# 12 Media-Assisted Foreign Language Learning—Concepts and Functions



Whether media for entertainment, communication or distribution, analogue or digital learning materials, textbooks and digital multimedia that accompany textbooks or textbook-independent educational applications (apps) for smartphones—materials and media are an essential part of a contemporary communicative foreign language classroom. They offer diverse opportunities to enrich foreign language teaching and learning processes. Keywords like e-learning and blended learning, digital game-based learning, mobile-assisted language learning, big data and learning analytics are current media developments and trends. On the one hand, one often finds pedagogic-normative statements concerning the value, chances and risks of media; empirical research into details and interrelationships of their use, on the other hand, often fall short.

The goal of this chapter is to highlight the functions, quality criteria, applications and effects of different media in diverse foreign language teaching and learning processes and, ultimately, to allow insights into processes of mediating and constructing knowledge, as well as competence acquisition, in media-supported foreign language learning scenarios.

After an introductory analysis of central concepts in the context of teaching with media and a discussion of various concepts of literacy, the central part of this chapter focuses on the roles and functions, as well as the concrete applications of different media in the modern foreign language classroom. In order to understand the curricular and pedagogic implications of media-assisted foreign language teaching, basic definitions of types of media and their functions, including a historical overview of media development, will be presented. Particular attention will be given to the textbook as a central medium within a multimedia system of both analogue and digital media. A number of practical coursebook scenarios are presented in order to exemplify blended learning. The final subchapter deals with current technological and pedagogical trends and developments, focussing mainly on mobile-assisted language learning, big data, learning analytics and digital gamification. The subchapter on mobile learning reflects on how smartphones and tablets have changed the way we learn a language, discussing the communicative and interactive functions of apps. The learning analytics subchapter tries to find answers to numerous questions concerning privacy, profiling, information-sharing, data ownership and the improvement of the learning experience. Finally, the digital gamification subchapter presents a brief histor-

ical overview of learning games, presenting the stages of gaming development up to the 21st century gaming industry.

## 12.1 | Basic definitions

### 12.1.1 | Media in foreign language pedagogy

Definition

> Media can be defined as the means by which information is conveyed from one place to another. »The most obvious characteristic of a medium is its technology: the mechanical and electronic aspects that determine its function and, to some extent, its shape and other physical features. These are the characteristics that are commonly used to classify a medium as a television, a radio, and so on« (Kozma 1991, 180).

In the past centuries, various forms of media have been used to convey instruction and support learning. In the area of foreign language learning, the use of media as a method for the acquisition of knowledge and foreign language skills has an equally long tradition. Depending on the technical capabilities and their relation to the dominant learning-theoretical approaches of the time, the use of media and the related goals have historically been integrated in different ways (cf. also chapter 1 in this volume). While textbooks and the chalkboard have a several centuries-long tradition as central media in the foreign language classroom, foreign language teaching and learning processes have undergone an enormous medial expansion, especially subsequent to the heyday of the audiolingual method in the 1950s and 1960s (cf. De Cillia/Klippel 2016).

The audiolingual method focused on bringing native speakers as role models into the classroom through **auditory media** like records and tape recordings (for example radio reports, communicative situations) and the ability of those media to offer input unlimited to learners. Dominant activities consisted of pattern drills based on imitation and repetition; and technologically elaborate environments of language labs were created for learners to train **listening comprehension** and **speaking**. Besides realia, typical **visual media** in the audiolingual framework were paintings (with keywords or line-drawings), flashcards, pinboards, murals, pictures, slides, later transparencies for overhead projectors (OHPs), film and television. The underlying teaching principle called for connecting language to visual material whenever possible. The technical cost and effort of providing and combining numerous audio and visual media and devices in the foreign language classroom were extremely high. While individual media had to be used additively in this **analogue multimedia system**, digital technology has created new opportunities to reduce the number of needed devices over time.

**Technological shifts:** With computers, smartphones or tablets, individuals today have control over multimedia devices, which, as media of





presentation, information, communication, practice and entertainment, combine different functions that are especially relevant for foreign language learning. In this context, Grimm et al. (2015, 204) point to a »three layered function [of media] as teaching and learning aids, as communicative tools, and as subjects of reflection«. As a result of the rapid technological developments, an increasingly **digital multimedia system** has emerged out of the analogue multimedia system—a shift which should contribute to a competence-oriented, communicative and more motivating English learning environment. Next to print textbooks as the central medium (available also as e-books), in some cases up to 30 accompanying media are offered as educational packages for formal instructional settings, from classical workbooks to vocabulary apps, learning software on CD-ROM, digital lesson planners, Internet exercise platforms and slides for the interactive whiteboard. In addition to this are materials and media that are independent from textbooks, such as foreign language newspaper websites or news portals, blogs, social media sites, messengers (e. g. WhatsApp) or utility apps (for example for creating animations or film), all of which extend today's foreign language classroom medially (cf. Funk 2016). Questions concerning the appropriate digital infrastructure of the classroom to support learning—from laptop-classes to bring-your-own-device solutions (cf. Heinen 2015)—should be examined carefully and different approaches should be researched to determine whether and how media can increase learning quality.

Multimedia: In general, foreign language learning today has been greatly enriched by multimedia. However, the concept of multimedia is increasingly becoming an overstretched buzzword and umbrella term for every form of integration of media. For a differentiated description of the technological characteristics of multimedia in the fields of information and learning, for example foreign language learning apps, certain categories are needed (cf. e. g. Engelkamp/Zimmer 1990; Dick 2000, 90; Weidenmann 2002, 45). In this context, Weidenmann (2002, 61) recommends the description of media according to three dimensions:

- the **technological medium in-use**: e. g. book, DVD, computer, smartphone, tablet
- the **coding forms for information** in different symbol systems: monocodal (e. g. for only text or only audio) or multicodal (e. g. for text combined with images, animations or audio files)
- the **required sensory modalities**: monomodal (e. g. only visual or only auditory) or also multimodal (especially audiovisual)

Interactivity: Next to multicodality and multimodality, interactivity represents a further, if not the most important component of educational multimedia use. Media are labelled as interactive when there is a possibility of a reciprocal, dynamic exchange between the user and the media. Here it is important to differentiate between navigational interaction and didactic interaction (cf. Haack 2002):

Definition

**Navigational interaction** describes the possibility of intervention, navigation and adjustment that the user can carry out (e. g. the choice and adjustment of content, choice of the order of activities). **Didactic interaction** comprises aspects such as the analysis of user-behaviour and the corresponding programme reaction (e. g. feedback, adaptivity).

## 12.1.2 | Multiliteracies and digital literacy

The term ›literacies‹ has been intensively discussed among language teaching experts, and the literature offers a myriad of various conceptualisations. However, a certain consensus can be identified. Literacy, or literacy education, implies the process of learning in different contexts (homes and communities) and an acknowledgement of the screen as a dominant text structure (cf. Rosswell/Walsh 2011, 53). As a result, a discussion about new literacies has emerged. New literacies are multiple and demand various modes. Among these, the multiliteracies pedagogy developed by the New London Group (1996) claims that »[...] the screen governs our understanding of the world and curricula need to reflect this dramatic shift in our ideological and interpretative frame« (quoted in Rosswell/Walsh 2011, 56). It is obvious that the screen and—to a certain extent—digital environments are recurring conceptual patterns within the academic and practical discourse of multiliteracies. Therefore, the focus here is on digital literacies, especially within an ELT-context. Although both teachers and learners should be digitally-literate, considering the target group of this book (mainly student teachers), the main focus in this chapter will be on **digital literacy teaching skills** and their potentials. The use of digital technologies for educational purposes has initiated a discussion among experts and practitioners on what digital skills actually are. While there is a wide range of various definitions, coinages and contexts, the focus here is on digital literacy skills for teachers as defined by the *Virtuelle PH (*2006):

**Digital literacy skills for teachers:** Before their studies begin, pre-service teachers should already have digital skills from section:

A **Digital literacy skills and IT-knowledge:** This knowledge includes knowledge about IT, humans and society, IT-systems and applied IT.

During and after their studies (in the first five years of teaching), pre-service teachers should be taught the following sections:

B **Digital life:** teaching with digital tools, questions of digital ethics, digital inclusion, etc.

C **Designing digital materials:** design, adapt, publish digital teaching material, copyright issues, creative commons, OERs, etc.

D **Teaching and learning with digital media:** plan, implement and evaluate teaching and learning processes with digital media and digital learning environments; digital assessment, feedback, safer Internet

E **Teaching and learning with digital media in the subject:** subject-related/specific use of contents, software, media and tools





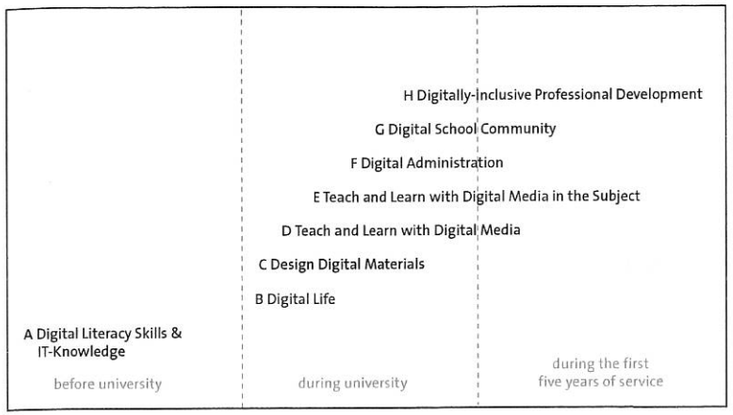



Illustration 12.1: digikomp: digital literacy skills for teachers (VPH) http://www.virtuelle-ph.at/digikomp/

F **Digital administration:** efficient and responsible use of pupils' data, digital registers, digital pupil administration

G **Digital school community:** communication and collaboration within the school's community and beyond

H **Digitally-inclusive professional development:** continuing professional development in the field of digital literacy

This model shows that digital literacy skills for teachers are more than simply IT-skills, like working with text-processing software or competently selecting hardware and software. The approach considers the acquisition of various general, interdisciplinary and subject-related digital skills as a continuous process in the career of a pre-service and early-career teacher. The following chart provides practical examples of digital literacy skills for an EFL (pre-service) teacher:

| Section | Description | Activity |
|---|---|---|
| A | digital literacy skills and IT-knowledge | e. g. how to use laptop/tablet and projector to show L2-videos |
| B | digital life | e. g. discuss questions of data privacy (as a topic in the EFL classroom) |
| C | design digital materials | e. g. create interactive quizzes for the EFL classroom (crossword, cloze, millionaire game, etc.); design digital handouts with Evernote |
| D | teach and learn with digital media | e. g. create a lesson plan with cloud-based applications like Evernote, Google Drive, etc. in order to have ubiquitous access to materials |
| E | teach and learn with digital media in your subject | e. g. use interactive EFL websites, like http://www.lessonstream.org |
| F | digital administration | e. g. use digital grade sheets for your students (automatic algorithms, formulas, scoreboards, etc.) with Evernote, Google Drive, etc. |
| G | digital school community | e. g. use a learning management system like Moodle to communicate with pupils and parents |

Table 12.1: Digital literacy skills in the EFL classroom

## 12.2 | From textbooks to multimedia learning environments

### 12.2.1 | The historical development of media-assisted foreign language learning

Media have always been an essential part of foreign language teaching and learning. Whether it is a magazine article, a short video, an audio snippet or a passage from the textbook, one purpose of incorporating media in the EFL classroom is to exploit the full potential of multisensory methods. Furthermore, Chan (2011, 132) observes that »media are essentially realia to be brought into a classroom from the outside world in an attempt to make language activities appear more realistic, more interactive, and therefore, more meaningful«. Since the 15th century, the following developments have taken place in the context of media-assisted (language) teaching and learning:

| Media type | Media category | Since |
|---|---|---|
| textbook | visual | 15th century |
| blackboard | visual | 16th century |
| picture/photography | visual | around 1800 |
| overhead projector (OHP) | visual | 1870s |
| radio | auditory | end of 19th century |
| TV | audiovisual | 1950s |
| CD | auditory | 1980s |
| CD ROM | audiovisual and interactive | 1980s |
| DVD | audiovisual and interactive | 1990s |
| multimedia projector | visual | 1990s |
| computer | audiovisual and interactive | 1980s |
| MP3 | auditory | 1990s |
| smartphone | audiovisual and interactive | 2000s |
| tablet | audiovisual and interactive | 2010s |

Table 12.2: Technical development of media types in the ELT classroom

The chart above shows that media systems (*Medienverbünde*) have existed for a long period of time. Up to the early 2000s, the focus has been on using analogue media in classroom teaching. Since then, more and more digital technology has been incorporated into the foreign language classroom. The use of the computer in the language classroom has initiated digital teaching scenarios: **computer-assisted language learning** (CALL). The development of CALL can be divided into three phases: behavioural, communicative and integrative CALL (cf. Akcaoglu 2008).

**Stages of CALL:** The first CALL scenarios (1980 to mid-1990s) typically consisted of grammar handouts performed on the computer (kill and drill handouts). The second wave (from mid-1990s to 2000s) of computer use »has gained power with the help of the World Wide Web« (Akcaoglu 2008, 1). Due to the large amount of accessible information, teachers were able to create more contextualised, authentic and meaningful tasks, such as e-mail projects or webquests, that increased interactive performance (e. g. online research, curation of digital content) and authentic interaction with learners from around the world, including the multi-faceted implications of intercultural competence (cf. O'Dowd 2007; cf. also chapter 9 in this volume). The latest CALL stage (starting from the 2000s) focuses on integrating the four skills ›reading‹, ›listening‹, ›speaking‹ and ›writing‹ (cf. chapters 6 and 7 in this volume) within an explicitly interactive and collaborative context by using multisensory Web 2.0-tools and educational applications, such as mind mapping, brainstorming or collaborative text writing tools.





| CALL stage | | Example |
|---|---|---|
| behavioural | 1980–mid 1990s | e. g. drill grammar exercises with Word |
| communicative | 1990s–2000s | e. g. webquests, e-mail projects |
| integrative | from 2000s | e. g. collaborative storytelling with cartoon applications |

Table 12.3: CALL-development

Regardless of the technical development, whether analogue or digital, the benefits of media in the EFL classroom can be summarised as follows (cf. Knill 2007, 2) and will be discussed in more detail in the next subchapter:

| Substantial benefits | Example |
|---|---|
| shaking up old paradigms | reducing frontal lessons by using collaborative media like digital mind mapping applications (http://www.padlet.com, http://www.bubbl.us, etc.). |
| explaining things better | using visualisations in order to understand lexical items (OHP, multimedia projector) |
| tackling real life problems | using newspaper articles with currents topics, teenage topics, etc. |
| adding a discovery component | using the Internet to do some research about a certain topic; extend topical knowledge |
| breaking the monotony of a lesson | using motivational and highly dynamic digital tools, like Kahoot (http://www.create.kahoot.it), in order to leave the sometimes monotonous learning space of the textbook |
| using audiovisual channels | using songs and videos about a certain topic (e. g. Jay-Z' and Alicia Keys' »Empire State of Mind«: topic New York) in order to teach intercultural and listening/viewing skills |
| sharing teaching tools with other teachers | using Evernote, Dropbox or OneNote to share handouts, exercises and useful links with teacher colleagues |
| better organising a lesson | using text processing software or note software to organise a lesson more effectively (embed links, handouts, downloads, timing, etc.); using bookmarking apps to save/archive/curate useful teaching material |
| increasing students' engagement | learning stations with CD/mp3 islands (*Offenes Lernen*) |

Table 12.4: Substantial benefits of media in the EFL classroom

## 12.2.2 | Media pedagogy and media didactics in the EFL classroom

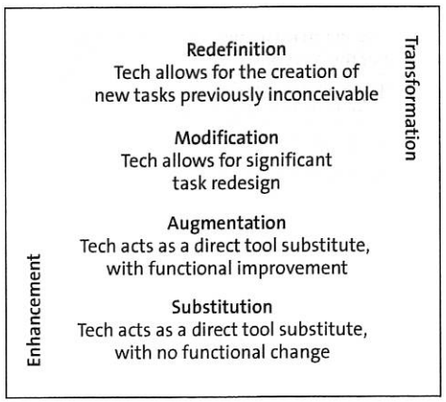
Getting rid of technological determinism: The media-assisted language classroom has developed from teaching with books, images, audio and videos to teaching that adopts a multisensory approach by additionally incorporating digital technology. However, in the contemporary EFL classroom, the emphasis should not be solely on the tool itself, but rather on how these tools can be methodologically exploited in order to achieve a learning goal (cf. Strasser 2012a; 2012b; 2015). Therefore, a closer look at the rather recent concept of media pedagogy is required (cf. Grimm et al. 2015, 199).

Media pedagogy consists of four subcategories:

- **Media education** is concerned with ways of using media sensibly. It is centred on enabling individuals to reflect critically on their use of media.
- **Media didactics** is concerned with the functions, effects and forms of utilising media in teaching and learning scenarios. It aims at improving and optimising teaching and learning processes and the facilitation of self-directed acquisition of knowledge and competences.
- **Media studies** imparts knowledge about all media across the media repertoire and basic technological competences. Foci include historical developments relating to media, legal issues (e. g. data protection), media monopolies, the power of the media, etc.
- **Media research** entails the analysis and exploration of issues pertinent to media education as well as to media socialisation across all age groups. Foci include media use in everyday life, the impact of different media, reception habits, media and gender, etc.

The emphasis in this subchapter will be on media didactics, more specifically, on digital media, since the latest developments address the use of digital technology within the context of the EFL classroom (cf. Strasser 2012b; Stanley 2013; Martín 2015). In order to provide a smooth conceptual and applicative transition from analogue teaching to the additional, symbiotic use of digital media in the foreign language classroom, Puentedura's (2010) SAMR model is briefly discussed.

Illustration 12.2: SAMR model (Puentedura 2010)




The SAMR model aims at convincing teachers in favour of analogue teaching of the benefits of digital technology.

- The **substitution level** addresses the possibility of digital technology replacing analogue media (e. g. the use of computers instead of typewriters, etc.). The simple replacement does not automatically imply an improvement; however, it refers to the change of the medium due to societal changes (cf. Golumbia 2014).
- At the **augmentation level**, an improvement of teaching and learning performances due to digital media is discussed, where digital facilitators such as spellcheck, hyperlinking or sharing of digital artefacts are listed.
- The **modification level** implies the potential of continuous development of digital artefacts, i. e. that certain digital texts (blog entries), etc. can be given feedback to, commented on and changed by the teacher and learner.
- Tasks that would not be possible without technological support are part of the **redefinition level**: instead of writing essays, learners pick digital storytelling tools (cartoon apps, etc.). One obvious advantage is the visualisation of complex contents.





To sum it up, this model serves as a rather simple but coherent approach developed in order to implement certain **blended learning** scenarios in a relatively techno-critical lesson. The teacher can start at a very low level (e. g. substitution) and gradually increase the degree of technology integration when creating specific tasks for the EFL classroom:

| Level | ELT Scenario | Tools |
|---|---|---|
| **Redefinition** | Teacher lets students create cartoons or digital stories (instead of written texts on paper). | http://www.makebeliefcomix.com, http://www.animoto.com |
| **Modification** | Teacher uses a learning management system like Moodle forum or Wiki, so that students can interact with their peers. | http://www.wikispaces.com, http://www.moodle.org |
| **Augmentation** | Teacher shares grammar handouts or online newspaper articles with URL-shorteners instead of handing out copies or writing down links on the blackboard. | http://www.bit.do, http://www.tiny.url |
| **Substitution** | Teacher uses multimedia projector instead of OHP. | YouTube, mind mapping applications, etc. |

Table 12.5: The SAMR-approach within an ELT context

## 12.2.3 | Using modern coursebooks effectively

When speaking of media-assisted language learning and teaching, one has to consider that digital technology has played a dominant role within the last years. This, however, does not mean that analogue media should be avoided altogether because, in reality, the analogue textbook is still a vital part of the EFL classroom (cf. Harmer 2015; Ur 2012). Therefore, the approach here focuses on how the analogue medium of the textbook can be supported with media-enriched content within a symbiotic framework, so that digital media *per se* is not perceived as the motivational ›treat‹ but a methodologically-enhanced part of the whole lesson (inside and outside the classroom). In order to understand how analogue and digital media can be applied in a classic textbook-oriented EFL lesson, the

following evaluation criteria for teachers using an EFL textbook should be considered (cf. White 2013):

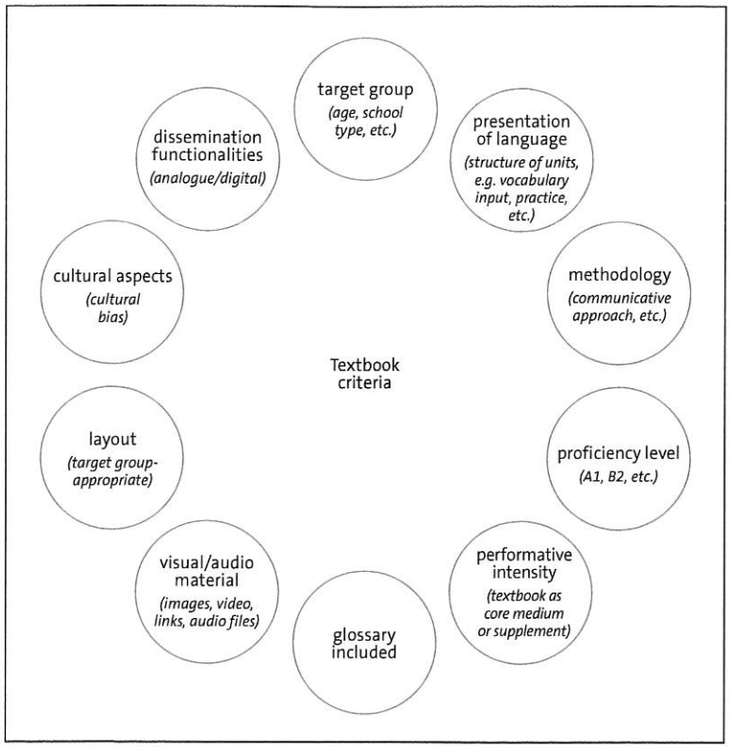



Illustration 12.3: Textbook criteria (based on White 2013, adapted by authors)

**Textbook criteria:** Illustration 12.3 shows how a textbook responds to versatile demands. In the EFL classroom, coursebooks are a relevant aspect of the curriculum and can act as a teacher's GPS through mandatory topics. O'Neill (1982, 111) presents four justifications for using coursebooks:

- A great amount of the coursebook's material meets the students' curricular needs.
- Students have the chance to »look ahead« or »refresh their knowledge with past lessons«.
- Coursebooks imply the »practical aspect of providing material which is well-presented in inexpensive form«.
- Well-designed coursebooks »allow for improvisation and adaptation by the teacher, as well as empowering students to create spontaneous interaction in the class«.

**Adaptive learning with EFL coursebooks:** These beneficial aspects of a coursebook have to be seen in the light of how teaching professionals use the coursebook in their classroom. O'Neill (1982, 111) emphasises that





»coursebooks should be accessible to a variety of students, regardless of their learning goals, as well as being adaptable to the diversity of teachers and teaching styles«. Coursebooks, however, should not only be adaptable to the teacher's, but also the learner's, needs. Therefore, adaptive learning, which is often embedded within an additional digital context, plays a considerable role for textbook design, especially for teachers who like to design additional material (cf. Sercu 2000 qtd. in Grimm et al. 2015, 249). Learners and teachers should also be able to pick elements of a unit, adapted to their personal performative needs. This is rarely possible with printed textbooks but would be possible with methodologically well-developed digital components. Experts (Swales 1980; Nunan 1991; Medgyes 1994 qtd. in White 2013) agree that »heavy dependence on a single [printed] coursebook is detrimental to students' needs, and that adaptability and supplemental materials are supportive additions« (Medgyes 1994 qtd. in White 2013, 1). The potential of digital technology as an essential multisensory extension to the textbook can be exploited in particular when considering the following disadvantages of a printed textbook (cf. Cunningsworth 1984, 3):

- There can be a lack of variety in teaching procedures.
- Innovations toward individual student's needs are reduced.
- Spontaneity and flexibility are diminished.
- There can be a lack of creativity in teaching techniques and language use.

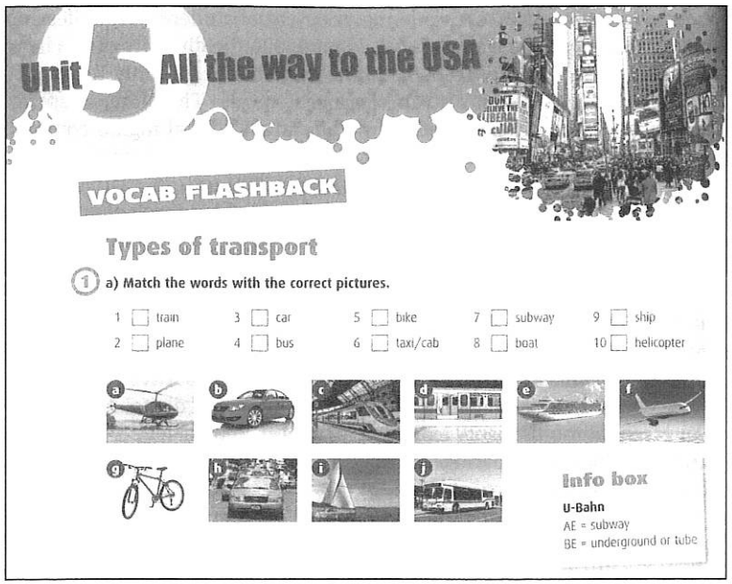
Especially in the fields of variety of teaching procedures, individual students' needs, as well as flexibility and creativity, there is a large number of digital tools and materials that makes these flaws seem inconsequential. Furthermore, »digital technologies and applications may also help to make materials more appealing or to design and work on motivation tasks online« (Grimm et al. 2015, 257).

## 12.2.4 | From textbook exercises to digital learning

The following scenario illustrates how a printed textbook and digital tools can be meaningfully integrated in the EFL classroom.

In this unit (5th year of English, B1 level), students are asked to match words with pictures. This activity is supposed to be a lexical warm-up task, enabling students to review or acquire topic-related vocabulary, including contextualised sentences (cf. illustration 12.4).

However, the lexical competence of students may vary. The textbook offers neither individualisation nor flexibility, and the author assumes a certain homogeneous lexical repertoire amongst students. In this case, digital technology can enhance the learning experience and remedial or initial lexical acquisition performance.



Unit 5 All the way to the USA

VOCAB FLASHBACK

Types of transport

1 a) Match the words with the correct pictures.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | ☐ train | 3 | ☐ car | 5 | ☐ bike | 7 | ☐ subway | 9 | ☐ ship |
| 2 | ☐ plane | 4 | ☐ bus | 6 | ☐ taxi/cab | 8 | ☐ boat | 10 | ☐ helicopter |

Info box

U-Bahn
AE = subway
BE = underground or tube

Illustration 12.4: Example from *TOP SPOT: English for PTS*, an Austrian textbook (vocational school, 5th year of English). Topic: Travelling (Puchta/Strasser 2016, 52)

**2 Fill in the missing words from the box. There is one word that you should not use.**

train bus plane bikes taxi cabs motorcycle subway boats ships helicopters

Stuart and Mildred always wanted to visit America. They finally decided to take a weekend trip to New York City. Getting to the airport by road would take too long, so they ordered a [1] ..... to take them to the local [2] ..... station at 6:45 a.m. on Friday morning. They arrived at Heathrow Airport two hours later. The [3] ..... to JFK New York took off on time and eight hours later they were on the 40-seater [4] ..... taking them directly from the airport through the streets of Manhattan to their hotel. They thought it was amazing to see so many yellow taxi [5] ..... amongst the city traffic with courier riders on their [6] ..... speeding between the cars. Above them they could see several [7] ..... landing on the tops of skyscrapers. The next day

Illustration 12.5: Using vocabulary with contextualised sentences (Puchta/Strasser 2016, 52)

Example

## Vocabulary learning

By using **multisensory flashcards** (with audio and images) and motivating quizzes, the learners can improve their lexical knowledge. The application **Quizlet** (http://www.quizlet.com), which works on PC, smartphone and tablet, helps learners create digital flashcards for personal use, where students can add additional topic-related vocabulary that is not included in the textbook. One of the main advantages of Quizlet is that new words that are learned in the classroom can immediately be added in the app. Compared to the traditional vocabulary notebook, Quizlet is mobile and, furthermore, the teacher can create a lexical unit inventory and let students participate in collaborative quizzes.





In the next example, a classic textbook matching exercise is supplemented with collaborative, individual and creative methodological design:

**2 a) At the airport Peter sees a lot of airport signs. Study the signs and guess what they mean.**

| | | | |
|---|---|---|---|
| 1 | [J] restrooms | 6 | ☐ restaurant |
| 2 | ☐ departures | 7 | ☐ duty-free store |
| 3 | ☐ post/mail | 8 | ☐ lost luggage |
| 4 | ☐ arrivals | 9 | ☐ Wi-Fi hotspot |
| 5 | ☐ baggage claim | 10 | ☐ information desk |

Illustration 12.6: Example from an Austrian textbook (vocational school, 5th year of English). Topic: Travelling/at the airport (Puchta/Strasser 2016, 53)

In this exercise, students become acquainted with frequent travel-related vocabulary (here: airports) by matching symbols and signs with the correct words or by filling in adequate words in a contextualised sentence (cf. illustration 12.7).

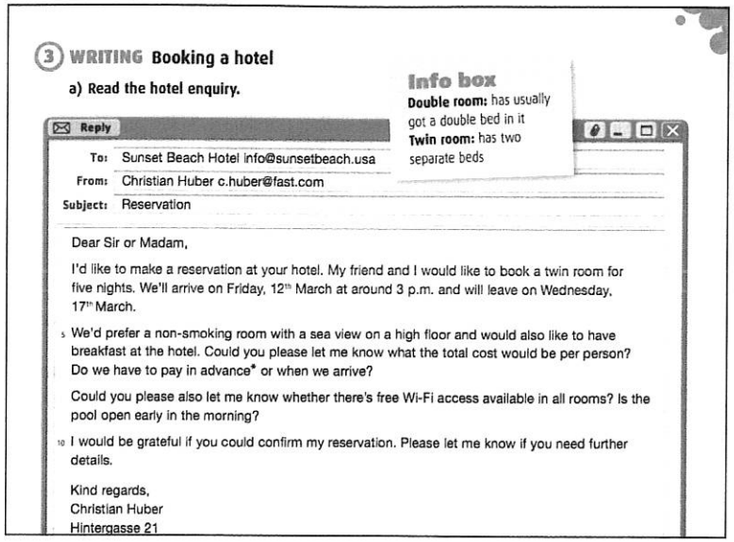
**b) Match some of the signs with the sentences they refer to.**

1 [d] Our plane leaves at 3 o'clock in the afternoon. The gate opens at 1:30 p.m.
2 ☐ The plane is expected to land at 2:15 p.m. We will wait for Aunt Suzie and surprise her.
3 ☐ We got through passport control quite quickly, but we had to wait for our bags for more than half an hour.
4 ☐ Wow, this store has a lot of cheap products without tax.
5 ☐ There's a café over there where you can go online for free.
6 ☐ This is where you can find out all about the airport (gates, shops, public transport, etc.).

Illustration 12.7: Using vocabulary with contextualised sentences (Puchta/Strasser 2016, 53)

Digital collaboration: In order to extend the airport vocabulary and practise contextualised sentences, the digital application **Padlet** (http://www.padlet.com) can be used. Padlet is a digital collaboration surface, which works on all kinds of devices. On this virtual wall, students can collaboratively add airport images and related vocabulary, and build contextualised sentences to strengthen the unit's required vocabulary. The advantages compared to the analogue medium are obvious: students and teachers can easily add various related media and collaboratively build adequate discursive elements during the lesson or outside the classroom. The fact that the medium is accessible wherever the students are is of great value to the lesson design outside the classroom. In case the activity is not finished during the lesson, the teacher can tell the students to continue with their ideas as homework.

Edu-App criteria: Based on the sample e-mail in illustration 12.8, students are asked to write a hotel enquiry as homework. In order to intensify the experience of collective intelligence, the application **Edupad** (http://www.edupad.ch) can be used. This app allows students to collaboratively create a hotel enquiry using the words, phrases and grammar learned in class. One of the major advantages is that students can benefit from the expertise of others, increasing the chance of creating a structurally coherent and lexically adequate text. Moreover, the teacher can give



③ **WRITING Booking a hotel**

**a) Read the hotel enquiry.**

**Info box**
**Double room:** has usually got a double bed in it
**Twin room:** has two separate beds

Reply

To: Sunset Beach Hotel info@sunsetbeach.usa
From: Christian Huber c.huber@fast.com
Subject: Reservation

Dear Sir or Madam,

I'd like to make a reservation at your hotel. My friend and I would like to book a twin room for five nights. We'll arrive on Friday, 12th March at around 3 p.m. and will leave on Wednesday, 17th March.

We'd prefer a non-smoking room with a sea view on a high floor and would also like to have breakfast at the hotel. Could you please let me know what the total cost would be per person? Do we have to pay in advance* or when we arrive?

Could you please also let me know whether there's free Wi-Fi access available in all rooms? Is the pool open early in the morning?

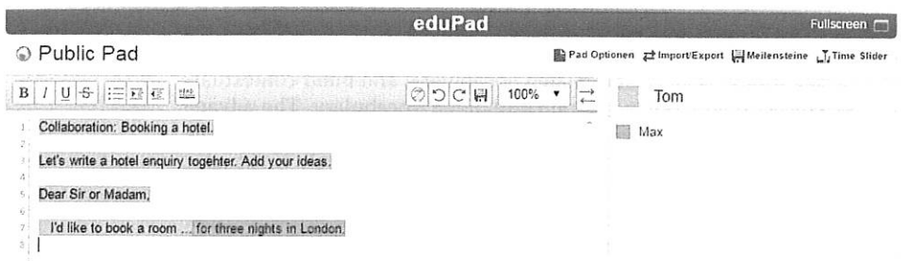
I would be grateful if you could confirm my reservation. Please let me know if you need further details.

Kind regards,
Christian Huber
Hintergasse 21

Illustration 12.8: Example from an Austrian textbook (vocational school, 5th year of English). Topic: Travelling/booking a hotel (Puchta/Strasser 2016, 55)

immediate feedback within the text or via messenger. The text can be written as homework and be compared in the classroom with the timeslider function (the process of writing can be recapped step by step and the teacher can give feedback). This application does not replace the process of writing a unit-specific text type alone, but serves as a collective and collaborative basis to acquire new expertise by benefitting from the lexical inputs of the whole class and the valuable, ubiquitous feedback by the teacher.

Illustration 12.9: Collaborative writing with Edupad




On the one hand, all the examples mentioned show that the printed coursebook itself often serves as a reliable navigation system for the teacher and learner in order to acquire syllabus-related knowledge and skills. On the other hand, certain scenarios reveal the severe limitation of coursebooks. Because learning can also take place outside the classroom (cf. chapter 13 in this volume), a methodologically coherent use of digital tools adapted to the coursebook's needs should be supported to open a temporally and spatially delimited dimension of multisensory learning. The following qualitative and performative aspects should be considered





when working with digital tools in the EFL classroom (cf. Strasser/Pachler 2014; Schmidt/Strasser 2016):

1. **Reflection:** Tools like Edupad (cf. above) help pupils and teachers reflect on a certain working process (e. g. collaboratively writing a hotel room enquiry).
2. **Modification:** Tools like Quizlet make it possible for learners and teachers to produce digital artefacts (e. g. flashcards) and adapt them to their own learning needs (e. g. extend unit vocabulary, public transport).
3. **Communication:** Communication about the learning progress is possible with tools like Edupad (e. g. learners can ask questions, their peers can answer).
4. **Multiplication:** The learning outcomes or products (e. g. airport vocabulary collage with Padlet) can easily be shared with peers or teachers (e. g. Facebook share button/link generator, etc.).
5. **Creation:** Students and teachers can easily create learning and teaching materials themselves (e. g. Padlet collage, Quizlet flashcards, etc.). They are active producers of the learning process.
6. **Collaboration:** Teacher and students actively collaborate within a digital framework in order to do unit-specific tasks (write an email enquiry together, mutually design a collage/picture dictionary related to the unit vocabulary, etc.).

## 12.2.5 | The digital coursebook

In comparison to the approach discussed above (i. e. the use of a printed textbook in combination with additional digital tools), the approach of the fully digital textbook is different. Due to the emergence of mobile devices and the growing implementation of tablets in classroom teaching, the concept of a multisensory, interactive digital coursebook has become more prominent. The digital textbook is more than just a simple digital pdf-version of the printed textbook. It includes **multi-media elements** (videos, interactive quizzes, hyperlinks, additional unit information, feedback elements, etc.) and **adaptive learning elements**, so that the learners can choose their favourite learning scenarios in order to do exercises or enhance the learning process based on their personal learning needs. When it comes to digital coursebooks in ELT, a lot of research work still needs to be done.

Digital coursebook monotony: The reason why the digital coursebook development within the context of ELT has not been extremely innovative so far is obvious: publishers want to jump on the bandwagon and are under pressure to produce digital material for schools. The result is a lack of innovation. The following chapter addresses the societal developments towards smartphone and tablet use in the classroom. The next generations of learners will grow up with digital media, and smartphones will be used for digital and mobile knowledge acquisition processes. In order to develop an authentic and methodologically-adequate e-textbook design, the idea of digitally replicating print versions must be abandoned.

## 12.3 | Current technological and pedagogical trends and developments

### 12.3.1 | Mobile-assisted language learning

By far the leading trend in media-supported foreign language learning is mobile-assisted language learning (MALL). Whether with smartphone, tablet, netbook or e-reader, our behaviour surrounding information, communication, entertainment and learning is increasingly shaped today by mobile digital devices. This applies to our free time, our work lives and our education. The number of software applications (apps) available for smartphones and tablets, for diverse purposes and target groups, is increasing rapidly. Especially smartphones, with their user-friendly interfaces and ubiquitous access, function as our personal digital control centres and assistants in many life situations. In total, there are over five million apps available to users in both the Google Play and the Apple App Store; educational apps comprise 8.48 % of this total (cf. Statista Inc. 2017).

Mobile technology

The field of foreign language learning is increasingly associated with mobile technology. Whether programmes for vocabulary and grammar training, dictionaries or tool programmes for mind mapping and designing learning plans, electronic dictionaries, podcast software and video platforms, programmes for images, audio and video recording, editing and animation, blogs, social network sites or augmented reality apps with multimedia content as supplementary to print textbooks—smartphones offer almost infinite opportunities for a diverse, location-independent, receptive and productive use of a foreign language.

Mobile-assisted language learning: The acronym MALL has been used since the mid-1990s as a subcategory of CALL and has been, in foreign language pedagogy, closely coupled with specific emerging technologies and popular forms of media usage. Since 2008, a rapid increase in MALL studies can be observed, coinciding with the emergence of smartphone technology (cf. survey studies from Burston 2013; Duman et al. 2015). While early MALL studies focused mostly on the single main function that the individual device provided, »we are starting to see more and more studies that can capitalise on the full range of multimedia tools, communication and social networking tools, and Internet capabilities that these devices possess« (Stockwell 2016, 297).

Quo vadis, MALL? It remains to be seen which digital applications and functions will change mobile foreign language learning in the future. Currently, the increasingly popular and rapidly developing functions like augmented reality, virtual reality, speech recognition, adaptivity and gamification—all concepts and application types closely related to smartphones as a central medium of access and interaction—serve as megatrends and focal points of innovation. In the future, these mobile technologies will allow for new opportunities for foreign language learning, especially through immersion in virtual foreign language worlds and cultures and through an intensification of foreign language use in diverse authentic discourses. For all types of use there remains the necessity to test exactly





how these applications can lead to a personalised, differentiated, creative and, in terms of content, diverse acquisition of different foreign language competences.

### 12.3.2 | Big data, learning analytics and personalised learning

In the field of digital foreign language teaching and learning, the buzzwords ›big data‹ (cf. Yu 2015) and ›learning analytics‹ (cf. Kerr 2016) are potentially the most meaningful areas of future research and development. In fact, the analysis of user input and characteristics of user behaviour (e. g. the number of correct or incorrect answers, the selection of tasks, the frequency and usage of help features), the availability of feedback and also software adjustments to learning paths have, for many years, been the typical characteristics of quality CALL production. In the past, however, the adaptivity of such programmes has been based on decision trees developed by programmers. User decisions, their input and selection behaviours were anticipated and furnished with corresponding software reactions (for instance, when a cloze text exercise anticipates false answers and has a supply of pre-made, corresponding feedback). In this approach, the adaptivity occurs within a limited framework and in reaction to the input of an individual user. Through technological advances in the area of online-based practice, specifically big data and learning analytics, modern applications with adaptive systems are capable of much more. Such advances can serve as potentially important building blocks in creating personalised contexts for practice. The term ›big data‹ can be characterised by the 3 Vs: the extreme volume of data, the wide variety of types of data and the velocity at which the data must be processed (cf. Ward/Barker 2013).

Learning analytics is the measurement, collection and analysis of the big data of learners using educational software (e. g. learning apps) or digital materials (e. g. electronic textbooks) in order to understand and optimize learning processes. Variables such as learner history (e. g. time spent on learning, number of repetitions, discontinuations, comparisons to previous results), outcomes, learning steps, chosen topics, frequency and types of mistakes in relation to certain activities, reactions to specific forms of feedback, etc., can be analysed in correlation to the data of users worldwide or even selected subsets (for instance the classmates of an English class or students who previously took a course). In the ideal case, improved adaptive systems are now in the position of customising individual learning paths, to select activities and topics that better fit individual learning needs and that have a suitable level of difficulty, to offer appropriate feedback and assistance and thus to create the conditions for more effective practice.

Big data and learning success: However, the danger of over-interpretation and overestimation of big data and learning analytics does exist, especially in relation to the discussion of data-driven school improvement largely going on in the USA (cf. Mandinach/Honey 2008). Learning suc-

cess is a multifaceted, multidimensional construct, which manifests itself not only through processing behaviour and the success of digital activities and tasks. Learning analytics supplement this with an informative and, for the development of quality, necessary (yet very limited) picture of the learner and learning processes that occur. At the level of the individual learner (cf. chapter 4 in this volume), a far more differentiated, holistic perspective from the teacher—one that is supported by the data collected by the system—is necessary to meet the quality expectations of adaptive, personalised learning and to choose tailored learning and support. Kruse and Pongsajapan (2013, 1) therefore call for a strong learning-centred approach to learning analytics (instead of one based on intervention) to serve (the students') learning and development, »[and] empower [...] [the students] as metacognitive agents of their own learning«. Especially when considering big data and learning analytics for foreign language learning, it should be closely observed which exercise processes are meaningfully supported, which competency developments are even measurable with which formats and whether and how, if measurable, the results can be transferred to the classroom.

Data privacy? Big data, learning analytics and ›transparent learning‹ offer, in theory, improved quality to learning and teaching processes in school, to the development of tasks, as well as to the development of educational institutions. However, despite all these opportunities, the ethical and moral dimensions of collecting and analysing digital learner data should be given serious consideration (cf. Slade/Prinsloo 2013; Schmidt 2016). Numerous questions concerning privacy, profiling, information-sharing and data ownership exist concerning how analytics relate to existing organisational systems. With respect to legal issues, it must be clearly determined and communicated which data, for which purposes and from which pre-determined users can be reviewed and analysed, which measures will be taken to protect user identity, how long the data will be stored in coordination with the established legal framework and standards and which opportunities a system offers the user to request the deletion of personal data. The opportunities and risks of data storage and analysis should be carefully balanced.

## 12.3.3 | Digital game-based language learning

In addition to the megatrends of mobile learning, big data and learning analytics, the field of digital game-based language learning (DGBLL) offers a third field of rapid product innovation destined to play a significant role in the development of media for the teaching and learning of foreign languages, as well as for the design of motivational learning environments in the future. The use of learning games, or playful approaches in general, in the foreign language classroom already has a long tradition (for an overview cf. Klippel 1980; cf. also chapter 11 in this volume). Games in the foreign language classroom, from simple vocabulary games to role-playing games, contribute to the increase of learning motivation, facilitate action-oriented practice of language skills and also allow for the





pursuit of social and affective goals through the interaction in the game. Whilst the use of digital game formats to support foreign language learning processes has been addressed in a select handful of studies in the past (cf. e. g. Hubbard 1991), foreign language pedagogy has been intensifying its work in this area over the last five years, as evidenced by new edited volumes (cf. e. g. Reinders 2012), monographs (cf. e. g. Sykes/Reinhardt 2012; Peterson 2013) and research projects (cf. e. g. Sylven/Sundqvist 2012; Schmidt et al. 2016). The establishment of this new field of research and development in foreign language learning has run parallel to a strong and growing interest in digital games, which has been observable from around 2010 onwards, coupled with rapid technological advancements:

> The globalisation of the digital gaming industry, the diversification of games into new and culturally hybrid genres, a global increase in access to broadband, and increasing numbers of non-traditional game players have precipitated a notable expansion of digital game and play activity into new contexts and applications. (Reinhardt/Sykes 2014, 2)

Categories of digital game-based language learning: It is important to draw a terminological distinction between different categories and/or approaches. **Gamification**, as one of the most frequently used labels, refers to a process which according to Deterding et al. (2011, 13) understands »the use of game design elements in non-game contexts« as part of the »socio-cultural trend of ludification«. Elements and mechanisms which are familiar to students from games, such as levels and progress bars, missions, competition (leader boards), discovery (e. g. hidden treasure), rewards systems (e. g. badges, bonus levels, virtual goods), are used outside the gaming context, in this case in the field of foreign language learning.

A cursory perusal of foreign language learning software, in the form of smartphone apps, websites or multimedia practice CDs accompanying workbooks, clearly reveals the increased use of such game mechanics. One example of gamification is the use of a digital learning management system such as Classcraft, in which everyday classroom activities are embedded in role-play scenarios and where students are rewarded for good classroom participation in the accompanying game. Whilst gamification as a process serves to describe the application of playful techniques and concepts in fields in which these methods are usually not found, **serious game** refers to the integration of educational content into a gaming context itself.

### Mission US: City of Immigrants

Example

One example of a **serious game** is the social studies game *Mission US: City of Immigrants*, in which students playing the game assume the role of Lena Brodsky, a Jewish immigrant from Minsk, Russia who arrives in the United States in 1907. As Lena, students navigate New York City at the turn of the 20th Century, work to help support her family and witness changes in the way factories operate. Originally intended to teach stu-

dents about tenement life in turn of the century New York, the game also reflects principles of Content and Language Integrated Learning. The game is designed to encourage students to empathise with the game's characters, make connections to their own experiences and ultimately learn more about American history.

A third subcategory of DGBLL is the so-called **commercial off-the-shelf game**. Whilst this type of game was designed for entertainment purposes rather than language learning, the foreign language versions of such games have significant potential as foreign language learning aids. Simulation programmes in particular, such as *SimCity* or massively multiplayer online games such as *World of Warcraft*, have been used in foreign language learning contexts to develop students' reading, writing, listening and speaking skills and have increasingly been the subject of research.

It is important to note that the development of good DGBLL applications and learning scenarios that provide opportunities for high levels of learner agency and engagement and that promote ›learning to play‹ rather than ›playing to learn‹ (cf. Arnseth 2006) is an extremely challenging task that can only be achieved effectively by game designers, educational researchers and foreign language learning specialists collaborating on an interdisciplinary basis. Only when this has been achieved will it become possible to make good use of the trend in gaming and its associated technical innovations in foreign language learner environments and to generate adaptive learning contexts, in which learning motivation is fostered and where learning and play serve to complement each other.

## 12.4 | Conclusion

In general, it can be stated that media-assisted foreign language learning and teaching is a terminologically and conceptually versatile topic. The concept of digital literacy skills does not focus on a certain technological determinism, but rather on the teacher's and learner's pedagogical application skills (e. g. teaching the four skills in the EFL classroom, improvement of the learner's discursive competence in turn-taking sequences, etc.).

Learning artefacts (e. g. handouts, brainstorming sequences, etc.) have become digital. Therefore, the role of coursebooks also needs to be reconsidered by embedding more multisensory digital content (e. g. augmented reality features). Mobile devices like smartphones or tablets can be effective catalysts to promote data-driven ubiquitous and/or digital game-based learning scenarios. Technology-enhanced foreign language teaching and learning has changed the way we learn a foreign language and the role of the teacher.





**Further Reading**

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