied with vital strategies for decoding the content of media landscapes and for utilizing modern technology.

In this respect, literacy courses in student teacher training have to be vehemently enforced. So far, visual literacy seems to be particularly neglected which is in harsh contrast to the considerable number of visual stimuli used in EFL teaching. Research supports this view (Messaris, 1997; Richardson, 2010) warning that the proliferation of and permanent confrontation with the visual image does not necessarily result in "a conscious recognition of the phenomenon" (Avgerinou, 2009, p.28). Pupils' use of multimedia facilities is often reduced to entertainment. Thus, they need to discover the rich supply of infinite resources for various purposes and to evaluate their findings. That, however, requires adequate strategies to succeed. After a brief analysis of the perspectives on literacies, this article casts a critical glance at preconditions for promoting visual literacy in EFL classes.

Literacy: definitions and perspectives

'Being literate' originally referred to the skills of reading and writing. The term 'literacy' that is commonly used today, stems from the word 'literature'. Livingstone and colleagues (2008, p.104) point out that due to the continuous rise in literacy in the course of industrialization, the term did not necessarily imply anymore that a 'literate' person is 'well-read', too. It has become an umbrella term for several purposes today. Hence, it has been extended to verbal, technological, computer, media and visual literacy (Seels, 1994, p.98). Swertz and Fessler (2010, n. p.) add terms like TV, information and digital literacy and describe distinctive features.

Lemke concludes to describe literacy as "a set of cultural competencies for making socially recognizable meanings by the use of particular material technologies" (Lemke, 1998, p.283). Accordingly, Serafini (2014, p.19) observes that the term, once primarily used for cognitive abilities, has stretched and that "it is as much a social practice as it is an individual cognitive skill". He further remarks that literacy is rather something "done" in certain societal circumstances than "acquired" (ibid.) Burmark alludes to the fact that "words are images too" (Burmark, 2002, p.19) by pointing out the connotations which typefaces, fonts and colors evoke. Thus, verbal literacy has always been linked to its visual representation – the word – and, consequently, to visual literacy.

Ever since the advent of TV and the Internet, visual literacy has played an increasingly important role in decoding information. Debes (1969, p.27) applied the term "to a group of vision-competencies a human being can develop by seeing and at the same time having and integrating other sensory experience. […] When developed, they enable a visually literate person to discriminate and interpret the visible actions, objects, symbols, natural or man-made, that he encounters in his environment". However, visual literacy does by no means imply to be passively achieved. Braden and Hortin (1982, p.41) maintain cognitive and creative aspects in their definition of the term: "Visual literacy is the ability to understand and use images, including the ability to think, learn, and express oneself in terms of

images". Similarly, Heinich, Molenda and Russell (1982, p.62), Considine (1986, p.40) and Lacy (1987, p.46) accentuate both the analytical and the productive skills of the visually literate person.

With regard to a model of media education visual literacy may be viewed as an integral part of media literacy (Ko Hoang, 2000, p.14). In this respect, Swertz and Fessler (2010b, n. p.) suggest distinguishing between information literacy and media literacy. In relation to media didactics, the former means a problem-solving, more economic approach whereas the latter aims at "Bildung" including critical reflection. However, the concept of media literacy comprises further learning goals. It equally includes operational know-how, understanding and critical assessment of the respective content (Swertz & Fessler, 2010a, p.7). Moreover, methods have to be taught in order to achieve these requirements and make creative use of these skills (Buckingham, 2003, p.36).

Media education may incorporate a concept such as multiliteracies that "focuses on modes of representation much broader than language alone" (The London Group, 1996, p.64) and takes into account differences "according to culture and context" (ibid.). This approach also has "specific cognitive, cultural, and social effects" (ibid.) on individuals. Therefore, Kress and van Leeuwen (1996) stress the need for "reading images". In line with that, Pettersson (1994, p.215) adds the necessity of learning the meaning of words as well as the visual language.

This cursory review of the different concepts and theories concerning literacy does not begin to reflect the amount of research that is taking place in the field of literacy studies. With respect to EFL learning and teaching, further aspects have to be considered, which will be covered below.

Current developments in EFL classes with a focus on the visual

Accessibility to high quality information literacy and media literacy training is essential for pupils and likewise future teachers. Ideally, this equally comprises different media formats and reflective approaches. Handling multi-media tools seems to be a priority in current student teacher training. This goes well with many student teachers' interests in the use of software programs, applications and methods – possibly at the cost of understanding and reflecting on the respective content. Currently, teacher education seems to emphasize media education primarily including online tools such as supplementary material provided by course book publishers that offer blended learning facilities, blogs or e-portfolios.

However, the examination of the actual content, the image itself, is not well-reflected. In order to lay more emphasis on the visual content, it is recommended to analyse a broad spectrum of genres and formats with both student teachers and pupils. On the one hand, a stronger focus on literary and aesthetic representations contributes to a skilled involvement with visual images. Such depictions can be seen in: epics, lyrics and dramatic art, multimodal forms like picturebooks, graphic novels, also in artwork like photographs, paintings, sculptures and architecture as well as in films and on television. On the other hand, non-fictional image-text displays like advertisements, manuals, maps or graphs are important to raise the awareness of the manifold purposes images are used for.

With the accessibility of multimedia systems at schools the impact of visualization on EFL teaching has become a field of inquiry for several recent decades. Studies are frequently based on Paivio's (1986; 2007) dual-coding theory. According to this concept, the process of cognition arises out of a verbal, language-related system and a non-verbal system referring to e.g. pictures. A growing body of empirical research supports visualization in foreign language teaching. However, with different focuses. On the one hand, findings indicate that the use of visualization leads to increased interest and motivation in learning English (Elster & Simons, 1985; Hill, 1990; Parsons, 2006; Ghaedi & Shahrokhi, 2016 among others). On the other hand, researchers have observed that visualization aids learners in mastering the foreign language in fields like vocabulary training (Elster & Simons, 1985; Wright, 2008; Carpenter & Olson, 2012; Hashemi & Pourgharib, 2013; Mashhadi & Jamalifar, 2015) and reading (Omaggio, 1979; Chun & Plass, 1996; Ehlers-Zavala, 1999; Guerrero, 2003; Erfani et al, 2012; Sam & Rajan, 2013 to name a few). Nevertheless, there is disagreement as to what type of visualization, static or animated, is most efficient (Golonka et al, 2014; Roohani et al, 2015).

A rising number of publications in the area of foreign language teaching mirrors the importance visual literacy has obtained among educators during the past two decades. With regard to EFL teaching, several perspectives concerning visual literacy can be taken into account. First, visual stimuli can help pupils with language learning in several ways: to store vocabulary, understand concepts or serve as mental anchors (e.g. picture and word cards (Gerngroß & Puchta, 1992), maps, graphs and various visualization methods (Kieweg, 2012; Zachara, 2013; Lengler & Eppler, 2014)). Secondly, a close analysis of images in various forms (e.g. photographs, comics, films etc.) not only promotes fluency in speaking but also enhances vocabulary (e. g. Grundy, Bociek & Parker, 2011; Bradley, 2012). Thirdly, a broader understanding of visual concepts is enhanced (Frey & Fisher, 2008; Stafford, 2011; Serafini, 2014). This is not only true for using artwork in EFL but especially for the use of texts which are paired with images like picturebooks, comics and graphic novels. One example is the use of colour in picturebooks such as *My Many Colored Days* (Dr. Seuss, 1998) and *Hello, Red Fox* (Carle, 1998) or the graphic novel *Fahrenheit* 451 (Bradbury & Hamilton, 2009).

It has to be considered in this respect that in EFL learning the use of the target language is always the main teaching objective. Without useful phrases it is impossible to talk about the content. The same is true for the description of perceptions at a more abstract level like reflecting. Accordingly, teacher education in EFL has to strive for a combined skills training regarding the analysis of diverse depictions, modes of occurrence and supportive teaching methodology which introduces the necessary language. Such an approach is already present in Content and Language Integrated Learning (CLIL) (Mehisto, Frigols & Marsh, 2008; Hallet & Königs, 2013). Nevertheless, this concept has only been applied to certain topics or subject matter so far. What is suggested here is an extension of the approach in the sense of the mulitliteracies concept (The London Group, 1996, p.78), as briefly outlined above. Here the focus is on representations of various cultural or social contexts that are expressed in diverse media formats (e.g. texts, sounds, and graphics in various modes). Thus, visual literacy is envisioned as a kind of 'metaskill' which has to be

deliberately addressed by teachers to implement the corresponding 'metalanguage' for analysis.

Thematising visual literacy by means of picturebooks, comics and graphic novels

Multimodality is an integral part of the multiliteracies concept, which has been introduced "in the past several decades to address the increasing complexity of textual ensembles in print-based and digital formats" (Serafini, 2014, p.13). Serafini stresses that in such "print-based multimodal ensembles" modes "fall into three categories: (1) textual elements, which include all the written language; (2) visual images like photography, painting, drawings, graphs, and charts; and (3) design elements like borders, typography, and other graphic elements" (ibid., p.13). Visual literacy in readers, or users (Eddy, 2013, p.219), is vital whether they look at picturebooks, websites or architecture.

Multimodal ensembles are especially challenging for EFL learners when there are ruptures and fractures in storylines and depictions of books as is increasingly the case in current children's literature. According to Dresang (1999, p.17) "radical changes" occur either in terms of "Changing Forms and Formats", "Changing Perspective" or Changing Boundaries", e.g. taboos or sophisticated topics. Some examples can be found in modern fairy tale versions like *The Three Pigs* (Wiesner, 2001), *Who's Afraid of the Big Bad Book?* (Child, 2002), *Mixed Up Fairy Tales* (Robinson & Sharatt, 2004), *Snoring* Beauty (Hale & Fine, 2008) or Cinderella: A Fashionable Tale (Guarnaccia, 2014). When observing current developments like intertextuality or intermediality, the separation of teaching single language skills seems arbitrary. Paran observes that" [t]his separation contrasts with our understanding of language use as entailing a relationship between at least two skills (and often more), with our understanding of the importance of context in all language use, and with current views of literacy and oracy" (Paran, 2012, p. 450). Accordingly, multimodal ensembles and the use of digital technologies impose new requirements on educators (Motteram et al, 2013).Working with learners from cultures with a strong preference for text-heavy representations can be demanding when the focus is shifted to tasks emphasizing visual depictions (da Rocha & Haidacher-Horn, 2017, forthc.). Most of these learners are used to reading plain text. Accompanying pictures merely fulfil the purpose of illustrating the text but are not a constitutional element of the content. Due to a change of perspective regarding picturebooks or graphic novels as forms of art (Salisbury & Styles, 2012, Salisbury, 2015; Galda, Liang & Cullinan, 2016) and the ubiquitous presence of pictures in general, the interpretation of the visual has become increasingly important. In teaching, instructors might want to focus on a single genre or contrast different kinds of pictorial representations. Thus, postmodern or wordless picturebooks, picturebooks with a particular focus (e.g. historical fiction, informational or biographical depictions), illustrated and graphic novels or comics, advertisements, news reports, films or digital media (Serafini, 2014) can be introduced.

Serafini (2014, p. 92) suggests involving three phases in each topical focus mentioned above: "*Exposure*–exposing students to a wide variety of visual images and/or a particular multimodal ensemble. *Exploration*–exploring the designs, features, and structures of various visual images and particular multimodal ensembles. *Engagement*–engaging in the

production and/or interpretation of a particular visual image and/or multimodal ensembles. Although the three phases of this curricular framework generally occur in the order presented, aspects of each phase build upon and blend in with the other phases" [sic].

In a classroom project on the graphic novel *Fahrenheit 451* (Bradbury & Hamilton, 2009) with 17 to 18-year-olds EFL pupils, this threefold approach turned out to be of vital importance as the learners were not familiar with the genre at all. Thus, the book was introduced by first displaying only the cover picture, responding to and interpreting it together. Here, it was already perceptible that the pupils were not used to such an analytical way of proceeding as their participation was rather reluctant in the beginning. Next, a particular page of the book was chosen to facilitate exploration. Terminology including terms such as panel, gutter, speech and thought bubble was presented. To discover the different layers that characterize a graphic novel, the learners were encouraged to rearrange a page from the graphic novel which had been cut up into its panels, i.e. single pictures. The text had been removed to support the pupils in focusing on the pictures. From that point onwards, the leaners were actively involved in the tasks. In a next step, the pupils covered the reorganized page with a sheet of paper and were provided with only the pieces of text of the respective page. After they had assembled a coherent text, the leaners matched the panels with the corresponding text. Alternative combinations came up and were discussed.

The project included several other tasks to lay emphasis on the visual representation and the interplay of images and texts. Questions for closer examination while and after reading included the depiction of characters, the use of colours and famous books 'hidden' in the graphic novel. Only then, a focus on content was added and the pupils were invited to individually respond to the text by e.g. drawing their own page or acting out a scene from the book. The teachers and researchers gained the impression that the separation of visual elements from content matter had made sense to raise the learners' awareness of the different modes of representation (da Rocha & Haidacher-Horn, 2017, forthc.). To support teachers in their respective endeavours to thematise visual literacy, a considerable number of publications has recently addressed the topic (e.g. Monnin, 2010, 2011; Bakis, 2012).

In foreign language learning, analysing various modes of representation can be supported by the rising number of products that are electronically enriched. Many picturebooks or graphic novels come with CDs, e.g. the English language teaching adaptation of *Frankenstein* (Shelley, Cobley & Viney, 2009). Projects such as Endgame: The Calling (Frey & Johnson-Shelton, 2014) create new literary multimodal dimensions that inevitably bring about new ways of reading. The use of e-books, learning sticks for game-like language training or vocabulary work (e.g. tiptoi®), interactive board games with online applications (e.g. smartPLAY) and multimedia books (e.g. LeYo!) also develop various reading skills. In this respect, picturebook applications (e.g. *The Cat in the Hat* (Dr. Seuss, 2010)) seem to be especially rewarding. They are available for tablet use and add to a quality of interaction which has been unparalleled so far. With functions like "Tap a paragraph to hear it aloud" and "Tap on pictures to learn words" (Al-Yaqout, 2011, p.70), learner-centeredness and independent study in class can be more easily achieved. Barring the costs for electronic devices like tablet computers, such formats may offer rich stimuli for language learners and account for the development of different 'modes' of reading.

New ways of wreading and mediating

The transformation in the modes of communication involves changes in teaching. Moreno and Mayer (2007, p. 321) note that visual and interactive modes of representation provide visualization of complex issues and foster learning by doing. In the same breath, they propose five principles for technology-enhanced learning arrangements. Here, the focus is set on "Guided activities", "Reflection" of solutions, explanatory "Feedback", individual "Pacing", and "Pretraining", the activation of pre-knowledge (Moreno & Mayer, 2007, p. 316). Mayer (2014, p. 346) summarises that learning in multimedia settings is purposeful when "the learner's cognitive load" is reduced by respective "multimedia instructional messages" and when their design raises the learner's motivation.

Reviewing case studies from Egypt, Brazil, Argentina and Turkey, Stanley (2013, p. 62), quoting Jewell (2006, p. 178), argues that the use of technology in foreign language learning fosters learner autonomy and allows student-centredness. Correspondingly, Szyska (2015, p.15) observes that multimedia use raises learners' interest in EFL. Moreover, technologies seem to be increasingly perceived as purposeful tools by the learners (Stanley (2013, p. 62). Similarly, Marzek-Stawiarska (2015, p. 53) stresses that students are motivated to work accurately and creatively in wiki projects. Focusing on the foreign language classroom, the easier access to oral and written authentic English may have a great impact on second and foreign language learners as media allow them to immerse themselves in the language to a higher extent than ever before.

This short overview has laid emphasis on exploiting media for teaching foreign languages in class as compulsory education is generally bound to regular school attendance. Concepts that go beyond the classroom in this field of education, for instance by providing blogs and tools like Moodle, Edmodo or online textbook supplements, only slowly gain momentum at school. In this respect, Hubbard and Levy (2016, p. 35) indicate to keep in mind "that the online learning environment is substantially different from – not the same – as the classroom setting".

For several years, coursebook packages have provided teachers with "integrated resources" (McGrath, 2013, p. 6). Traditional student's and teacher's books have continuously been supplemented with further resource materials such as photocopiable worksheets, CDs, DVDs, CD-ROMs, test builders or web-based platforms for individual practice. This, however, does not ensure that the teachers will tap the full potential of these resources. A glance at coursebooks reveals that explicit tasks to critically analyse visual input are scarce as activities often remain text-based. However, in modern-day textbooks pupils are encouraged to conduct internet research e.g. on their favourite pop star or band (Gerngroß et al 2013, p.11), actor or actress (ibid., p. 83), California (p.113) and a mini-project on migratory birds (p.145). Yet successfully researching relevant information implies that the learners possess pre-knowledge as to how and where to detect the required information and how to evaluate their findings. In addition, internet research in the foreign language issues an enormous challenge to beginner English language learners. Furthermore, different media require particular skills. Pettersson (1994, p.220) references that depending on the medium used, the set of abilities needed for making meaning varies. Thus, when learners are asked to 'wread' it is advisable to familiarize them with adequate strategies.

The term ‘wreading’, a contraction of the words ‘writing’ and ‘reading’ coined by Landow (1994), originally refers to reader-authors interacting via the World Wide Web. Moreover, the expression also applies to reading hypertext when users decide which information, parts of texts or links they choose and thereby create their individual texts when reading online. Particularly learners of English as a second or foreign language need to be equipped with strategies for evaluating and using online texts (Walz, 2001; Murray & McPherson, 2004; Murray, 2005; Bailly et al, 2008) or visuals (Sutherland-Smith, 2002) in the target language as they seem to lack applicable skills in these areas. Accordingly, Shetzer and Warschauer (2000) recommend an approach which combines electronic literacy with English skills.

As a consequence, teachers need to be well aware of tools (for a collection see the ICT Rev initiative (2004) launched by the European Center for Modern Languages) and strategies to develop tasks. Additionally, they also have to keep up with changes in modes of reading or navigational skills due to the progress of technology. Teachers also have to cater to their pupils’ necessary pre-knowledge when providing computer-based assignments (Luzón, Ruiz-Madrid & Villanueva, 2010).

With regard to technology-enhanced learning, Luzón and Ruiz-Madrid (2010, p.160-161) stress the necessity of integrating “collaboration, interaction and the development of high-order capabilities of information management” in second language teaching. This is necessary in order “to manage complexity in terms of multigenericity, hybridism, multisemiotics, multifunctionality and interactivity”. Therefore, training in “linguistic and semiotic skills” and “information elaboration and management skills” (ibid.) is proposed. Contextualized authentic tasks, rich high quality resources and scaffolding are mentioned as key principles to accomplish these tasks (ibid. p.162-169).

The use of ICT in class promotes a development in which the role of the teacher is shifting from teaching to assisting pupils with learning more quickly than ever. This development has been increasingly observed in the last few decades (Fendler & Gläser-Zikuda, 2013). Gradually, the role of the teacher is being redefined. He or she is now a coach as well as an instructor of strategies, a facilitator of learning, a designer of learning arrangements, an observer and a supporter. In lieu of permanently teaching content, the teacher’s main tasks are supporting the learners’ individual needs and fostering their autonomy (da Rocha, 2015). Consequently, one question that remains to be answered is whether the current teacher education programmes and their instructors are prepared for this imminent task.

CONCLUSION

In 2010, a *Study on the Impact of ICT and New Media on Language Learning. European Commission* investigating the topic in Cyprus, Finland, France, Germany, Hungary, Spain and the UK concluded that “[p]edagogical applications do not keep pace with and are not integrated into technological innovation and change. Educators are often resistant to using technologies which do not reflect what they consider to be current pedagogical best practice” and that the “application of new technologies in learning implies fundamental changes for the role of the teacher. These changes are often not addressed in professional training programmes or in continuing professional development” (Stevens, 2010, p. 94). In

2013, Stanley attested that "[i]n many cases, […] this training is not given, and more likely than not, teachers are left to their own devices. More and more, it is a certain type of individual teacher who takes the initiative and implements technology into their classrooms" (Stanley, 2013, p. 46). Thus, the "so-called "digital divide" is as much a literacy issue as an economic one" (Pegrum, 2009, p. 4).

Consequently, a development of technology standards for language teachers has taken place in recent years (Healey et al 2011; Hanson-Smith, 2016; Kessler, 2016). Kessler (2012, p. 4; 2016, p. 64) proposes an abundance of basic skills for computer-assisted language learning such as including the ability to locate, evaluate and select information, to distribute material and integrate it into a language lesson. Advanced skills include, for example, creating, customizing and converting media formats (ibid.). Healey and colleagues have worked on TESOL (Teaching English to Speakers of Other Languages) Technology Standards for students and teachers (2008; 2011) referring to basic skills in the use of technology, the integration of pedagogical knowledge to foster language learning with technology, its application in feedback and evaluating and its options to enhance communication and co-operation (Healey et al 2008: 29-41). However, as Kessler (2016, p. 65) points out, "[t]here is no consensus regarding the tools and resources that teachers should be required to know. In fact, with the wide variety of tools available […] it is likely that no two teacher preparation programmes are preparing teachers to use the same tools". Nevertheless, the TESOL Technology Standards provide a profound set of criteria that can be adopted as an underlying framework in foreign language teacher training.

Ideally, foreign language teachers have a broad range of approaches and methods at their disposal. Their range of choice in methods depends on the available technological equipment in the classrooms. Albeit endeavours to acknowledge the importance of media education in the curriculum design of teacher training in Austria, the amount of courses pertaining to this matter is still low. This is especially surprising as media education constitutes an integral part of all school subjects. Despite the fact that training in this area has gained ground within the last few years it seems that the potential of using ICT is still only on the verge of being discovered. It is to be feared that as long as topics like the use of technology or inclusion are labelled cross-cutting issues in teacher education, there will be a lack of institutional commitment. The lack of in-service teachers' technological know-how is proof that measures must be included in postgraduate training more vehemently. Or, as Dooly (2008, p. 23) so succinctly states, "[i]f we are truly interested in preparing our students to be responsible citizens in an increasingly technologically advanced society, then our way of teaching our students must reflect this".As far as didactics is concerned, the use of multi-media tools can successfully foster learner autonomy in and outside of the classroom (Luzón, Ruiz-Madrid & Villanueva, 2010; Godwin-Jones, 2011; Kelland, 2013). Besides, it vitally enhances learners' exposure to the target language. Nevertheless, handling a suitable program or application seems to be less of a challenge than dealing with the content, particularly in a foreign language. Hence, the teacher's responsibility for providing manageable material increases as soon as he or she adds to nationally approved and board certified teaching materials like coursebooks and online supplements. With regard to that, Godwin-Jones argues that many virtual learning environments are teacher-centred (Godwin-Jones, 2011, p.5) as it is obviously the instructor who selects and provides

the material, not the learners. In addition, the mere provision with blended learning facilities does not automatically enhance media literacy. In order to successfully master virtual learning environments, the development of visual and information literacy is crucial and has to be practised. As the graphic novel project described above has shown, a closer inspection of new forms of representation is necessary to be able to decode ever-changing modes of depiction. Likewise, the importance of English for understanding the tantamount resources available has increased dramatically. As far as competences are concerned, a cooperative approach that values diverse types of literacy assures that multi-skilled pupils will meet the challenges of modern life by drawing on all available resources. Whatever medium is involved, the content has to become accessible for the users. In this respect, literacy refers to understanding both texts and images.

When it comes to teacher training, institutionalized programs with their often rigid structures cannot keep up with the speed of technological development. Indeed, on the brink of an image-based era, society has to rethink the role and responsibility of schools and the contents, or rather, strategies that ought to be taught. These imply concepts to choose and discard, evaluate and reflect, analyse and create. Nevertheless, and it bears repeating, pupils have to understand what they are dealing with, which is true for every format. Keeping this in mind, student teacher training faces the challenge of raising students' awareness for including media education in their future teaching. Hopefully, prospective teachers will be equipped with respective skills for analysis and task development to facilitate visual literacy.

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