DC4LT

Language Teacher Trainer Guide on Digital competences

Practical instructions and advice on how to organize digital competence training for language teachers

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Report

Language Teacher Trainer Guide on Digital Competences:
Practical instructions and advice on how to organize digital competence training for language teachers

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Summary

This guide provides practical instructions and advice on how to organize digital competence training for language teachers. The recommendations included in the guide are derived from research and experience of developing and organizing a series of training events for language teachers by the authors of the guide.

This guide is developed primarily for teacher trainers who work in language education. The guide can also be useful for language teachers who wish to develop their digital competence and better employ digital technologies in their teaching practice.

The current guide is the capstone of a series of training events that involve presentations on the latest trends, new ideas and innovative teaching techniques. The training events provide opportunities for peer-to-peer interaction and involve a series of workshops and teaching experiences in which practical proposals are demonstrated, as well as new technological and methodological developments in the field of second/foreign language.

This trainer guide is composed of three parts. Part A presents an overview of training methodologies for language learning in face-to-face, online, and blended formats. Part B includes a framework model for teacher training developed based on the experience from two series of webinars. Part C incorporates a collection of 15 teacher training modules, fully described and available as OERs.

The language teacher training experience and research summarized in this guide were undertaken in the frame of the project: Digital Competences for Language Teachers (DC4LT https://www.dc4lt.eu/). This project has received funding from the European Union's Erasmus Plus programme, grant agreement 2018-1-NO01-KA203-038837.

Table of Contents

PART A: Training methodologies for language learning

In this part we explored various learning theories and methods that could be suitable for language teaching in online and blended formats. We aimed at making the overview relevant for as long as possible after its completion. This part begins with (i) an introduction to contemporary theories of learning. It is then followed by (ii) a literature review of different learning theories and (iii) learning methodologies that can guide the design and implementation of training workshops addressed to language teachers, and it concludes with (iv) an overview of various training methods/techniques that can be used for the design and delivery of the training activities of DC4LT. The approach followed for the development of the DC4LT training guide is depicted in Figure 1. The review was performed in a traditional, narrative manner and its ultimate objective was to delineate an array of learning theories, methodologies and training techniques to enable us to select the ones that are most suitable for the planned online or face-to-face training workshops for language teachers.

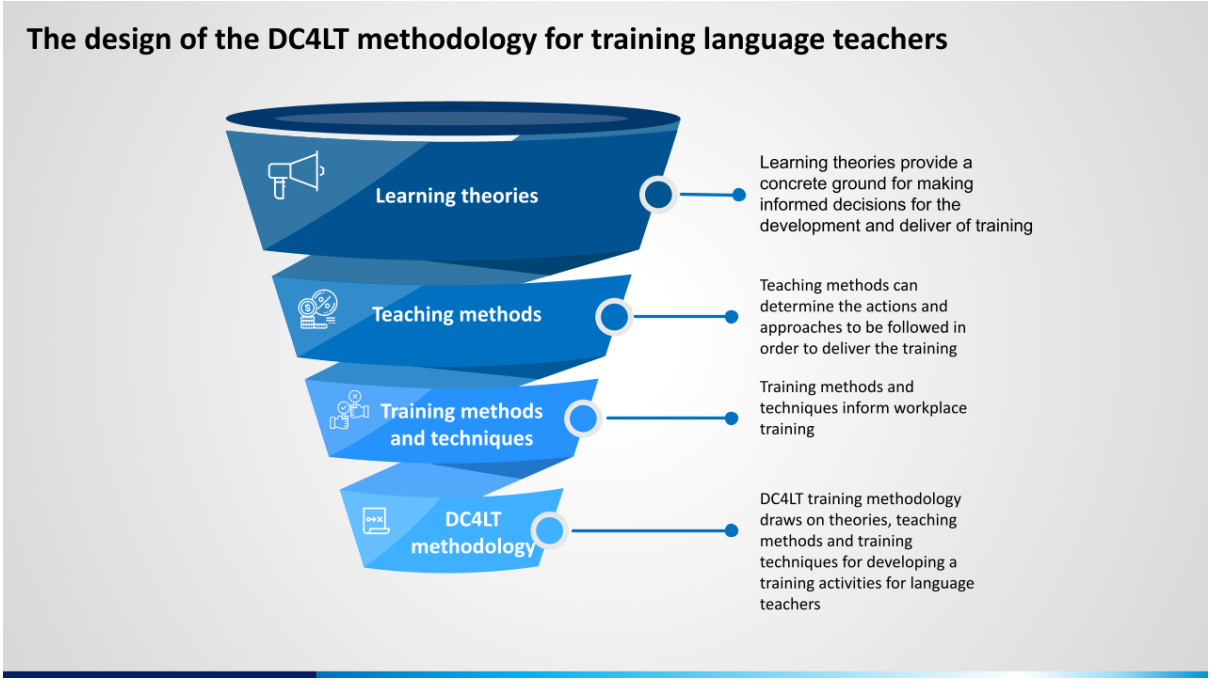

Figure 1. The approach adopted for designing the DC4LT training methodology.

Nowadays, the view about the way people acquire knowledge has changed, as theories of learning and research progress through the years. Contemporary theories of learning extend their roots into the past, and many questions that research aims to answer today are not new, since they were first the subject of philosophy and later on of psychology (Schunk, 2012). In recent years the developments brought by the advancement of technology have had a great influence on all aspects of our everyday life, including education, and have unavoidably affected the way knowledge is acquired. This has had an impact on training methodologies that can be used for language learning and also training methodologies that can be utilized for language teacher training, amongst other things.

Looking back at psychology in the first half of the 20th century, behavioristic theories of learning prevailed, which viewed learning "as a change in the rate, frequency of occurrence, or form of behavior or response, which occurs primarily as a function of environmental factors" (Schunk, 2012, p.21). Behaviorism regarded learning as model and stimuli based, and pattern drilling, repetition and immediate correction of error were the major characteristics of learning processes. Behaviorism was criticized mainly because the concept of learning it supported violated "the human right to self-determination and self-expression" (Roberts, 1998, p. 14). Later on, cognitive theories of learning emerged as a response to behaviorism. Cognitivism viewed learning "as an internal mental phenomenon inferred from what people say and do. A central theme is the mental processing of information: Its construction, acquisition,

organization, coding, rehearsal, storage in memory, and retrieval or non retrieval from memory" (Schunk, 2012, p. 22). Cognitivism recognized that with instruction alone learning cannot be achieved; nevertheless, it was criticized for "considering the essence of human action to reside in its alleged source in mental processes at the expense of the social surroundings of the action" (Arponen, 2013, p. 3). In more recent years, research concentrated more on the learner and how knowledge is constructed rather than acquired; this is referred to as constructivism, influenced mainly by the theories of Piaget and Vygotsky. Constructivism "does not propound that learning principles exist and are to be discovered and tested, but rather that learners create their own learning" (Schunk, 2012, p. 230). Constructivist theories of learning brought major changes in the learning and teaching processes with learners becoming actively involved in the learning procedure.

All these developments in research on learning had a major influence on the methodologies used in teacher education. At the beginning of the 20th century, the "craft model" of professional development evolved, according to which the expert figure, the master, trained the potential teachers by showing them what to do, which they later had to imitate (Wallace, 1991; Maggioli, 2012). This model of teacher training was influenced by the behavioristic theories of learning, and was later rejected, since it was based on pure imitation. The craft model was replaced by the "applied science model" for professional development, which is considered to be the traditional model for teacher development. According to this model, teachers are trained drawing from the findings of empirical science; in other words, they are requested to apply the scientific knowledge obtained from research in their practice (Wallace, 1991). The major criticism of the applied science model was the difficulty of bridging the gap between science and practice, which, according to Burns and Richards (2009), still constitutes a problem. A more modern model for teacher training was the "reflective model" for professional development, initiated firstly by Schön (1983). This model placed great emphasis on the value of reflection. According to Wallace (1991), the knowledge that the trainee receives interacts with previous experiential knowledge, and through practice and reflection professional competence is achieved.

With the prevalence of learning theories such as constructivism and social constructivism, sociocultural perspectives on teacher training developed. According to these perspectives of professional development, "professional knowledge (coded through theories and procedures), personal knowledge (tacit and explicit), and community knowledge (embedded in the day-to day practices of the community as "ways of doing") converge to help community members develop (Maggioli, 2012, p. 12). This view of teacher training favored the development of Communities of Practice as one of the most influential teacher development means today.

Lastly, it is important to mention that due to the ever-increasing diffusion of technologies in teacher-training programs there is a growing interest in exploring the area of language teachers' training in Computer Assisted Language Learning (CALL) known as CALL Teachers Education (CTE). This is a well-defined sector, which proposes interesting and useful language teachers' training models like the "CTE model" (Torsani, 2016) adopted by Reinders (2009). According to this model, CALL education is largely dependent on the context in which both the pedagogical and institutional infrastructure occur. In other words, the first consists of the body of processes that support learning (e.g., community of practice), while the other consists of the factors (e.g., availability of technical support), which facilitate and support the learning of technology (Torsani, 2016). Generally, CTE is not aiming at training language teachers on how to use certain tools, but instead focuses on showing them how to choose specific tools on the basis of preset pedagogical and linguistic principles. The most important objective of CTE is to make clear to the language teachers' community how important is the successful integration of technologies into language teaching, while adopting the most appropriate teaching methodologies.

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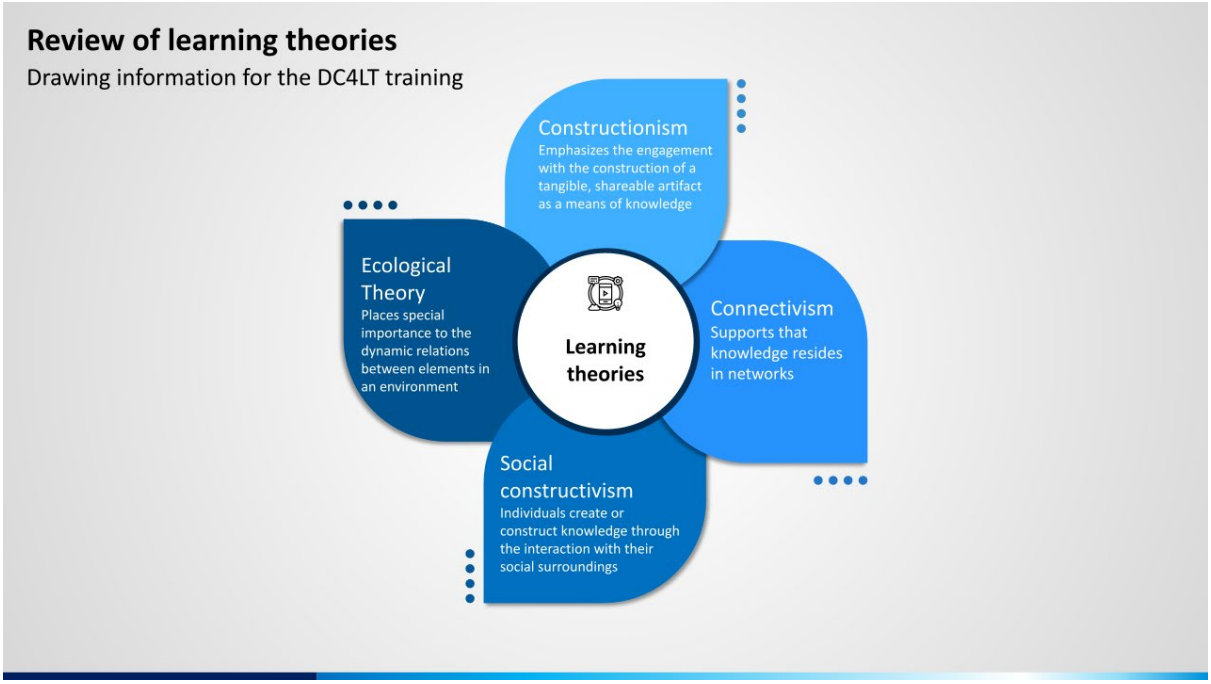
A.2. Review of learning theories

The review of the following learning theories (see Figure 2) informed the design of training on digital competence for language teachers. Each one of the theories is being described in the following section.



Ecological theory

Language ecology is informed by biological theories according to which ecology is "the total science of the organism's relations to the surrounding environment, to which we can count in a wider sense all 'conditions of existence'" (Haeckel, 1866, p. 286, cited in Steffensen & Kramsch, 2017). An ecological approach places emphasis on the dynamic relations between elements in an environment (Steffensen & Kramsch, 2017). In a learning context, "an ecological approach aims to look at the learning process, the actions and activities of teachers and learners, the multilayered nature of interaction and language use, in all their complexity and as a network of interdependencies among all the elements in the setting, not only at the social level, but also at the physical and symbolic level" (van Lier, 2010, p. 3). The ecological theory draws from Gibson's theory of affordances (1977). An affordance is an action possibility formed by the relationship between an agent and its environment. van Lier (2010) explains that "affordances are relationships of possibility, that is, they make action, interaction and joint projects possible (p. 4). In technologically mediated environments, this is substantially important. As Warschauer mentions (1998, p. 760, cited in Belz, 2003), in order to "fully understand the interrelationship between technology and language learning, researchers have to investigate the broader ecological context that affects language learning and use in today's society, both inside and outside the classroom". The main characteristics of ecology as delineated by van Lier (2006, p. 18-19) are: relationships, context, patterns, emergence, quality, value, critical, variability, diversity, and activity.

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Constructionism

The learning theory of Constructionism (Papert, 1980, 1991, 1993), was defined as: "Including, but going beyond, what Piaget would call 'constructivism.' The word with the v expresses the theory that knowledge is built by the learner, not supplied by the teacher. The word with the n expresses the further idea that this happens especially felicitously when the learner is engaged in the construction of something external or at least shareable. . . a sand castle, a machine, a computer program, a book." (Papert, 1991, p. 1). Based on Papert's framework, Resnick (1996) proposes 'distributed constructionism', as the design and construction of meaningful artifacts by more than one person. The use of computer networks to facilitate interactions between people and knowledge construction plays a pivotal role in distributed constructionism. Rüschoff and Ritter (2004, p. 219) point out that "Construction of knowledge and information processing are regarded as key activities in language learning". Furthermore, since the integration of new media into language learning is a necessary step to ensure the acquisition of the kind of language skills and competencies needed for living and working in the knowledge society, Rüschoff (2001) suggests the implementation of Constructionism as the appropriate paradigm for language learning. Recent studies (Parmaxi, & Zaphiris, 2015; Parmaxi et al, 2016) have adopted this paradigm for language learning practices. In particular, these studies propose the use of social technologies for collaborative construction of shareable artifacts. According to Parmaxi and Zaphiris social technologies include "social network sites such as Facebook, Twitter, LinkedIn and Google+; social software, such as blogs and wikis; and digital artifacts sharing platforms, such as Dropbox, Evernote and Google Drive" (2015, p. 34).

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Social constructivism

One of the most influential theories of learning today is social constructivism (Vygotsky, 1978). According to social constructivism, individuals create or construct knowledge through the interaction of their past experiences and what they already know and the ideas, experiences and activities with which they come in contact, in other words their social surroundings. According to social constructivism, learning is the product of social interaction, and students' engagement in collaboration and problem-solving situations. Knowledge is actively constructed and not passively received, and the teacher is a guide and co-explorer of knowledge instead of a knowledge provider. Social

constructivism has influenced education in all levels and in various subjects including teacher education (Beck & Kosnik, 2006; Smith, 2001; Richardson, 1997). Adams (2006) identifies certain principles by which social constructivist learning environments might be designed.

1. There is a focus on learning instead of performance.
2. Learners are viewed as active co-constructors of meaning and knowledge.
3. Teacher–pupil relationships are built upon the idea of guidance not instruction.
4. Learners are engaged in meaningful and purposeful tasks.
5. Assessment is an active process of revealing the knowledge constructed.

In language learning social constructivism is applied through collaboration and cooperation for the completion of projects through group work. Students should be provided with opportunities for meaningful social interaction and problem-solving in the language classroom so that their critical thinking is activated. Through critical thinking each learner formulates their own meaning, and this helps in the internalization of knowledge.

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Connectivism

Connectivism (Siemens, 2005) is a theory of learning which stresses the influence of technology and networking in the discovery of knowledge. Like social constructivism, connectivism does not view the process of learning as an individualistic process. Connectivism rather supports that knowledge resides in networks. More specifically, according to Foroughi (2015), for connectivism learning is a process of connecting specialized nodes or information sources, and it may reside in non-human appliances (e.g., virtual worlds and augmented reality contexts). One of the principles of connectivism is how higher order thinking skills are activated when individuals filter the information that is available online and focus on the information that is reliable or sustainable (Kropf, 2013). In connectivist approaches the ability to see connections between fields, ideas, and concepts and the ability to maintain these connections are important.

In the context of language learning, connectivism is realized through the formulation of Communities of Practice through the use of LMSs (Learning Management Systems) or social media and engagement in online discussions and exchange of information. According to Senior (2010), connectivist approaches in language learning and teaching contexts can be applied through the establishment of rapport between the teacher and students, maintenance of high levels of student involvement and engagement, encouragement of cooperation and collaboration, fostering of collegiality and maintenance of sense of community in virtual learning environments through social presence.

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A.3. Review of teaching methodologies and practices

The review of the following teaching methodologies and practices (see Figure 3) which informed the design of training on digital competence for language teachers. Each one of the methodologies is being described in the following sections.

Figure 3. Review of teaching methodologies and practices which informed the design of training on digital competence for language teachers.

Task-based learning

Task-based learning has been described as the methodology that uses goal-oriented activities in which learners use language to achieve real outcomes (Willis, 1996). For Willis, a task is any goal-oriented activity in which learners use language to achieve a real outcome. This approach to language teaching and learning falls under the umbrella of social constructivism and connectivism when tasks are collaborative and involve learners working together to construct knowledge and form networks. Learning can be further enforced when reflection occurs. Prosser and Trigwell (1999) and Ramsden (2003) stressed the significance of reflection based on deep thinking and learning; this is achieved when reflection is based on learners' meaningful engagement with the task and when learners relate the task to their own experience. In the context of task-based learning, learners may use whatever target language resources they have in order to be engaged in tasks such as solving a problem, doing a puzzle, playing a game, or sharing and comparing experiences. In any case, tasks have an identifiable outcome, and a goal to be achieved and language learners use language to exchange meanings for a real purpose.

In 1996 Willis proposed a framework for task-based learning. According to this framework, teaching needs to start with a pre-task, which will serve as an introduction to the topic and the task. Then learners need to proceed to the actual task which they have to plan and report. Eventually, when the task is completed, focus on form should follow, where the language used in the task is being analyzed and practiced.

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Question-based learning

Question-based training can be seen in the prolonging of inquiry-based learning (Pedaste, M. et.al. (2015). Where inquiry-based training mainly relies on students defining and asking the questions themselves, or with an initial case provided by the lecturer, question-based training, or questioning, relies heavily on the lecturer's ability to ask the questions that makes students able to understand, repeat or deduce their own answers and meanings. The technique is thus in the heart of all classroom teaching, and essential in order to create classroom dialogue.

There are several reasons for asking questions in the classroom:

- to figure out what students know
- to stimulate learning by making students think in a specific way
- to aid repetition and recalling knowledge learnt
- to challenge the students in their set ways.

It seems like an easy task to ask questions in order to increase dialogue with students and between peers, but there is more to question-based training than that. Mainly we ask questions to 1) provide the teachers with information about our students' understanding or 2) to raise issues that students need to think about. Like all good classroom practices, also questioning is built on different principles. One needs to know a variety of ways to ask questions, and when and why these are being put forth.

Applying technology, and especially response systems, in the question-based training, allows for even more variety. According to Einum (2019) the shift lately from specially designed hardware response tools, available for in-class usage since the 1980ies, to personal devices, i.e. mobile phones, tablets and computers, also presented a shift of focus "[…] from the tools themselves to ways in which they could be applied, e.g., how to integrate them into existing practices and how to ask good questions..." (Einum, 2019, p. 250).

One of the modern and new ways of applying responsive questions is true peer response questioning: "Change of methodology, from classic to peer instruction, increases the argumentation time by 91 %. Most of this time is used to present explanations related to curricula." (Nielsen, K.J. et.al., 2014). Applying a methodology where you can use students' answers will improve the value of both the question and the response: "Additionally, iLike provides opportunities that more conservative response tools do not to actually make the students reflect, think about concepts in learning and expand their understanding of the curricula taught." (Thorseth, T.M. et.al, 2015).

This can enhance motivation and engagement from the students (Heaslip, G. et. al., 2014). The interesting challenge, that also raises the need for reexamining question-based instruction in language training, is the fact that there has been an exaggerated focus on the tools themselves instead of the methodology behind and questions asked (Beatty, I.D. et.al., 2006).

Thus, it is necessary to focus on the way teachers ask questions, what types of answers they want from the group and how to use the responses on questions asked to further enhance the learning process for the students. Additionally, question-based instruction will enhance students' own ability to ask questions, both to the teacher and their peers. This will provide students with both the opportunity to ask good questions about things of their interest, about understanding and elaborating the curriculum and in the future enabling them to design good research questions of their own.

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Game-based learning

In game-based learning, a learning task is redesigned to make it more engaging, meaningful, and more effective for learners. Reports show that 99% of boys and 94% of girls play video games (Lenhart et al., 2008) that has shifted researchers' and educators' perspective on the use of digital games for education. Different genres of games can be used, to name just a few massively multiplayer online, sandbox, role-playing, simulation and sports, puzzlers and action-adventure.

Careful balance must be observed in the design process of games for educational use between the learning outcomes and the play (Plass, Perlin, & Nordlinger, 2010). If the focus is too much on the learning objectives the game is at risk of being experienced more like another exercise from a textbook rather than like an accrual game. Whereas, if the game does not facilitate learning and it can't be measured– that's not an educational game.

Game-based learning can be used to:

- Learning New Knowledge and Skills
- Practicing and Reinforcing Existing Knowledge and Skills
- Developing Learning and Innovation Skills

Advantages of using Game-based learning are as follows:

1. Motivational aspects (Kapur, 2008; Kapur & Kinzer, 2009; Kapur & Bielaczyc, 2012; Plass et al., 2010; Plass et al., 2015; Steinkuehler & Squire, 2014).
2. Cognitive aspects (Andersen, 2012; Azevedo, Cromley, Moos, Greene, & 16 J. Plass, B. Homer, R. Mayer, and C. Kinzer Winters, 2011; Domagk, Schwartz & Plass, 2010; Koedinger, 2001; Mayer, 2009, 2014; Plass, Chun, Mayer, & Leutner, 2003; Plass, O'Keefe, et al., 2013).
3. Affective aspects (Fredrickson & Branigan, 2005; Konradt, Filip, & Hoffmann, 2003; Plass & Kaplan, 2016).
4. Socio-cultural aspects (Squire, 2006).

Having listed all the advantages, it is important now to understand the limitations of the game-based learning approach. Starting with the games themselves: what games can you use in game-based learning?

Commercial games are the first to come to mind. These are the games created for entertainment purposes. From the methodological point of view, educators will encounter such issues as the need to adapt the game content to their teaching, worst case scenario they will have to adapt their teaching to fit the game content, i.e. designing learning activities based on the game content (Rankin et al. 2006, Scholz 2016, Peterson 2012a).

Problems with security, confidentiality and possible complaints that educators might get from the parents in relation to the usage of commercial games in the classroom is another issue. It is worthy to consider the fact that most educators are not gamers and are not going to be familiar with the gameplay, meaning when implementing game-based learning you have to consider the amount of time you are going to spend on teacher training. Technical issues include first and foremost adequate technical/technological knowledge, but also powerful computers are required to run these games. Speaking of law, commercial games are copyright protected.

So-called 'serious games' are usually designed to solve a particular problem in a particular organization, meaning they do not possess the full functionality of OER, they might not fit other educational contexts. Another issue could arise with the use of mobile games: some of them are made for android and some for IOS– it's relatively impossible to guarantee that all the students will have the same operating systems on their phones. Online tools & apps like Duolingo, Lingo Deer etc., focus on developing a specific skill and lack the systematic approach (Pegrum 2014, Stanley 2013, Sykes & Reinhardt 2012).

One of the examples of Game-based learning approaches is quest-based learning. Quest-Based Learning is a transformative, 21st-century type of learning that integrates educational principles and game design into a dialogue. It is designed to focus on deep exploration of content through design thinking and play. It relies on virtual reality to produce an immersive experience that greatly contributes to learners' motivation for learning.

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Inquiry-based learning

Inquiry-based learning is primarily a pedagogical method, developed during the discovery learning movement of the 1960s as a response to traditional forms of instruction (Bruner, 1961) and its philosophy is rooted in constructivist learning theories. In fact, Inquiry-based learning is an effective instructional strategy that can be in the form of a problem or task for triggering student engagement (Hwang, Chiu, & Chen, 2015). It enables students to be more reflective, self-regulated investigators who are capable of justifying their own learning processes and viewing inquiry processes as a way to know the world (Windschitl, 2000). Savery (2006) describes inquiry-based learning as "a student-centered, active learning approach focused on questioning, critical thinking, and problem solving. Inquiry-based learning activities begin with a question followed by investigating solutions, creating new knowledge as information is gathered and understood, discussing discoveries and experiences, and reflecting on new-found knowledge" (p. 16).

In inquiry-based learning students take the role of scientists or researchers and are positioned as masters of certain science on authentic inquiry activities. The activities that are included in this learning are formulating questions, designing informative investigations, analyzing patterns, drawing inference, accessing evidence in responding to the questions, formulating explanations from evidence, connecting explanations to knowledge and communicating and justifying claims and explanation. Moreover, there are 5 steps in conducting inquiry-based learning (Mayer, 2004):

- Engagement with a scientific question, event or phenomena connected with their current knowledge, though at odds with their own ideas which motivates them to learn more.
- Exploration of ideas through hands-on experiences, formulating and testing hypotheses, problem solving and explaining observations.
- Analysis and interpretation of data, idea synthesis, model building and clarification of concepts and explanations with scientific knowledge sources (including teachers)
- Extension of new understanding and abilities and application of learning to new situations (transfer)
- Review and Assessment of what they have learned and how they have learned it (metacognition).

Literature presents a variety of inquiry-based learning models and frameworks. A recent one is the inquiry-based learning framework proposed by Pedaste et al. (2015) which broadly reflects a contemporary view of inquiry-based learning. It is derived from a systematic review of inquiry-based learning frameworks found in the educational research literature (review of 60 research papers) and is an attempt to cover many different implementations of inquiry-based learning. It consists of five general phases (0rientation, conceptualization, investigation, conclusion, discussion) and nine sub-phases for inquiry-based learning and it could be applied widely in designing inquiry cycles in the context of both virtual and real-world environments.

To sum up, the value of inquiry-based learning approaches has long been recognized in education and they still continue to intrigue the interest of educators as they support an interactive, student-driven process, where knowledge is constructed rather than transmitted.

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Eclecticism

Choosing an appropriate method for one's teaching practice in the current abundance of methods, approaches and techniques is one of the most pressing issues for those working in the field of language teaching.

Eclecticism is a label given to an educator's use of techniques and activities from various language teaching approaches and methodologies. The educator determines what methodology or approach to use depending on the learning objectives of the lesson, the language proficiency level of the learners, their motivation and the ratio of classroom size. Most of the textbooks currently in use have a mixture of methodologies and approaches (Raschevskaya, 2017).

Eclecticism in education should not be viewed as a destructive force, it is rather obvious that no single methodology could meet all teaching and learning needs, and they all have some weaknesses and some strengths. This method can even be considered democratic (Tarone & Yule, 1989) since it provides an opportunity to the educator for selection, and it has a great potential of tailoring the provided resources to their specific teaching situation.

Therefore, rather than depending on a single set of procedures, eclecticism made it possible to adapt one's approach using this flexibility to the benefit of learners (Çiçek, 2015; Kumar, 2013), implementing the information in a real context in proper time (Li, 2012), while at the same time being guided by a number of 'macrostrategies' (Iscan, 2017).

Irwandi Irwandi proposes five strategies for applying eclectic methods: providing meaningful learning activities, finding eclectic features in various language teaching methods, applying contextual learning, giving various assignments, and providing differentiated feedback (Irwandi Irwandi, 2020).

Extensive research has been conducted on the use of the eclectic method in the classroom: Siddiqui (2012) has found that between the direct, communicative and eclectic approaches educators tend to choose the latter because it provides flexibility and freedom; Ubeid (2013) demonstrated how reading skills and vocabulary knowledge of the students can be improved through the usage of the selective studying method; Rekha (2014), described how the use of the eclectic method had developed learners' reading, listening comprehension, pronunciation skills; Suleman and Hussain (2016), specified how academic achievements of English learners had been increased due to the use of the eclectic approach.

Despite all the above mentioned, there exist certain disadvantages to the eclectic approach. It is easy to imagine a situation when each educator chooses a method that suits them that can potentially lead to confusion. It is especially relevant to the universities with a big number of educators. Think about the learners switching from one educator to another, switching the methodologies at the same time. It's chaotic (Memiş & Erdem, 2013).

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The lexical approach

The concept of the Lexical Approach is based on the idea of lexical chunks and collocations, which are sometimes included in the term. It has been argued that fluency does not depend so much on the grammar skills as on the quick access to their repertoire of lexical chunks (Ilyas, 2013), giving lexis the central role in meaning-making. However, lexis and grammar are very closely related, and grammar through this approach can be studied in patterns (Chacón Beltrán, 2016).

The Lexical approach has been connected with "noticing". Noticing is a complex process, as described by Batstone (1996): it involves identifying simultaneously the form, meaning and use in order to understand the underlying rule. Noticing alone is not enough (Thornbury, 1997; Lewis, 2000) and it serves as a first step in the process of synthesizing the lexical information, then comes retrieval and creative use.

To further develop the learner's vocabulary competence through the ways of the Lexical approach, collocation dictionaries, concordance programs, chunk-for-chunk translation activities, and corpus-based activities can be used (Sewbihon-Getie, 2021).

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Content-based language learning

Content-based language learning refers to an approach to second language teaching in which the focus is on the content or information that students will acquire, rather than on the language itself. Using meaningful content as the basis of lessons provides students with the opportunity to come in contact with a larger, more diverse, academic vocabulary and registers than is the case of regular classes (Lightbown, 2014; Rukmini, 2017).

Another major advantage that integration of subject matter in the language classroom can give is the development of content literacy skills, which can help students access and understand more complex texts and be a gateway to deeper learning (Zhong & Tan & Peng, 2019; Genç, 2021). Rich language exposure, authentic language input are good hummus for the student-centered learning environment, since the learning about the topic and the discussion is in the target language (Sorani & Tamponi, 1992; Aprianto, 2020).

Content-based language learning has also been connected to the development of students' critical thinking skills, by introducing them to various perspectives on a topic and analyzing multiple sources (Fahad, 2016; Karim, & Rahman, 2016).

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Project-based language learning

Project-based learning is a teaching method in which students gain knowledge and skills by working for a prolonged period of time towards exploring and responding to an engaging and complicated question or problem. Project-based learning pedagogy comprises a set of key elements: a challenging problem or question, sustained inquiry, authenticity, student voice and choice, reflection, critique and revision, and public project (Larmer & Mergendoller, 2012; Larmer, Mergendoller, & Boss, 2015). Project-based learning can be applied in digital language teaching by using a variety of digital tools for exploration, collaborative work, production and sharing of a public digital artifact.

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Problem-based language learning

Problem-based learning (PBL) is a type of student-centered educational approach where students learn a topic via their experience in solving open-ended problems. In PBL, elements of active, interactive, and collaborative learning are incorporated to allow teachers to observe their students' learning process (Donnelly, 2006). PBL is a student-driven process that uses a bottom-up approach to bring the students from a problem to the theory (Abdullah et al., 2019). Sevilla-Pavon (2017) proposes the following steps for the process: (1) a problem is introduced to the students, (2) students find and analyze information from different sources, (3) students come to the problem and try to solve it by applying the autonomously acquired knowledge. In order to solve a problem, students work collaboratively using multiple tools. In online and blended learning environments, Web 2.0 tools can be employed to enhance teamwork, independent learning, communication skills, problem-solving skills, interdisciplinary learning, information-mining skills (Tan, 2003).

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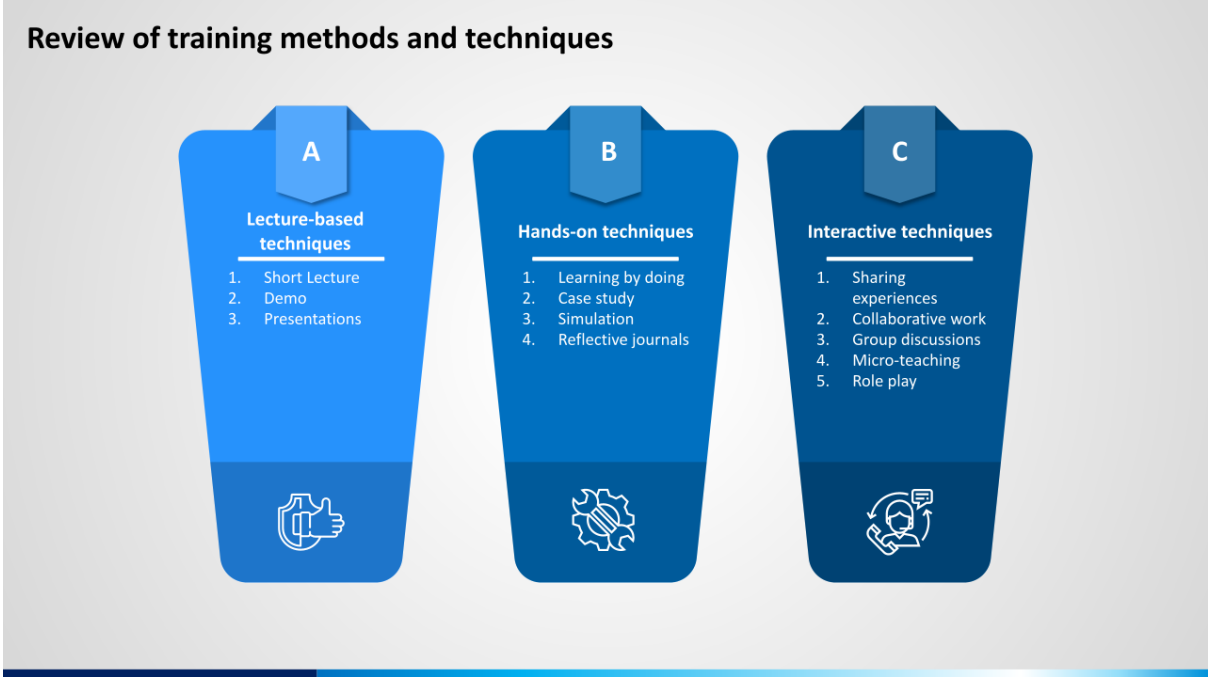
A.4. Review of training methods and techniques

In this part, we outline different training methods and techniques that can be used for teacher training, targeting language teachers and their digital competences (see Figure 4). The review focuses on recent learning theories and contemporary teaching approaches that align with the field of Computer-assisted language learning (CALL). The review also expands on a narrative review of learning theories and teaching methodologies (Parmaxi et al. 2021, DOI: 10.1007/978-3-030-77889-7_9) that can be used for designing training activities in online or blended format for language teachers.



Short Lecture

One of the most common methods that are valued in training programs is lectures (Safari, Yazdanpanah, Ghafarian, & Yazdanpanah, 2006). A lecture is a traditional teaching method which can be useful in certain circumstances. For example, when one needs to present conceptual knowledge and large amounts of information (Charlton, 2006) to big groups of learners. However, due to the disadvantages of lectures that lie in the inactiveness of learners and one-way communication (Nowroozi, Mohsenizadeh, Jafari, & Ebrahimzadeh, 2011), they have been challenged for their effectiveness as a training method. Since lectures are one of the least engaging training techniques, in the planned workshops, short lectures will only be used to introduce the topic to the participants and to set the scene for the workshop's activities.

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Sharing experiences

Another common method that is valued in training programs is sharing experiences. This method can be understood as a social activity in which the participants share their personal experiences to learn of each other. The most common

way to share an experience is through discussions. Technologies have made it possible to share experiences through other means such as in collaborative writing, forums, or social platforms.

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Demo

A demonstration is a quite common way to start a lecture, a project, a workshop or a laboratory work. A demonstration indicates that the lecturer/presenter introduces a new element for the group, in order to show how it is used, which features are involved or similar. The demonstration is intended to enable the students to use what is demonstrated in the rest of their work for that period. Often demonstrations are reduced to being common in practical and/or esthetique subjects, but one can, as Matt McLain (2021) do, argue that demonstration might be a signature pedagogy also in other subjects.

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Collaborative work in small groups

The socio-constructivist and cultural perspectives consider that learning is a result of the interaction between people and the environment. This social process grounds collaborative work (Herrera-Pavo, 2021). Collaborative work has a great potential as a training method. This method involves uniting participants into small groups for completing a task together (Hübscher, 2010). In her guide for design and delivery of professional development through collaborative work, Lee (2010) proposes seven principles that can be applied when working in small groups in training programs. These principles include: (1) Establishing a shared vision, (2) Creating a community, (3) Capitalizing on similarities and differences, (4) Building on expertise, (5) Establishing collaborative relationships, (6) Developing and maintaining professional networks, and (7) Linking collaboration to learning.

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Presentations

Presentations are widely used in training programs nowadays. If delivered effectively, presentations constitute a successful tool for the communication of information to the trainees. In order to be effective, presentations should be clear and well-organized, having a clear outline at the beginning. The presenter needs to inspire the audience, and there should be a balance between the speaker talking and the audience interacting. The content of the presentation must be motivating and allow the audience to relate to it. Another important parameter is the enrichment of the presentation with practical applications, so that it is easier for the audience to understand and relate to the information presented (Tanika, Vutova, Yamauchi & Tanaka, 2016).

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Case study

Case study is a method that helps the students to develop language skills by solving a real-life problem or by studying existing best practices of solving it. This method is an example of Task-Based Learning.

The practical nature of the case study method may boost students' interest in the topic and, therefore, positively impact their motivation to learn. The method is suitable for the audience that has some prior subject knowledge, as well as a certain level of language skills, and can benefit from the applied nature of the method. Case study is a low-cost teaching method that allows training numerous students at the same time. It gives learners the opportunity to work with authentic materials in the same way that they would do it in real life.

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Simulation

Computer simulations have long taken a firm place among learning technologies. According to Landriscina (2013), simulations are computer programs aiming at modeling complex systems' behaviors. They allow a learner to explore a system in a controlled way to better understand how its components interact, and how alternate decisions can affect desired outcomes. Instructional strategies employ simulation as a tool that can facilitate the progression of students' mental models and is particularly effective when learning goals require a conceptual change (Buckley, 2012).

In language learning, simulation is often intertwined with cultural context and role playing. Michelson & Petit (2017) use the term global simulation to describe pedagogical scenarios, where learners take roles of fictitious characters and interact with each other in a simulated, yet realistic environment. According to Michelson & Petit (2017), this approach brings social and cultural situatedness of language choices based on identity and sociocultural contexts.

Computer simulations are often a key element in digital games. Such simulation games present players with realistic simulations of diverse real-world activities such as those encountered in sports, business or everyday life (Peterson 2021). Research findings indicate that simulation games support language development in second language acquisition, and benefit vocabulary learning with repetitive exposure to language input and real-world problem-based scenarios (Peterson, 2021).

Torre et al. (2016) explore the use of simulation in CALL teacher training, arguing that simulation supports experimental training (rather than awareness-rising) and allows practice with complex and realistic situations.

Simulations are often implemented using 3D graphics with various degrees of immersion, delivered on desktop screens and virtual reality devices. The users of such immersive simulations often react to the virtual experience in the same way as to the same situation in a real world. This feature of immersive simulation allows, for example, to train pre-service teachers or in-service teachers to cope with embarrassing problem situations during class, as described by (Yang et al. 2021).

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Group discussions

Group discussion as a method of learning implies multiple communicative activities among a teacher and students, or among students. It enhances students' speaking and/or writing skills, as well as critical thinking and problem-solving. The discussion may be based on a written text or a particular idea, problem or topic. Participants are actively involved in brainstorming, idea exchange, and reflection on their own ideas.

The method of group discussion may be used both in synchronous learning in face-to-face or blended mode, and in asynchronous learning via Instant Messaging or Social Networks (Zainal, 2011).

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Syafyahya L., Yades E. (2021) Small Group Discussion and Discovery Learning in Indonesian Course Learning. Proceedings of the 3rd International Conference on Educational Development and Quality Assurance (ICED-QA 2020). *Advances in Social Science, Education and Humanities Research, volume 506*.

Harizaj M. (2015). Discussion as an Active Learning in EFL. *European Scientific Journal. 11*(16).

Reflective journals

Reflective practice is "the development of insight and practice through critical attention to practical values, theories, principles, assumptions and the relationship between theory and practice which inform everyday actions" (Bolton & Delderfield, 2018, p. xxiii). Referring to the importance of reflection, Prosser and Trigwell (1999) and Ramsden (2003) stressed the significance of promoting deep thinking and learning while reflecting. According to Prosser and Trigwell (1999), there are deep and surface approaches to learning; a deep approach to learning involves understanding ideas and seeking meanings. Learners adopt this approach to learning when they are motivated and interested in the task they are engaged, when they relate the task to their own experience, when they carry out the task using their awareness, when they can combine the parts of the task to form a whole, when they are capable of forming hypotheses, etc. Generally, the authors suggested that deep learning occurs where there is meaning and understanding. Ramsden (2003) agreed that deep thinking and learning occur when there is a focus on meaning, and when learners relate what they learn to what they already know and their everyday life.

Reflective journal writing can create cognitive awareness in considering previous actions and builds confidence by placing value on trainees' opinions, views and thoughts. Reflective journals can serve as self-assessment tools and can constitute an opportunity with the trainees to have a dialogue with themselves through which development occurs (Lindroth, 2015).

References

Bolton, G. & Delderfield, R. (2018). *Reflective Practice: Writing and Professional Development*. London: Sage.

Lindroth, J. T. (2015). Reflective Journals: A Review of Literature. *Update, 34*(1), 66–72. DOI: 10.1177/8755123314548046

Prosser, M., & Trigwell, K. (1999). Understanding Learning and Teaching: *The Experience in Higher Education*. Buckingham: SRHE and Open University Press.

Ramsden, P. (2003). *Learning to Teach in Higher Education* (2nd ed.). New York: Routledge Falmer.

Further reading

Further readings are commonly part of training programs, workshops, or lectures. They are included as a section where the reader is provided with references that the trainer considers useful to expand the trainees' knowledge and to add more information on a certain topic. The list provided by the trainer may not be essential, but it should be interpreted as expository or illustrative of the topic so that the trainees can extend their learning beyond the training program.

Micro-teaching

Micro-teaching refers to the common practice of having prospective teachers or practicing teachers teach a lesson to their peers in order to gain experience with the processes of lesson planning and delivery. It is an opportunity for

teachers to practice in an instructional setting where the challenges are limited and where constructive feedback is provided (Benton-Kupper, 2001). This way trainees understand the value of planning and how it influences the effectiveness of the lesson. Micro-teaching becomes even more effective if the process is followed by reflection on the whole experience.

References

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Role play

Role playing is a widely used and effective learning and teaching method. It implies an active behavior in accordance with a specific role (Craciun, 2010). Role-playing techniques are used as a tool in many contexts and disciplines including research, therapy, organizational change and education. The aim of role play is generally characterized as a method to approximate real-life experiences in certain settings (Yardley-Matwiejczuk, 1997).

The role-playing method can be implemented in educational settings without any technological support. As described by Spencer et al. (2019), such traditional classroom role-play despite been implemented in the social sciences for years, is not well documented in the literature. Some of the findings highlight limitations of the traditional method, for example, some students find it difficult to commit to role-play activities because of familiarity with their classmates which may result in diminished authenticity (Drucquer & Cavendish, 2007). The success of classroom role-play has also been shown to be dependent on students' understanding of and familiarity with the content (Hally & Randolph, 2018). Technology-supported role-playing allows to mitigate such challenges by having control of authenticity and content knowledge on the part of the actor (Spencer et al., 2019).

Role-playing is often supported by digital games, virtual reality simulations, and other technologies and technology-enhanced learning methods. Role-playing is a key mechanic in many digital games. Massive multiplayer online role-playing games (MMORPGs) is one of the most popular digital game genres, and their popularity attracted considerable attention from language researchers who reveal that certain games display qualities which align with what second language acquisition theories deem essential for L2 learning (Yaşar, 2018). Multiple studies explored and concluded that role-playing games facilitate and improve language skills, including, for example, learning vocabulary (Rahman & Angraeni, 2020), speaking (Neupane, 2019), and licensing (Budiana, 2017).

Role playing in immersive virtual environments has been, on several occasions, reported to provide a cost-efficient digital alternative to real-life role-plays (Lowes et al., 2013). For example, it was used to provide healthcare students with the necessary practical experience of interaction with patients and other professionals, when the traditional programs did not provide enough time on task (Kleven et al., 2014). Another example reports the use of role-playing as a practical supplement to a traditional classroom course on cultural awareness in military operations (Prasolova-Førland et al., 2013). In language learning, studies report benefits such as task immersion enabled by virtual reality environments and important for educational role-playing, for example in training dialog skills (Fowler, 2015). In teacher training, practical and collaborative skills are needed (especially, in preservice training) for effective interaction with learners, colleagues and parents (Spencer et al., 2019).

References

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Craciun, D. (2010). Role – playing as a Creative Method in Science Education. *Journal of Science and Arts, 1*(12), 175–182.

Drucquer, M., Cavendish, S. (2007) An evaluation of teacher-led role play for the teaching of communication skills to general practice teachers. *Education for Primary Care 18*(2): 204–212.

Fowler, C. (2015). Virtual reality and learning: Where is the pedagogy? *British Journal of Educational Technology, 46*(2), 412-422. DOI: 10.1111/bjet.12135

Hally, E., Randolph, Z. (2018) A game of ideas: The effectiveness of role-playing games in the political theory classroom. *Journal on Excellence in College Teaching 29*(2): 5–17.

Kleven, N. F., Prasolova-Førland, E., Fominykh, M., Hansen, A., Rasmussen, G., Sagberg, L. M., & Lindseth, F. (2014, December 9–12). Training nurses and educating the public using a virtual operating room with Oculus Rift. Paper presented at the International Conference on Virtual Systems & Multimedia (VSMM), Hong Kong.

Lowes, S., Hamilton, G., Hochstetler, V., & Paek, S. (2013). Teaching Communication Skills to Medical Students in a Virtual World. *Journal of Interactive Technology and Pedagogy* (3), e1. Retrieved from http://jitp.commons.gc.cuny.edu/teaching-communication-skills-to-medical-students-in-a-virtual-world/

Neupane, B. (2019). Effectiveness of Role Play in Improving Speaking Skill. *Journal of NELTA Gandaki*. DOI: 10.3126/JONG.V1I0.24454

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Spencer, S., Drescher, T., Sears, J., Scruggs, A. F., & Schreffler, J. (2019). Comparing the efficacy of virtual simulation to traditional classroom role-play. *Journal of Educational Computing Research, 57*(7), 1772-1785. DOI: 10.1177%2F0735633119855613

Yardley-Matwiejczuk, K. M. (1997). *Role play: Theory and practice*. London, UK: Sage.

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PART B: A model for language teacher training on digital competences

B.1 About the model

Purpose

This part presents a template for describing digital competence training activities and content. The template provides a way to select, structure and present information on digital competence training. It is designed by teacher trainers and technology-enhanced learning experts to help other teacher trainers in the design and presentation of their digital competence training.

Background

The information presented in this selection was informed by (a) the results of a research study Digital Competences in Language Education: Teachers' Perspectives, Employers' Expectations, and Policy Reflections (2019) by DC4LT consortium and (b) experience from two series of webinars organized by the DC4LT project in 2021.

The research study (Fominykh et al., 2019) included a survey that assessed how language teachers use digital technologies, their attitude towards these technologies, their related skills and competencies, their satisfaction and required improvement, and the institutional support they receive. The study complemented the survey by a job market study and a review of policies and strategies in areas related to digital competences and language education (Talmo et al., 2020).

The model training methodology was designed and evaluated in two series of webinars organized by DC4LT in 2021. For the original design, we evaluated and selected learning approaches and training methodologies and selected several topics based on the demand and experience of the organizers. The model training methodology was shaped and improved based on the experience and evaluation feedback from the first webinar series and tested in the second series. The design and improvement of the blueprint were applied both to the template that is to describe each workshop in a concise way (presented in the next sub-section) and to the content of each module of the digital competence language teacher training (presented in Part C of this guide).

Modes of delivery

The model for language teacher training on digital competences was evaluated and adjusted based on two series of webinars. It is therefore designed for delivery in the fully online mode. At the same time, we believe that the hybrid delivery mode could improve certain aspects of the training, such as the engagement and commitment of the participants. Certain sessions would greatly benefit from being conducted in the face-to-face mode, for example, those that introduce technologies for enhancing learning (e.g., response tools) in the physical classroom or require equipment (such as smartphones). The delivery timeline should ideally allow time for pre- and post-activities.

Target audience

The DC4LT model for language teacher training on digital competences is written for teacher trainers and instructional designers working with the topic of digital competence training in education. It aims to answer the questions: How to organize online training for language teachers on the topic of digital competences?

The model can aid the design and delivery of online training to in-service language teachers with digital competences at the intermediate or advanced level.

Learning objectives

Six objectives were drawn from the six broad categories of the DC4LT digital competence assessment framework for language teachers (Perifanou, 2022). These learning objectives revolve around the following:

1. Technology

   a. Prerequisite: Some technological skills (use a bigger range of software, evaluate software and apply all features of different software, good understanding of constraints and possibilities of different software)
   b. Objective: to improve the general overview of digital technologies used for language learning and get practical experience of applying selected technologies in practice.
2. Pedagogy
   a. Prerequisite: Theoretical (pedagogical) grounding for applying digital technology for language learning
   b. Objective: to improve the overview of the pedagogical/instructional methods in computer-supported language teaching and get practical experience with some of them.
3. Assessment
   a. to improve the knowledge of digital assessment methods and strategies.
   b. to get practical experience with some of them via proposed activities applied in the language learning context.
4. Content
   a. to improve the ability to use and develop open digital language learning content.
   b. to get practical experience by participating in specific activities in which he/she will create, elaborate and share open digital language learning content.
5. Professional development
   a. to improve the knowledge of using digital tools for professional development.
   b. to get practical experience with some of them such as communication, organization and self-assessment.
6. Learner's support
   a. to improve knowledge of how to support students in developing digital and IT soft skills.
   b. to get some practical experience by participating in related hands-on sessions.

References

Fominykh M., Didkovsky M., Economides A., Giordano A., Ivanova K., Kakoulli-Constantinou E., Khuzina M., Menis E., Nicolaou A., Parmaxi A., Perifanou M., Shikhova E., Soule M.V., Talmo T., Windstein E., Zhukova D.: Digital Competences in Language Education: Teachers' Perspectives, Employers' Expectations, and Policy Reflections (2019). DC4LT Consortium. DOI: 10.13140/RG.2.2.24392.65285 URL: https://dc4lt.eu/report/.

Perifanou, M. (2022). "The Digital Competence for Language Teachers (DC4LT) Assessment Framework". In: Proceedings 16th annual International Technology, Education and Development Conference (INTED), IATED.

Talmo, T., Soule, M. V., Fominykh, M., Giordano, A., Perifanou, M., D'Ambrosio, R., Novozhilova, A., Sukacke, V. & Elçi, A. (2020). Digital competences for language teachers: Do employers seek the skills needed from language teachers today? In: Proceedings of the 22nd International Conference on Human-Computer Interaction (HCII 2020). DOI: 10.1007/978-3-030-50513-4_30.

Topics to cover

The general approach to selecting topics for the language teacher training is to mix theoretical and practical topics as well as focusing on topics that cover either one learning approach or one technology.

Both the selection of topics and the depth of the presented content should be adapted to the skill level of the participants, if possible. For a group of participants with beginner digital skills or diverse digital skills, training sessions with overviews and introductions are of great value. The introductory sessions may cover learning methods theories (e.g., some of those presented in Part A.2 of this document), teaching methodologies and practices (e.g., some of those presented in Part A.3 of this document), and technologies and tools (e.g., some of those presented in the DC4LT toolkit).

The topics of the individual sessions can be selected based on the needs of the learners and on the knowledge and content availability of the trainers. Based on our experience in the DC4LT project, we advise to select a single topic for each session.

Practical sessions that include hands-on activities and trainers (and the participants) sharing their experience are usually well received. The topics for such sessions are usually complex and include pedagogical, methodological, and technological components. To address this complexity, we suggest the following approach. A session can focus on one training method (e.g., online collaborative learning), referring to different technologies and trying out one or a small number of tools that support this method. Alternatively, a session can focus on a single technology (e.g., response

tools), referring to and exemplifying the use of the tool using different training methods and techniques that are enabled by the selected technology.

Other sessions may focus on the skills and knowledge necessary for professional development and self-regulated learning. Such sessions may include reviewing existing expert communities (of language teachers, in our case), similar training opportunities, platforms or repositories with educational materials on digital skills. They may also focus on the development of knowledge and skills necessary to search, adapt and use subject-related educational content (e.g., open educational content and open educational practices).

B.2 Session template

This section describes the template we designed to describe a language teacher training module, aiming to provide a starting point or a blueprint for designing similar training activities, ensuring the transferability and replicability of this framework. The descriptions of the teacher training modules in Part C also follow this model template and can serve as examples.

Author

Name of the person(s) delivering the session.

Summary

A short summary of the session. It may include a definition or a brief introduction to the topic, motivation for including it in the training, and practical applications or potential benefits.

Learning objectives

Learning objectives are brief statements that describe what the participants will be expected to learn from the session.

Target audience

Describe the particular group at which the session is aimed, for whom it is designed. It is often useful to design the proficiency level of the target audience. If applicable, choose from the following levels:

Levels of digital language teaching competence

Level	Description
Novice	I have very limited experience applying digital tools in language teaching. I usually use basic software, i.e. word processing, power point, CDs, etc., in order to prepare language learning materials, and I can find authentic material (articles, songs, etc.) for my language lessons and organize them in logically ordered digital folders.
Beginner	I know some basics for the most common application of digital technologies for language teaching, i.e. online dictionaries, voice recording tools, online flashcards, forums, etc. I also know how to use specific search engines in order to find appropriate language teaching material on the internet.
Pre-intermediate	I use digital technologies in language teaching that are available, and I know how to choose the most relevant digital tools for every teaching need, i.e. overhead projectors for delivering grammar presentations, online dictionaries to support writing assignments, voice recording tools to practice language pronunciation and speaking skills, online flashcards to practice/learn vocabulary, forums to practice writing skills, etc.
Intermediate	I am capable of using technically specific tools and devices, i.e. technical aspects and uses of interactive whiteboards, software for creating media, audio/video files and images, main uses of digital equipment, mobile devices, software for language learning, etc. I understand how to implement digital technologies in language teaching using the right teaching methodology for every language need, i.e. collaborative tools like Padlet to enhance writing skills, video editing

	tools like Toondoo to enhance oral and writing skills, etc. I try to enrich the variety of digital tools that I use in my language lessons and to introduce innovative teaching methodologies.
Advanced	I feel confident using more advanced digital technologies, i.e. learning management systems (LMS), web 2.0 tools, mobile learning devices and applications for languages learning, etc. following the right language teaching methodology, e.g. I can independently create a blended LMS-based module on Moodle, Canvas, edX, etc. platform and train my students and colleagues in using the proposed technology.
Proficient	I am an expert in digital technologies for language learning. I participate in the development of digital technology-rich language learning programs and online courses. I instruct peer language teachers on the use of digital tools and am involved in digital language teaching policy making.

Training techniques

Give a list of training methodologies and techniques that are used in the delivery of the session. If applicable, select from the list in Part A of this document.

Tools

List of tools that are used in the delivery of the session. Provide links to the commercially available or open tools. Give descriptions to unconventional tools and prototypes and instructions on how to access them.

Pre-activities

Describe what the participants are required to do before the synchronous online session. This usually includes theoretical material to study, such as articles or book chapters to read or videos to watch. However, it may also include practical tasks such as to search for information or answer questionnaires. The volume of pre-activities may be very different, depending on the training technique applied in the session. Pre-activities can also include logistical requirements, such as a type of device to bring, software tools to install, having a web camera, and similar.

Recommended reading

Provide one or two articles, book chapters or any reading material on the very specific topic of this particular session. These materials are to be recommended to the participants of the session so that they can get more theoretical or practical information on the topic of the session. The recommended reading materials should not be confused with the list of references.

Schedule for online learning implementation

Describe the schedule / timeline of the training session. Include a detailed timeline of the synchronous online session and the optional pre and post activities. If the same training session is also to be delivered in a face-to-face (or a hybrid) format, we assume that the schedule / timeline should be different, and multiple schedules can be described.

Implementation of the synchronous session

Describe what should happen at the session. Explain what activities should be organized, in what order, and how the training techniques are to be used. Describe which digital tools are to be used for which activities and how. Describe the role of the trainer and/or facilitator(s) in different activities if necessary.

Theoretical background

Provide a short (two-three paragraphs) theoretical background on the topic of the session. This may include information that helps a participant to understand the contents of the session, such as definitions of concepts, a historical perspective, a state-of-the-art, and motivation to study the topic of the session. This part may also include best practices and recommendations. It is important to support every statement in this part with a reference.

References

Provide a list of references that are used in the theoretical background.

Part C. Language teacher training sessions on digital competences

This part contains detailed descriptions of 15 digital competence training sessions for language teachers. These training sessions were designed and delivered in the framework of the DC4LT project in a fully digital format. Most of the sessions focus on the development of practical skills. This aspect received positive feedback from the participants.

About the series

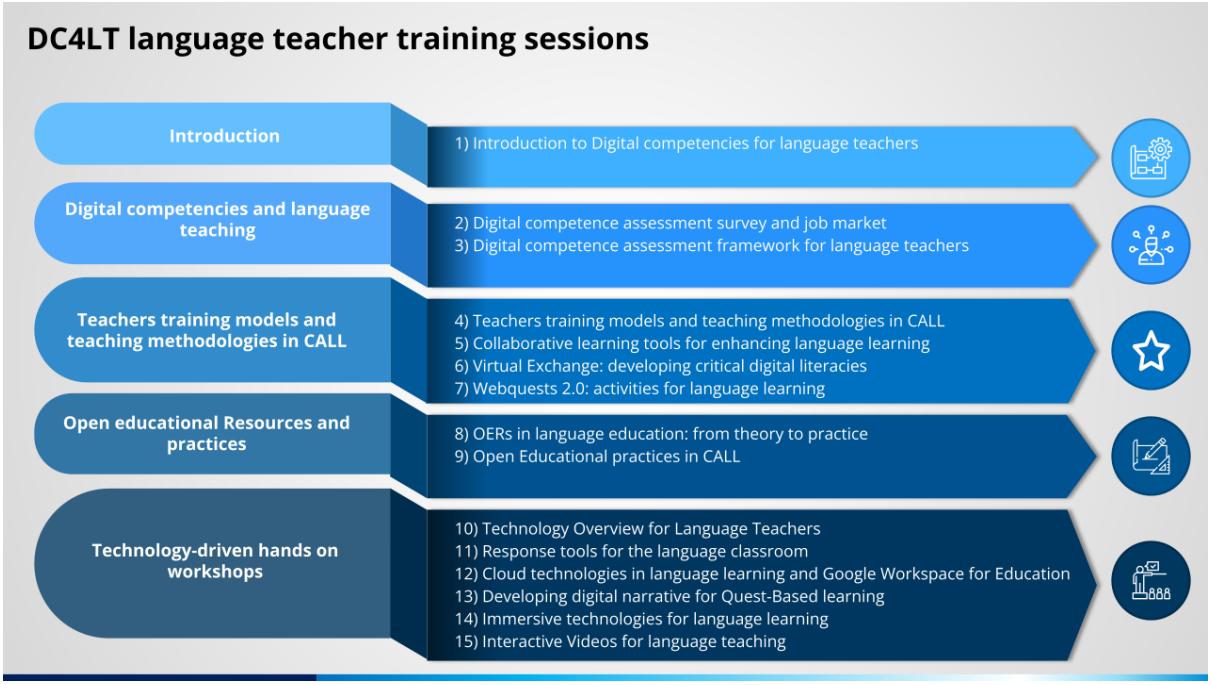
In these sessions, participants engage in intensive training on applying digital tools and materials in language teaching. The diverse online activities and materials have been carefully prepared by the DC4LT team allowing the participants to test their digital skills, improve their competences, and exchange their knowledge and practices.

Target audience

The series has been designed primarily for language teachers who are interested in improving and sharing their skills and practices in using digital tools and materials. These sessions can also be relevant for instructional designers, content designers, entrepreneurs and researchers working in the area of computer-assisted language learning.

Overview of individual sessions

The table that follows presents the 15 sessions that have been designed by the DC4LT team:



DC4LT language teacher training sessions as an online course

For the design and delivery of these 15 training sessions "Google Workspace for Education" has been employed. More specifically, a Class titled "DC4LT Webinar Series" has been created using "Google Classroom", on which all the materials created for each of the 15 individual sessions have been stored. The information in the "Google Class" has been organized in thematic units (one for each session), and each thematic unit contains the following:

- A detailed description of the session
- Pre-activities (if applicable)
- Slides
- Activities and Material
- Post-activities (if applicable)

- The recording of the session (if the synchronous session has been recorded)

The DC4LT Webinar Series Class can be accessed at:
https://classroom.google.com/c/MjM2MjI5OTY0MTU0?cjc=p4fgvci

Online community for language teacher training on digital competences

In addition, a community has been created on "Discord", an online communication and community platform, which is one of the most popular among similar platforms, especially in tech and gaming communities. The purpose of the community is to provide language teachers with the opportunity to discuss the sessions and their specific topics and any issue pertaining to the topic of digital competences for language teachers. The DC4LT Community on Discord can be accessed at: https://discord.gg/2QfCjHrgRz

Session 1. Introduction to Digital Competences for Language Teachers

Summary

An introductory session can be used to provide meta-level information about the upcoming training content, the format, settings, logistics, and similar. In the open webinar of the first DC4LT webinar series, we introduce the project, our objectives, activities and plans. We also give a detailed presentation of the structure of the webinar series, introducing every session. The participants are able to ask questions about the webinar series and about any particular session.

Learning objectives

- Learn about the DC4LT project
- Understand what each DC4LT webinar will cover
- Learn how to use the DC4LT Google Education Workspace

Session 2. Digital Competence Assessment Survey and Job Market

Summary

The objective of this session is to motivate the importance of digital skills and competences for language teachers, supported by secondary and primary data of the teacher and learner needs, organizational and higher-level policies.

In this webinar as part of the DC4LT webinar series, we present the results from the Digital Competence Assessment Survey and Job Market Analysis, both completed in the DC4LT project.

The survey assessed how language teachers use digital technologies, their attitude towards these technologies, their related skills and competencies, their satisfaction and required improvement, and the institutional support they receive. The survey was answered by 267 language teachers from 43 countries.

We also present the results of a job market study for language teachers, which we conducted to explore the employers' expectations in addition to the teachers' perspective. We collected 854 job announcements for language teachers from 11 countries to check if the policies in digitalization and education have a direct impact on language teaching jobs.

Learning objectives

- Learn the results of the digital competence assessment survey
    - What instructional models language teachers use in computer-supported language learning
    - What attitude language teachers have towards the use of digital technologies
    - How language teachers assess their digital competence level
    - If language teachers are satisfied with their level of digital competences and what training needs they have
    - What language teachers think of the institutional aid in personal and professional development towards digital competences

- Learn the results of the job market analysis for language teachers
    - If the European and national policies in digitalization and education impact the language teaching jobs
    - The share of job announcements for language teachers that require digital competences or skills
    - What digital competences and skills of language teachers are sought for on the job market

Session 3. Digital Competence Assessment Framework for Language Teachers

Summary

This open workshop aims at engaging participants in an open and interactive discussion that focuses on the presentation, analysis, and evaluation of the different dimensions of the DC4LT Assessment Framework.

More concretely, in the first part there is a short overview of known digital literacy frameworks addressed to language teachers. Then, it follows a short presentation of the DC4LT Assessment Framework and its different dimensions, as well as a description of its development.

In the second part, participants are divided in six groups and are invited to discuss and share their opinions on the main topics addressed by each dimension of the DC4LT framework.

In the last part of the workshop, the feedback of each group is presented and discussed.

Learning objectives

- To learn about known digital literacy frameworks that address specifically language teachers' digital needs.
- To explore the DC4LT Assessment Framework and its different dimensions.
- To discuss and reflect on the digital needs of language teachers.
- To work in groups using open access collaborative tools.

Target audience

Basic-Proficient

Training techniques

- Short Lecture
- Collaborative work/small groups
- Group discussion
- Sharing experiences
- Pre-reading/Further reading

Tools

- Zoom at the webinar
- Google Form (Pre-activity)
- Google docs (Group work)
- Padlet (Sharing groups' feedback)

Pre-activities

Participants are invited to fill out a short questionnaire in which they are asked to a) state how confident they feel with their digital skills, b) share their experiences with digital literacy training and c) explain which are their specific training needs on developing further their digital skills.

Recommended reading

Lily K.L. Compton (2009). Preparing language teachers to teach language online: a look at skills, roles, and responsibilities, Computer Assisted Language Learning, 22:1, 73-99, DOI: 10.1080/09588220802613831.

Perifanou, M. (2022b). "The Digital Competence for Language Teachers (DC4LT) Assessment Framework & Tool". DC4LT Report. Accessed at: https://www.dc4lt.eu/publications/

Schedule for online learning implementation

- 1h 30 min: synchronous workshop
- 15 minutes: Introduction and participants' feedback
- 20 minutes: Presentation of 1st part: Digital Competence Frameworks for Teachers & specifically for Language Teachers
- 10 minutes: The DC4LT Framework for language Teachers
- 25 minutes: Hands on/Group work
- 15 minutes: Wrap-up discussion and conclusions

Online learning Implementation

1. Pre-activity presentation and analysis results: Presentation of the feedback collected via questionnaire on participants' digital competence level, on their experience with training on digital literacy and their specific training needs.
2. Theoretical part: Short overview of known digital literacy frameworks addressed to language teachers and a short presentation of the DC4LT Assessment Framework and its different dimensions, as well as a description of its development.
3. Hands on part: Participants are divided in six groups and are invited to discuss and share their opinions on the main topics addressed by each dimension of the DC4LT framework. Collaborative writing docs are created via *Google docs* in order to support the team work of each group, as well as a collaborative online platform (*Padlet*) where all results are collected and presented.
4. Presentation of the results collected on *Padlet* and open discussion
5. Wrap-up/Open Discussion
6. Post workshop activity: Final evaluation of the workshop

Theoretical Background

In the age of digitization there is a growing need for teachers to acquire new sets of skills and competences in order to face the new digital challenges that they encounter in their work and in their daily life. In fact, digital competence is one of the eight key competences for lifelong learning needed in the 21 century according to the Council of Europe (EU, 2006) and its development should be perceived within the idea of lifelong learning. This is a highly important competence for all teachers and especially for language teachers. Teaching languages online is different from teaching other subjects online because it entails different skills (Compton, 2009) such as the creation of highly interactive language environments that could address the language practice needs of language learners. But which are the digital skills that language teachers need to acquire and how could they self-assess their digital competence?

There is a variety of digital frameworks for educators proposed by official organizations, and researchers which define the digital skills that teachers should acquire and tools that they could self-assess their digital skills. A well-known framework that nowadays is widely used by European educators is the "Digital Competence Framework for Educators" (DigCompEdu) which classifies the main components of the digital competence - twenty-two (22) various competences- in six (6) basic areas: i) information and data literacy; ii) communication and collaboration; iii) digital content creation; iv) personal safety; and v) problem-solving (Redecker, 2017). Other frameworks which are also used by many educators worldwide are: the UNESCO ICT Competency Framework for Teachers, (UNESCO, 2011; 2018) and the Jisc's Digital Literacies Framework (JISC, 2014).

In addition to the aforementioned frameworks, there is a small variety of digital literacy frameworks and assessment tools that were developed especially for language teachers. Such frameworks include the TESOL technology standards framework (TESOL, 2009), the CPD Framework for Teachers of English by the British Council (2011), the EAQUALS (Evaluation and Accreditation of Quality in Language Services) framework (2013) and the Cambridge English Teaching Framework (Cambridge English, 2018).

In the context of the DC4LT project was developed the "Digital Competence for Language Teachers Assessment Framework" (DC4LT Assessment Framework). This framework promotes a new set of 'skills pyramid' of three (3) levels of difficulty, novice (A1-A2), proficient (B1-B2) and expert (C1-C2) that describe, from the most basic to the most advanced, the knowledge and skills that language teachers need to acquire in order to be able to cope with their

professional digital challenges. This assessment framework proposes a holistic skillset's perspective which includes a variety of skills which are related not only to the efficient use of digital tools and their integration in the teaching process, but also to the right use of tools and methods for assessment, digital content creation and sharing, teachers' professional development, and learners' support (Perifanou, 2022a, b).

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United Nations Educational, Scientific and Cultural Organisation (UNESCO)., (2018). ICT Competency Framework for Teachers (version 3). Paris: UNESCO. Retrieved on 5/5/2021 from https://unesdoc.unesco.org/ark:/48223/pf0000265721

Session 4. Teachers Training Models and Teaching Methodologies in CALL

Summary

In the first part of this workshop, we begin with an overview of the basic modes of training (f2f, online, and blended) and their application in language learning. We continue with a presentation of the most known teacher training models and frameworks in Language Teachers Education (LTE), the "Craft model", "Reflective model", the "Applied Science model" by Wallace (1991) and the "COACTIF model" by Baumert & Kunter (2013). We also present the trainer models used in CALL Teachers Education, including the "CTE model" by Reinders (2009), the "Collaborative Blended Language Learning Model - CBLM" by Perifanou (2014), and the "TPACK model" by Mishra & Koehler (2006).

We also discuss the benefits and challenges that language teacher trainers face, specifically in the context of online training and we also present known models and Frameworks for Online Language Teachers such as the Hampel & Stickler's (2005) "Pyramid of skills" model for online language teaching, Compton's model (2009) for online language teaching and Hubbard and Levy's (2006) model for CALL competences.

In the second part, we present an overview of CALL teaching methodologies and practices, such as webquests, immersive technologies for language learning, virtual reality games in language learning, game-based learning, problem-based learning, and virtual exchange.

At the end of the theoretical part of each section, the speakers share their own experiences with the participants who are also invited to share their own experiences and comments.

Learning objectives

- Learn about the basic modes of training: f2f, online, blended
- Discover the most known training Models applied in Language Teachers Education and CALL Teachers Education
- Reflect on CALL Teachers Education challenges
- Explore CALL teaching methodologies and practices
- Share experiences and best practices

Target audience

Basic-Proficient

Training techniques

- Lecture
- Sharing experiences
- Group Discussion
- Pre-reading/Further reading

Tools

- Google forms (for pre-activity and final evaluation)
- Zoom (for the synchronous activity)
- Padlet (for supporting the interaction between participants)

Pre-activities

- Participants are asked to fill out a brief survey in which they share their experiences with digital literacy training and teaching methodologies.
- Participants are advised to read the article given below in the Recommended reading part.

Recommended reading

Parmaxi, A., Nicolaou, A., Kakoulli Constantinou, E., Soulé, M. V., Papadima Sophocleous, S., & Perifanou, M. (2021). Learning Theories and Teaching Methodologies for the Design of Training in Digital Competence for Language Teachers: A Narrative Review. In International Conference on Human-Computer Interaction (pp. 125-139). Springer, Cham.

Schedule for online learning implementation

- 1h 30 min: synchronous workshop
- 10 minutes: Introduction and participants' feedback
- 30 minutes: Presentation of 1st part: Language Teachers' Training /Education Training models in LTE, CALL and Online language Teachers' Training.
- 10 minutes: Sharing experiences
- 20 minutes: Presentation of 2nd part: Teaching methodologies and practices in CALL
- 20 minutes: Discussion and conclusions

Implementation of the synchronous session

First activity: The workshop begins with an introduction and presentation of the participants' feedback in which they share their experiences with digital literacy training and teaching methodologies.

Second activity: The second activity includes a presentation of the basic modes of training. We refer to face-to-face and online training, as well as to a blended mode of training. The presentation also delineates the most known teacher training models and frameworks in Language Teachers Education (LTE) and CALL Teachers Education (CTE).

Third activity: In this activity we discuss the benefits and challenges that language teacher trainers face, specifically in the context of online training.

Fourth activity: This activity includes a presentation of various CALL teaching methodologies and practices, such as web-quests, immersive technologies for language learning, virtual reality games in language learning, game-based learning, problem-based learning, and virtual exchange.

Fifth activity: In the last activity, the speakers share their own experiences with the participants who are also invited to share their own experiences and comments.

Evaluation: Lastly, the online training session ends with the evaluation. Participants are asked to provide anonymous feedback on the webinar using a Google form.

Theoretical Background

This section is a general overview of the teacher training models and teaching methodologies in CALL. It itself provides a theoretical background on the topic. A more comprehensive review can be found in the following publication:

Parmaxi, A., Nicolaou, A., Kakoulli Constantinou, E., Soulé, M. V., Papadima Sophocleous, S., & Perifanou, M. (2021). Learning Theories and Teaching Methodologies for the Design of Training in Digital Competence for Language Teachers: A Narrative Review. In International Conference on Human-Computer Interaction (pp. 125-139). Springer, Cham

References

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Compton, L.K.L. (2009). Preparing Language Teachers to Teach Language Online: A Look at Skills, Roles, and Responsibilities. Computer Assisted Language Learning, 22(1), 73-99. Retrieved January 2, 2022 from https://www.learntechlib.org/p/103664/.

Hampel, R., & Stickler, U. (2005). New skills for new classrooms: Training tutors to teach languages online. *Computer Assisted Language Learning, 18*(4), 311–326.

Hubbard, P. & Levy, M. (2006). Teacher education in CAL. Amsterdam: John Benjamins. DOI: 10.1075/lllt.14

Mishra, P. & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for integrating technology in teacher knowledge. *Teachers College Record, 108*(6), 1017–1054.

Perifanou, (2014). "Εκμάθηση και Διδακτική της Ιταλικής ως Ξένης Γλώσσας με την χρήση των εργαλείων Web 2.0: Η πρόταση του Συνεργατικού και Υβριδικού Μοντέλου Γλωσσικής Μάθησης και των Γλωσσικών Δραστηριοτήτων Ιστοεξερεύνησης Webquest 2.0". Διδακτορική Διατριβή Τμήμα Ιταλικής Γλώσσας και Φιλολογίας, Φιλοσοφική Σχολή, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών.

Reinders, H. (2009). Technology and second language teacher education. In A. Burns & J. C. Richards (Eds.), The Cambridge guide to second language teacher education (pp. 230–238). New York, NY: Cambridge University Press.

Wallace, M.J. (1991). Training Foreign Language Teachers: A Reflective Approach. Cambridge: CUP, 1991.

Session 5. Collaborative Learning Tools for Enhancing Language Learning

Summary

In this workshop, we explore collaborative learning tools that can be used in the process of collaborative writing for the creation of digital artifacts within the social constructionist approach, as well as tools that promote collaborative strategic reading.

Learning objectives

- Learn how to work collaboratively online
- Learn how to use social technologies
- Learn how to use collaboratively writing tools
- Learn how to assess collaborative writing
- Learn how to use tools that promote collaboratively reading
- Learn how to assess collaborative reading

Target audience

Basic-Proficient

Training techniques

- Short lecture
- Demo
- Collaborative work/Small groups
- Group discussions
- Sharing experiences
- Pre-reading/Further reading

Tools

Social technologies for collaborative construction of shareable artifacts:

- Google Docs, Coggle, Facebook

Assessing collaborative writing tools:

- DocuViz

Pre-activities

- Installing Chrome (before the synchronous session)

Recommended reading

García, M. (2018). eTools: Using Coggle in the Classroom. https://www.natcom.org/sites/default/files/pages/eTools_%20Coggle_September_2018.pdf

Soulé, M.V. (2021). Students' attitudes towards digital artifact creation through collaborative writing: The case of a Spanish for Specific Purposes class. In S. Papadima-Sophocleous, E. Kakoulli Constantinou & C.N. Giannikas (Eds), *Tertiary education language learning: a collection of research* (pp. 47-63). DOI: 10.14705/rpnet.2021.51.1254.

Schedule for online learning implementation

- 1h 30 min synchronous workshop
- 5 min Presentation of workshop content
- 10 min Introduction to Constructionism and Social Constructionism in Language Learning
- 10 min Assessing participants comprehension of Constructionism with Kahoot
- 5 min Tools for supporting collaborative learning: examples of in-class and out-of-class activities
- 10 min Examples of in-class and out-of-class activities

- 15 min Uses of Google Docs: steps and group work
- 5 min Use of DocuViz: steps and group work
- 15 min Use of Coggle: steps and group work
- 10 min Use Facebook groups: steps and group work
- 5 min Final thoughts

Implementation of the synchronous session

Collaborative writing

Participants are divided in groups in order to write synchronously collaborative texts.

- **First activity: Collaborative writing.** The task consists of writing a text synchronously with the use of Google Docs. The instructor discusses with learners the three steps proposed by the Distributed Constructionist approach: *Discussing constructions*, *Sharing constructions*, *Collaborating on constructions*, as well as writing roles such as *Writer, Editor, Reviewer, Team Leader and Facilitator*.
- **Second activity: Assessing collaborative writing**. Collaborative writing can be assessed with DocuViz, a tool that displays the entire revision history of Google Docs and investigates the patterns of collaborative creation of documents. The tool helps instructors to see who has contributed, what and which changes were made to comments from them (Wang et al, 2015).

Collaborative Strategic Reading

- **Third activity: Collaborative Strategic Reading (CSR).** CSR is a research-based instructional practice in teaching reading comprehension to learners to enhance content area learning. CSR teaches learners reading comprehension while working in small cooperative groups.

    1. Participants preview the whole passage before reading its sections. Previewing the text activates prior knowledge, stimulates students' interest about the topic, and facilitates making predictions.
    2. Learners monitor their understanding and decide if they really understand what they read or not during reading.
    3. After reading, participants identify the most important ideas from the text they have read. They generate questions and answers about the information in the text. They collaboratively work in the creation of a digital artifact, a Mind Map (with Coggle), in order to visually organize the information from the text.

Social interaction

- **Fourth activity: Social interaction.** Participants can be asked to comment and/or interact with the digital artifact (texts or mind maps) of other teams through a Facebook Private Group.

Theoretical Background

Constructionism

The learning theory of Constructionism (Papert, 1980, 1991, 1993), was defined as: "Including, but going beyond, what Piaget would call 'constructivism.' The word with the v expresses the theory that knowledge is built by the learner, not supplied by the teacher. The word with the n expresses the further idea that this happens especially felicitously when the learner is engaged in the construction of something external or at least shareable. . . a sand castle, a machine, a computer program, a book." (Papert & Harel, 1991, p. 1). Based on Papert's framework, Resnick (1996) proposes 'distributed constructionism', as the design and construction of meaningful artifacts by more than one person. The author emphasizes three categories: discussing constructions, sharing constructions and collaborating on constructions. The first one can be described by the use of a forum for discussing construction activities. The second one is exemplified by texts, images or videos that can be copied and/or reused by others. And the third one involves the use of computer networks to support students "not only to share ideas with one another, but to collaborate directly, in real time, on design and construction projects" (1996, p. 282).

Constructionism in Language Learning

Rüschoff and Ritter (2004: 219) point out that "Construction of knowledge and information processing are regarded as key activities in language learning". Since the integration of new media into language learning is a necessary step to ensure the acquisition of the kind of language skills and competencies needed for living and working in the knowledge

society, Rüschoff (2001) suggests the implementation of Constructionism as the appropriate paradigm for language learning. Recent studies (Parmaxi, & Zaphiris, 2015; Parmaxi et al, 2016) have adopted this paradigm for language learning practices. In particular, these studies propose the use of social technologies for collaborative construction of shareable artifacts. These include "social network sites such as Facebook, Twitter, Linkedin and Google+; social software, such as blogs and wikis; and digital artifacts sharing platforms, such as Dropbox, Evernote and Google Drive." (Parmaxi, & Zaphiris, 2015, p. 34).

References

Papert, S. (1980) Mindstorms: Children, computers and powerful ideas. Nueva York: Basic Books.

Papert, S. & Harel, I. (1991) Situating Constructionism. En S. Papert y I. Harel (Eds.), Constructionism. Norwood, N.J.: Ablex, 1-11.

Papert, S. (1993) The children's machine: Rethinking school in the age of the computer. Nueva York: Basic Books.

Parmaxi, A. & Zaphiris, P. (2015). Developing a framework for social technologies in learning via design-based research. Educational Media International, 52 (1), 33-46.

Parmaxi, A., Zaphiris, P. & Ioannou, A. (2016) Enacting artifact-based activities for social technologies in language learning using a design-based research approach, Computers in Human Behavior 63, 556-567.

Resnick, M. (1996). Distributed constructionism. In D. C. Edelson & E. A. Domeshek (Eds.) Proceedings of the 1996 International Conference on Learning Sciences, pp. 280-284

Rüschoff, B. & Ritter, M. (2001) Technology-Enhanced Language Learning: Construction of Knowledge and Template-Based Learning in the Foreign Language Classroom. Computer Assisted Language Learning, 14 (3), 219-23.

Wang, D., Olson, J., Zhang, J., Nguyen, T. & Olson, G. (2015b). DocuViz: Visualizing Collaborative Writing. CHI '15 Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems, pp. 1865-1874.

Session 6. Virtual Exchange: Developing Critical Digital Literacies

Summary

This workshop introduces virtual exchange as an innovative teaching pedagogy based on meaningful and constructive technology-enabled intercultural collaborations. The workshop aims at developing language educators' ability to facilitate their learners' participation and collaboration in culturally diverse online communities and develop their critical digital literacies through virtual exchange.

Learning objectives

- Learn about virtual exchange embedded in language learning contexts
- Navigate the UNICollaboration platform
- Learn how to add a class in the UNICollaboration platform
- Design a virtual exchange project

Target audience

Basic-Proficient

Training techniques

- Lecture
- Sharing experiences
- Demo
- Collaborative work
- Group Discussion
- Peer feedback
- Pre-reading/Further reading

Tools

- UNICollaboration platform https://www.unicollaboration.org/
- Zoom
- Google docs

Pre-activities

Participants are advised to watch the following introductory video:

https://youtu.be/oFB7ooV6lWQ

Recommended reading

Ware, P., & O'Dowd, R. (2008). Peer feedback on language form in telecollaboration. Language Learning & Technology, 12(1), 43-63.

Schedule for online learning implementation

- 1h 30 min synchronous workshop
- 15 minutes theoretical background (lecture)
- 10 minutes discussion (self, reflection, sharing experiences)
- 20 minutes demonstration of platform (demo)
- 30 minutes collaborative case-work (collaborative work)
- 15 reporting back and discussion (discussion, peer feedback)

Implementation of the synchronous session

First activity: The workshop begins with an introduction to Virtual Exchange (VE) as a pedagogical approach for developing learners' (critical) digital literacies. Reference is made to different modes and configuration of virtual exchange or telecollaboration projects in language learning contexts. Typologies for designing and implementing a task sequence for a VE project are mentioned along with useful tools that can mediate the online collaboration. The following typologies and models are recommended: O'Dowd and Ware (2008) typology: Information Exchange, Comparison and Analysis, and Collaboration tasks; Salmon's (2013) E-tivities. The following tools are recommended: Google Applications for synchronous and asynchronous interaction and task completion

Second activity: The second activity requires participants to reflect and share their experiences about the development of (critical) digital literacies in their language learning environments.

Third activity: The third activity includes a demonstration of the UNICollaboration platform. UNICollaboration.org has been designed to support virtual exchange or telecollaboration projects. On this platform, educators can find the resources and training materials necessary to learn about and to set up telecollaborative exchanges. We look at the basic functions and features of the platform, such as the partner-finding tool, a task databank, an e-portfolio for evaluating telecollaborative projects, a databank of sample projects, a project-planning tool, as well as text- and video-based training materials. Participants draft the description of a class to be added on the UNICollaboration platform for partner-finding purposes.

Fourth activity: The fifth activity requires participants to work collaboratively towards designing a virtual exchange project for their own language learning contexts. Participants are divided in groups and draft the objectives, configurations and task sequence of a VE project, along with the proposed tools to be used during the exchange.

Fifth activity: The last activity requires participants to report back from the group work and discuss their proposed virtual exchange designs. Participants provide and receive feedback from their peers.

Theoretical Background

"Telecollaboration, or virtual exchange, are terms used to refer to the engagement of groups of learners in online intercultural interactions and collaboration projects with partners from other cultural contexts or geographical locations as an integrated part of their educational programmes" (O'Dowd, 2018, p.1). Guth and Helm (2010) have defined telecollaboration in language learning contexts as an Internet-based exchange aimed at developing both language skills and intercultural communicative competence. Research studies have documented the continuing development of virtual exchange along with the benefits of this pedagogical paradigm which include the enhancement

of language skills and intercultural communicative competence (Guth & Helm, 2010), critical media literacy (Müller-Hartmann, 2006); as well as social, digital, and entrepreneurial skills (Vinagre, 2016). Recently, virtual exchange has been directed towards the development of critical digital literacies that guide participants beyond the functional uses of technology (Nicolaou; 2021; Hauck, 2019) by involving them in action-oriented, global citizenship activities.

References

Guth, S., & Helm, F. (2010). Telecollaboration 2.0: Language, literacies and intercultural learning in the 21st century (Vol. 1). Peter Lang.

Hauck, M. (2019). Virtual exchange for (critical) digital literacy skills development. *European Journal of Language Policy, 11*(2), 187-210.

Müller-Hartmann, A. (2006). Learning how to teach intercultural communicative competence via telecollaboration: A model for language teacher education. Internet-mediated intercultural foreign language education, 63-84.

Nicolaou, A. (2021). Technological mediation in a global competence virtual exchange project: a critical digital literacies perspective. Tertiary education language learning: a collection of research, 111.

O'Dowd, R. (2018). From telecollaboration to virtual exchange: state-of-the-art and the role of UNICollaboration in moving forward. Journal of Virtual Exchange, 1, 1-23.

Vinagre, M. (2016). Developing key competences for life-long learning through virtual collaboration: Teaching ICT in English as a medium of instruction. In Handbook of research on foreign language education in the digital age (pp. 170-187). IGI Global.

Session 7. Webquests 2.0 Activities for language learning

Summary

This workshop aims at promoting the creation and sharing of language OERs via Webquest 2.0 activities which are based on a collaborative and inquiry-based methodology and are facilitated by web 2.0 tools. The training session consists of two parts:

a) In the first short theoretical part (10 min), the participants are introduced to what is a Webquest 2.0 activity and its format as well as to the process of sharing a language content as OER.

b) In the second part, the participants are invited to explore selected Web 2.0 tools with the support of the organizer (20 min) and then work in small groups in order to create and share their own language OERs in different formats on the topic of "Safer Internet for students". The proposed OERs which are created by the participants address the different language needs of their students (40 min).

The session concludes with the presentation of the artifacts produced by each group and the participants' final feedback (20 min).

Learning objectives

- learn how to create and share language OERs
- learn how to use web 2.0 technology
- learn in practice what webquest 2.0 activities are
- learn about task-based learning & inquiry-based learning
- learn basic rules about safety on Internet (security)
- learn how to work in collaboration online

Target audience

Proficient and Proficient-Advanced

Training techniques

- Short Lecture
- Demonstration

- Collaborative work/small groups
- Role play
- Learning by doing
- Group discussion

Tools

- Zoom at the webinar
- Google forms for the pre-activity
- Google Docs (group work)
- Padlet (share artifacts/OERs)
- Powtoon (animation)
- Easel.ly (infographics)
- Toonytool (comics)
- Screencastify (video recording tool)

Pre-activities

The participants are invited to have a look at the guides of four specific web 2.0. tools that will be used during the synchronous session (Powtoon, Easel.ly, Toonytool, Screencastify).

Recommended reading

Perifanou M. & Mikros G. (2009). 'Italswebquest': a wiki as a platform of collaborative blended language learning and a course management system. *International Journal of Knowledge and Learning* 5 (3-4), 273-288. Freely accessible: https://www.researchgate.net/publication/220428403_'Italswebquest'_a_wiki_as_a_platform_of_collaborative_blended_language_learning_and_a_course_management_system

Schedule for online learning implementation

- 1h 30 min: synchronous workshop
- 15 min: Presentation of the theoretical background and the activity tasks
- 15 min: Presentation/Demonstration of the tools
- 30 min: Group work
- 20 min: Presentations of the final OERs produced by the participants
- 10 min: Wrap-up/Open discussion/Final Evaluation

Implementation of the synchronous session

a) In the first short theoretical part (10 min), the participants are introduced to what is a Webquest 2.0 activity and its format as well as to the process of sharing a language content as OER.

b) In the second part, the participants are invited to explore selected Web 2.0 tools with the support of the organizer (20 min) and then work in small groups in order to create and share their own language OERs in different formats on the topic of "Safer Internet for students". The proposed OERs which are created by the participants address the different language needs of their students (40 min).

The session concludes with the presentation of the artifacts produced by each group and the participants' final feedback (20 min).

1st stage: Lecture

Participants are introduced first to the theory background of Webquest 2.0 activity and its format as well to the process of sharing a language content as OER.

2nd stage: Group work

Participants are divided in groups in order to work in collaboration:

1st activity: Each group is invited to visit its group folder where they can find the webquest activity that they need to do and all related instructions. The topics of the webquest activity vary: Create a) an infographic, b) a short animated video animation or c) a short comic story that focuses on safe internet in schools. All products should add open licenses to their products.

2nd activity: Participants are invited to create also a set of language exercises in order to address specific linguistic needs of their students.

3rd activity: Each group publishes the products of their work at the workshop's Padlet. All participants add their feedback.

4th activity: Each group publishes the products of their work at an OERs repository.

Each group member has a different task but can contribute to all tasks.

3rd stage: Wrap up-Open discussion

At the end, all groups present their work and then follows a final discussion.

4th stage: Final Evaluation

Lastly, all participants are invited to do a final evaluation of the online workshop filling out a google form.

Theoretical Background

The Webquest model was developed by Bernie Dodge at San Diego State University in February, 1995 with early input from Tom March, the Educational Technology staff at San Diego Unified School District, and waves of participants each summer at the Teach the Teachers Consortium at The Thacher School in Ojai, California. Since its development, thousands of teachers have embraced WebQuests as a way to make good use of the internet while engaging their students in the kinds of thinking that the 21st century requires. (Dodge, 2017).

Webquests are inquiry-oriented activities in which most or all of the information used by learners is drawn by the web (March, 2004). A webquest has several component parts including: a) an introduction; b) a task; c) a process; d) resources; e) evaluation (Dodge et al., 1995).

The name 'webquest' is comprised of two parts: a) 'Web' – to indicate that the World Wide Web is used as the primary resource in applying, analyzing, synthesizing and evaluating information, and b) 'Quest' – to indicate that a question is presented within the webquest, which encourages learners to search for new meaning and deeper understanding (Pelliccione & Craggs, 2007).

With the advent of the web 2.0 era several efforts were made to transform webquests activities by integrating innovative technologies in the learning process. According to Perifanou (2014) "A Webquest 2.0 is an inquiry–oriented activity that takes place in a Web 2.0–enhanced, social and interactive open learning environment, in which the learner can create his or her own learning paths choosing different tools and the online resources needed for the completion of the Webquest 2.0". The Webquest 2.0 embeds the use of Web 2.0 technologies in challenging interactive tasks. Its general aim is to place learners in the centre of the process, and to scaffold them in every step in order to develop, not only their autonomy and responsibility, but also their collaborative, social, cognitive, metacognitive and computer skills (Perifanou & Attwell, 2012).

References

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Pelliccione, L., & J. Craggs. (2007). WebQuests: An Online Learning Strategy to Promote Cooperative Learning and Higher-Level Thinking. In *The Australian Association for Research in Education*, The University of Notre Dame, WA: AARE.

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Perifanou M. (2014). "Εκμάθηση και Διδακτική της Ιταλικής ως Ξένης Γλώσσας με την χρήση των εργαλείων Web 2.0: Η πρόταση του Συνεργατικού και Υβριδικού Μοντέλου Γλωσσικής Μάθησης και των Γλωσσικών Δραστηριοτήτων Ιστοεξερεύνησης Webquest 2.0". Doctoral dissertation, National and Kapodistrian University of Athens.

Session 8. OERs in Language Education: From Theory to Practice

Summary

This workshop aims at promoting the creation and sharing of language OERs. The training session consists of two parts:

a) In the first part, the participants are introduced to the theory of OERs.
b) In the second part, the participants explore how to use, create and share language OERs in practice.

The session concludes with an open discussion.

Learning objectives

- Learn how to use, create, and share language OERs
- Learn about the CC licenses

Target audience

Basic-Proficient, Proficient, and Proficient-Advanced

Training techniques

- Short Lecture
- Collaborative work/small groups
- Group discussion
- Sharing experiences
- Pre-reading/Further reading

Tools

- Zoom at the webinar
- Zoom polls
- Google forms (for the pre-activity)
- Google Docs (group work)
- OER Commons platform

Pre-activities

- Participants are asked to fill out a short questionnaire in order to share their experiences with OERs and teaching methodologies.
- Participants are advised to read the articles given below in the Recommended reading part.

Recommended reading

Perifanou, M. (2021). OER Competence Framework & Self-assessment Questionnaire for "Digi-Teachers". In: Proceedings of the Innovating Higher Education (I·HE) International conference by EADTU, Bari, Italy, 3-5 November 2021. Accessible at: https://conference.eadtu.eu/previous-conferences

Perifanou, M & Economides, A. (2021). Challenges for finding Language OER: Suggestions to Repositories' Administrators. In: Proceedings of the EUNIS 2021, - A New Era of Digital Transformation: Challenges for Higher Education. European University Information Systems (EUNIS) organization, Virtual Athens, 9–11 June 2021. Accessible at

https://www.eunis.org/eunis2021/wp-content/uploads/sites/18/2021/05/EUNIS_2021_paper_59.pdf

Schedule for online learning implementation

- 1h 30 min: synchronous workshop
- 10 minutes: Introduction and participants' feedback
- 40 min: Presentation of the theoretical background:
    - Introduction to OERs
    - Open Licenses: Creative Commons Licenses
    - How to search/use/reuse, create and shore OERs
    - Repositories (General and Language Education
- 30 min: Hands on activity/Individual & Group work
- 10 min: Wrap-up/Open discussion & Evaluation

Implementation of the synchronous session

This workshop aims at promoting the creation and sharing of language OERs. The training session consists of two parts: a theoretical and a practical one.

a) Theoretical part: In the introductory part there is an open discussion based on the feedback received via google forms' questionnaire on participants' experience with Creative Commons Licenses and OERs.

Then, the participants are introduced to the basic theory of OERs. More concretely, they discover what is an Open Educational Resource (OER), how to search/use/reuse, create and shore language OERs, where to search and find language OERs exploring specific OER repositories, what are the creative licenses and how they can be used and, finally, the participants learn how they can attribute an OER to its creator using attribution generators. This part of the session is quite interactive because participants are asked to test their knowledge via Zoom polls during the presentation of OERs' theoretical background.

b) Hands on part: In the second part, the participants explore how to use, create and share language OERs in practice. More concretely, they are all invited to visit a google doc and to do 4 practical activities:

1. Find an Open Textbook for Languages
2. Use OER Repositories
3. Find OER content (i.e., image) by searching Google
4. Find openly accessible videos by searching YouTube or Vimeo

The online training session concludes with a final wrap up of the theoretical and practical part and an open discussion. Lastly, all participants are invited to do an evaluation of the webinar filling out a Google form evaluation questionnaire.

Theoretical Background

The concept of OER was originally coined during a UNESCO Forum on Open Courseware for Higher Education in Developing Countries, in 2002, and developed as follows:

"Open Educational Resources are defined as 'technology-enabled, open provision of educational resources for consultation, use, and adaptation by a community of users for non-commercial purposes. They are typically made freely available over the Web or the Internet. Their principal use is by teachers and educational institutions to support course development, but they can also be used directly by students. Open Educational Resources include learning objects such as lecture material, references and readings, simulations, experiments and demonstrations, as well as syllabuses, curricula, and teachers' guides" (UNESCO, 2002). All these educational materials reside on public domain or have been released under an open license that permits their free use and re-purposing by others (definition by Hewlett Foundation).

Teachers can bring life to OERs not because they are freely accessible, but because of how teachers may creatively adopt them, using them in the language classroom in order to address various educational needs of students. Wiley (2014) has described what teachers can do with the OER proposing the "5Rs framework" which describes the five most important OER rights:

1. Retain: Users have the right to make, archive, and "own" copies of the content
2. Reuse: Content can be reused in its unaltered form
3. Revise: Content can be adapted, adjusted, modified or altered
4. Remix: The original or revised content can be combined with other content to create something new
5. Redistribute: Copies of the content can be shared with others in its original, revised or remixed form"

Sharing and using language OERs of good quality is important because in this way language teachers can really support the "Open Education Movement". However, research (Perifanou & Economides, 2021) has shown that it is not an easy task to discover appropriate language OER for specific language and educational aims. The most important challenges include OER quality issues, discoverability issues, sustainability issues, time and effort issues, technological issues, intellectual property/copyright concerns, format issues, as well as language and/or cultural barriers.

A useful guide and an open online course for the discovery, (re)use, creation and share of language OERs addressed to language teachers has been developed in the context of the OPENLang Network Erasmus+ project and it can orientate all language teachers towards the efficient and creative use of language OERs (Kosmas et al, 2021).

References

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William and Flora Hewlett Foundation. (2017). Open educational resources. Retrieved from http://www.hewlett.org/strategy/open-educational-resources/

Session 9. Open Education Practices in CALL

Summary

This workshop aims at promoting the creation of practical language teaching scenarios which make use of a variety of technologies. The participants' artefacts are shared as OERs to a wider teachers' OER community with the aim to be used as valuable teaching practices for language teachers.

Learning objectives

- learn how to create and share language OERs
- learn how to create a short language teaching scenario for CALL
- learn how to work in collaboration online

Target audience

The topic of open educational practices is relevant to language teachers with basic digital competence level. However, we advise that the participants have the basic understanding of open educational resources (OERs) and licenses, as a prerequisite for this topic.

Training techniques

Presentation, demonstration, hands-on activity individually or in small groups

Tools

- Zoom at the webinar
- Google forms (for the pre-activity & post-activity)
- Google Docs (group work)
- OER commons platform

- Open Educational Practice Template for Computer-Assisted Language Learning by DC4LT
- Inventory of ICT tools and open educational resources by the European Centre for Modern Languages of the Council of Europe – ECML

Pre-activities

- This workshop is connected with the #8 session: "OERs in Language Education: From Theory to Practice". Participants are advised to check the material of this session and to watch the introductory video on the discovery and use of Language OERs here.
- Participants are invited also to read the articles given below in the Recommended reading part.

Recommended reading

Hegarty, B. (2015). Attributes of Open Pedagogy: A model for using Open Education Resources. Educational Technology. Retrieved from

https://upload.wikimedia.org/wikipedia/commons/c/ca/Ed_Tech_Hegarty_2015_article_attributes_of_open_pedagogy.pdf.

Huang, R., Liu, D., Tlili, A., Knyazeva, S., Chang, T. W., Zhang, X., Burgos, D., Jemni, M., Zhang, M., Zhuang, R., & Holotescu, C. (2020). Guidance on Open Educational Practices during School Closures: Utilizing OER under COVID-19 Pandemic in line with UNESCO OER Recommendation. Beijing: Smart Learning Institute of Beijing Normal University. Retrieved from https://iite.unesco.org/wp-content/uploads/2020/05/Guidance-on-Open-Educational-Practices-during-School-Closures-English-Version-V1_0.pdf

Perifanou, M. & Economides, A. A. (2021). Designing teachers' training on adopting OERs in their teaching. In: International Conference on Education and New Developments (END Conference). Retrieved from http://end-educationconference.org/proceedings/

Schedule for online learning implementation

- 1h 30 min: synchronous workshop
- 10 minutes: Intro and discussion related to the pre-activities
- 30 min: Presentation of the theoretical background:
    - Introduction to Open Educational Practices (OEPs) and OERs
    - Open licenses: Creative Common Licenses
    - Where to search, create and share language OERs
    - Repositories of OERs (ROER)
    - How to license my work and how to correctly attribute others' work.
    - Attribution Generators: (CCs and other examples)
- 30 min: Hands on activities/Individual & Group work
- 10 min: Wrap-up/Open discussion & Evaluation

Implementation of the synchronous session

The training session consists of three parts:

1. In the first part, the participants are briefly introduced to the theory of OERs & OEPs. For more information, you should check the video of this session "Open Education Practices in CALL"
2. In the second part, the participants are invited first to create their own language teaching CALL scenarios by filling in a specific form. The proposed OERs that are created by the participants address the different linguistic and intercultural needs of their students. Then, all the scenarios are shared as OERs by all participants to an OER repository. An example of such a repository is the OER common's platform that can host all new language OERs. Another option that this platform offers to anyone is the opportunity to upload OERs to a specific group such as the DC4LT group "Create & Share Language OER" that has been created for that purpose or to create a new group for specific educational purposes. For example, a language teacher could create an OER group in order to collect and share the OERs created by his/her students.
3. The session concludes with the presentation of the artefacts produced by each group or participant and the final overview.

Lastly, all participants are invited to do an evaluation of the webinar filling out a Google form evaluation questionnaire.

Theoretical Background

Open Education Practices (OEP) are ways of teaching that incorporate Open Educational Resources (OER). In a recent report by UNESCO (Huang, et al., 2020) it is stated that educators have shifted their focus from creating and publishing OER to practices that can be implemented using OER for education, referred to as OEP. An Open Education Practice (OEP) is more than using OERs but it "leverages open education resources (OER) to expand the role of educators, allowing teachers to become curators, curriculum designers, and content creators. In sharing teaching tools and strategies, educators network their strengths and improve the quality of education for their students" (OER Commons). According to Ehlers (2011), OEPs are "practices which support the (re)use and production of OER through institutional policies, promote innovative pedagogical models, and respect and empower learners as co-producers on their lifelong learning path".

A database or repository of OERs is not an OEP. OEP is actually the reuse and adjustment of existing OERs based on students' needs and classroom's circumstances. The pure usage of OERs in a traditional closed and top-down learning setup is not OEP (Ehlers, 2011, p.4). OER is a content-centered approach where the focus is on creating and (re)using resources while OEP is a practice-centered approach where the focus is on the practices of interaction between teachers and learners using OER for education (UNESCO, 2020).

This is why it is highly important to know how to correctly use open licenses like Creative Commons Licenses and to know which licenses allow other language teachers and students to build upon our language OER in order to adjust them for their teaching/learning needs (Check the 6th module of the OpenLang MOOC: Exploring how to (re)use Language Open Educational Resources (OERs) to learn how to use the Creative Commons licenses).

In order to efficiently integrate OERs & OEPs in the teaching practice, pre-service and in-service teachers should be trained in utilizing OERs & OEPs. An OERs & OEPs competent teacher should be able to find, evaluate, use, create, and share OERs & OEPs, communicate and collaborate with students and peers using open digital technologies, OERs & OEPs as well as utilize open pedagogies, teaching, and assessment methods (Perifanou & Economides, 2021). The recent UNESCO report (Huang, et al., 2020) analyses further the OER competencies that students and teachers should develop for applying OEPs efficiently.

To sum up, integrating OER and OEPs in the teaching practice is quite challenging but also highly important for all learners and teachers as it promotes open pedagogy, encourages the creation of open educational materials of better quality, and supports accessible and lifelong learning.

References

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Session 10. Technology Overview for Language Teachers

Summary

In this workshop, we give a general overview of 20 technologies most commonly used in language learning. For each of the technologies, we present what it is and most importantly how it is used for the basic language learning activities: speaking, writing, listening, and reading. In some cases, we present best practices and give examples of popular tools.

We collect comments from the participants during the presentation and we discuss them in the final part of the workshop. Participants have a chance to ask questions and share their experience applying different technologies.

Learning objectives

- Get an overview of 20 technologies most used in language learning
- Learn about best practices of using each of these technologies
- Get examples of popular tools for each of these technologies
- Reflect upon the usefulness of digital technologies in language learning

Target audience

The workshop gives a brief overview of technologies, and therefore can be relevant for language teachers with both beginner and intermediate digital skills. For the participants with advanced digital skills, the workshop can still bring useful information thanks to the wide range of technologies it covers.

Training techniques

- Presentation (give brief overview of each technology)
- Discussion (either general about the use of technology in language teaching or specifics of any of the presented technologies)

Tools

- Google form (in a pre-activity)
- Zoom (for the synchronous activity)
- Padlet (for the synchronous activity)

Pre-activities

The objective is to familiarize the participants with the list of technologies and make them think about the competencies that these technologies can support.

- Read short summaries of 20 technologies
- Fill in a form where these 20 technologies can be matched with language learning activities Speaking, Writing, Listening, and Reading.
- Q1. What technologies do you currently use for which language learning competences?
    - Answer options: the overview table.
- Q2. What technologies would you like to use for which language learning competences?
    - Answer options: the overview table.

Recommended reading

Review of Studies on Technology-Enhanced Language Learning and Teaching https://www.mdpi.com/2071-1050/12/2/524/htm

The Handbook of Technology and Second Language Teaching and Learning https://www.wiley.com/en-us/The+Handbook+of+Technology+and+Second+Language+Teaching+and+Learning-p-9781118914038

Schedule for online learning implementation

- Short presentations of 20 technologies and their use in language learning.
- Structure for each technology:
    - Definition of the technology (1 min)
    - Examples of tools (1 min)
- Best practices and methodology (3 min)
- Discussion and sharing experience

Implementation of the synchronous session

- Motivation (background and theory) [5 min.]

- Motivation feedback session, supported by Padlet [5 min]
- Presentation tech. overview CALL with best practice examples for each technology [60 min]
- Round table discussion, supported by Padlet [20 min]
    - Question: What are you lacking in your teaching?
    - How can EdTech aid your needs?
    - Where in language learning are digital technologies not needed?
    - Are there areas in language learning where you clearly see the positive effects in your practice of including EdTech? Why/how?

Theoretical Background

The session provides an overview of multiple technologies. For each of them, we refer to how it can be used in training in the four basic language skills: speaking, writing, reading, and listening. According to Paran (2012), teaching speaking involves issues such as teaching the connection between speaking and pronunciation, aspects of conversation, long turns, spoken grammar, and understandings of conversation and pragmatics. The teaching of writing on the other hand, focuses on product, process, and genre approaches. The teaching of reading focused on the development of reading strategies in the 1980s; nowadays, we experience a movement from intensive to extensive reading. As far as listening is concerned, emphasis is placed on decoding and on metacognition and raising the awareness of learners to the process of listening.

References

Paran, A. (2012). Language skills: questions for teaching and learning. *ELT Journal Volume 66*(4), 450-458. DOI: 10.1093/elt/ccs045

Session 11. Response Tools for the Language Classroom

Summary

In this workshop we focus on Educational Technology the teacher can use for in-class learning. We demonstrate a response tool called *iLike,* primarily designed for language learning, and practice on using the software ourselves. Even though there is a technical presentation, the main focus of the workshop is to discuss and refine methodological approaches to use response tools in the lecture.

Learning objectives

- To learn how to utilize technology in the class
- To learn how to download, install and use a response tool
- To gain insight in different question types to trigger responses and learning in the student group
- To be confident in retrieving answers and using them for new tasks in a question-based lecture
- To reflect on differences between analogue and technological question-based pedagogy
- To understand why universal methodology for using response tools in a class is a viable approach for language learning

Target audience

Basic-Proficient

Training techniques

- Demonstration of a response tool
- Learning by doing
- Group discussions

Tools

- Response tool of choice: iLike,
- Other response tools: Kahoot, Mentimeter, Padlet.

Schedule for online learning implementation

- 10 minutes theoretical background
- 20 minutes demonstration of technical features
- 20 minutes case-work, participants acting as students
- 20 minutes methodological tips
- 20 minutes discussion

Pre-activities

- Download iLike application from one2act.no. Request teacher access via email.

Recommended reading

Einum, E. (2019). Discursive lecturing: an agile and student-centred teaching approach with response technology. *Journal of Educational Change, 20*(2), pp. 249–281. DOI: 10.1007/s10833-019-09341-7

Implementation of the synchronous session

- The workshop starts by introducing the background both for question-based lecturing and response tools as an educational Tool. The tool of choice for this workshop is iLike, which is introduced and explained, mainly showing off the technical features available.
- During the workshop the participants act as students in practical casework.
- The last part of the workshop is dedicated to methodology, including a discussion on how response tools can aid the teacher in creating a better learning environment in the group.

Theoretical Background

One of the most used methodologies for face-to-face-learning (f2f) is question-based learning, a prolonging of inquiry-based learning. This methodology relies heavily on the teacher's ability to ask good questions, and even more important being able to utilize the students' answers in order to create more meaning in the classroom setting. Thus, the technique is in the heart of all classroom teaching, and essential in order to create classroom dialogue.

Educational technology can enhance the students' experiences of question-based learning in several ways, and it can also aid the teacher in their ways of treating the different answers and opinions students express. There are some obvious advantages with EdTech that need to be pointed out:

1. Anonymity, which can help the less verbal students to utter their voice
2. Familiarity; technology is something the students know how to use, often at the same level as the teacher, giving them a sense of equality
3. Motivation, because the students can see that their answers are being taken serious and used, which in turn will increase
4. Engagement, both in their own answers and in discussing and participating in all aspects of the teaching.

In-class learning can utilize EdTech in different ways, and there are several tools that enhance the question-based-learning approaches. We would like to emphasize response tools to maximize the effects of this pedagogical approach. When choosing your response tool, it is important for language teachers to find a tool with a good word cloud functionality, that is easy to use, has a nice look in big classrooms and it should include the opportunity of some manipulation and/or easy to use further results. Depending on the teacher's use, one must choose either on-the-fly tools or prepared cases.

Question-based learning is doable also online but requires some consideration. The most difficult thing to obtain online is interaction between peers and between students and teachers. Seeing this is the essence of all question-based learning, one needs to plan for discussion to happen. If one does not have a clear goal, solid cases and questions that creates engagement and motivation, it will often turn into a one-to-one session, instead of many-to-one. Some students will be reluctant to utter their meaning online, but you do have some opportunities to involve them that you do not always have f2f. Allowing students to answer partially written, partially orally is a good way to drive the lesson through question-based learning. Thus, you should look for tools and systems with these functions. Another obstacle in-class that can be mended online is the size of the discussion groups. Using tools that include break-out-rooms is recommended.

References

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Pedaste, M., Mäeots, M., Siiman, L.A., deJong, T., van Riesen, S.A.N., Kamp, E.T., Manoli, C.C., Zacharia, Z.C. & Tsourlidakid, E. (2015). Phases of inquiry-based learning: Definitions and the inquiry cycle. *Educational Research Review, Volume 14*, Pages 47-61. Elsevier. DOI: 10.1016/j.edurev.2015.02.003

Thorseth, Trond Morten; Mellingsæter, Magnus (2015): Response technology used to build self-regulated learners. *Proceedings from Inted2015*.

Session 12. Cloud Technologies in Language Learning and Google Workspace for Education

Summary

The workshop aims at familiarizing participants with cloud technologies and more specifically the different tools offered by the Google Workspace for Education, and ways in which they can be integrated in the language teaching and learning processes. The workshop focuses on the use of tools such as Google Classroom, GDrive, Google Docs, Google Slides and Google Forms in the language teaching and learning practices. It aims at enhancing the participants' skills in integrating cloud technologies based on social constructivist and connectivist approaches to language teaching and learning through task-based learning. Hands-on activities and tasks during the workshop involve an online exchange of views on how Google Workspace for Education tools can be used for language teaching and learning, the creation and management of a Google class, creation and sharing of material, assignment of task-based work and provision of feedback.

Learning objectives

- To get familiar with social constructivism, connectivism and task-based learning
- To learn how to utilize Google Workspace for Education tools (Google Classroom, GDrive, Google Docs, Google Slides and Google Forms) for language teaching and learning
- To learn how to create and manage a Google class
- To learn how to share material
- To learn how to assign collaborative tasks

Target audience

Basic-Proficient

Training techniques

Lecture/presentation, Demo, Collaborative work, Reflective Journals

Schedule

- 1h 30 min synchronous workshop:
- 15 minutes theoretical background
- 15 minutes demonstration of technical features
- 25 minutes collaborative work, participants acting as students
- 20 minutes practice
- 15 minutes collaborative reflective discussion

Theoretical background

Among the most influential theories of learning today are social constructivism (Vygotsky, 1978) and connectivism (Siemens, 2005). According to social constructivism, individuals create or construct knowledge through the interaction of their past experiences and what they already know and the ideas, experiences and activities with which they come in contact, in other words their social surroundings. Connectivism is a theory of learning which stresses the influence of technology and networking in the discovery of knowledge. Like social constructivism, connectivism does not view the process of learning as an individualistic process. Connectivism rather supports that knowledge resides in networks.

Task-based learning has been described as the methodology that uses goal-oriented activities in which learners use language to achieve real outcomes (Willis, 1996). This approach to language teaching and learning falls under the umbrella of social constructivism and connectivism when tasks are collaborative and involve learners working together to construct knowledge and form networks. Learning can be further enforced when reflection occurs. Prosser and Trigwell (1999) and Ramsden (2003) stressed the significance of reflection based on deep thinking and learning; this is achieved when reflection is based on learners' meaningful engagement with the task and when learners relate the task to their own experience.

Educational technology for task-based and reflective learning in language classrooms

Educational technology could prove invaluable in the implementation of these learning theories and teaching/ learning methodologies, as people nowadays employ technology in all aspects of their everyday life. Students may be introduced to different ways of employing several technology tools, in order to collaborate, construct new knowledge and improve their language performance through being engaged in collaborative authentic or authentic-like tasks which relate to their everyday reality. The learning process can be further enforced through reflection that can take place through the use of technology, either individually or collaboratively. Eventually, through online interaction and collaboration, learners can build networks which may facilitate the learning process and enhance their language learning experience.

Online learning

Task-based learning and reflective learning based on social constructivism and connectivism can be also applied in an online learning context. Nevertheless, for such an endeavor to be successful, principles of efficient online learning and teaching should be taken into consideration. Such principles are built on the following ideas (Henry & Meadows, 2008):

- Online learning environments are different than regular classroom environments; therefore, learners may need extra help through the provision of more guidance by the facilitator
- Learners must engage in meaningful activities and interaction
- Technology is a vehicle, not a destination. Therefore, successful online learning is defined by teaching and not technology
- Sense of community and social presence are essential to online excellence
- Excellent online course design demands expertise in many areas (pedagogy, knowledge of the subject matter, technical support)
- Ongoing assessment and refinement are essential for efficient online learning

Implementation

First activity: This workshop starts with a presentation of cloud technologies and more specifically the G Suite for Education and how such technologies can cater for social constructivist and connectivist approaches to learning and task-based learning methodologies. Furthermore, the importance of reflective processes is stressed. (15 minutes)

Second activity: After the presentation, the facilitator shows the core tools of the G Suite for Education (Google Classroom, GDrive, Google Docs, Google Slides and Google Forms) and she demonstrates how these tools can be used in language teaching showing examples of real language classes. (15 minutes)

Third activity: The participants are organized in groups by the facilitator, and they work collaboratively sharing ideas on how each of these tools can be utilized in their own language teaching contexts. (25 minutes)

Fourth activity: The participants create their own Google class and create a task for their students. (20 minutes)

Fifth activity: The workshop concludes with reflective discussion. (15 minutes)

Recommendations

G Suite for Education (with its different tools, such as Google Classroom, Google Meet, G Drive, Google docs, Google slides, Google Forms), Facebook, Facebook Messenger, Moodle.

These tools could be utilized in online learning as well, having in mind that an online classroom is different than a face-to-face classroom, and that principles of efficient online learning need to be followed.

Further reading

Henry, J., & Meadows, J. (2008). An absolutely riveting online course: Nine principles for excellence in web-based teaching. *Canadian Journal of Learning and Technology, 34*(1). DOI 10.21432/t20c7f

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Session 13. Developing Digital Narrative for Quest-Based Learning

Summary

The workshop is structured in three parts: first, an overview of theoretical background and the exploration of a case study; second, a detailed explanation of Python statements (menu, label, jump) used for creating dialogues and choices within the narrative; and third, a walk-through of interpreting and writing these statements using a sample 'sprites set'. Participants can follow along with the walk-through by using this provided set.

This workshop focuses on building up practical skills so that the participants can work towards creating their own educational games having Quest-Based Learning as a methodology.

Learning objective

- Use python for developing Digital Narrative
- Use python statements for dialogues and choices (menu, label, jump)
- Read and write simple code

Target audience

Proficient

Training techniques

- Demo
- Learning by doing
- Collaborative work/Small groups

Tools

- Ren'Py is a visual novel engine – used by thousands of creators from around the world – that helps you use words, images, and sounds to tell interactive stories that run on computers and mobile devices. https://www.renpy.org/
- A hackable text editor for the 21st Century - Atom https://atom.io/

Pre-activities

- Reading about digital narrative and game-based learning
- Watching a video recording of a similar webinar or alternatively a short video about the creating digital narratives and about game-based learning
- Installing tools required for the hands-on activities at the synchronous session

Recommended reading

Göbel, Stefan & De, André & Rodrigues, Carvalho & Mehm, Florian & Steinmetz, Ralf. (2009). Narrative Game-based Learning Objects for Story-based Digital Educational Games. *Narrative*. 14.

Schedule for online learning implementation

- 15 minutes theoretical background
- 15 minutes demonstration of technical features
- 30 minutes work, participants use of the tool
- 15 minutes discussion

Implementation of the synchronous session

- A lecture to introduce the theoretical background (15 min)
- Demonstration of computer-mediated storytelling engine (Ren'Py) (20 min)
- Participants use of the tool (30 min)
- Discussion and recommendations (15 min)

Theoretical background

Quest-Based Learning is a transformative, 21st-century type of learning that integrates educational principles and game design into a dialogue. It is designed to focus on a deep exploration of content through design thinking and play. It relies on virtual reality to produce an immersive experience that greatly contributes to learners' motivation for learning.

This workshop focuses on building up practical skills so that the participants can work towards creating their own educational games having Quest-Based Learning as a methodology.

The workshop is based on a year-long research and development project of creating and cultivating a Quest-Based Learning Environment at ITMO University. The findings of this research indicated that learners actively participated in the game, utilized different types of strategy to manage their interaction, undertook collaborative dialogues exclusively in the L2 in order to solve puzzles, and had positive attitudes, claiming that interaction in Quest-Based Learning Environment was engaging, motivating, and enjoyable and improved their fluency and discourse management practice.

Therefore, participants can learn from real examples that lead to real results. No prior experience with games design or programming is needed, and people of all experience levels are invited to join.

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Session 14. Immersive Technologies for Language Learning

Summary

In this workshop, the participants can learn about Immersive Technologies and their application for language learning. In the first part of the workshop, we introduce the principle of two technologies Virtual Reality and Augmented Reality, covering the advantages and limitations of different hardware and software. We continue the presentation by showcasing typical scenarios for using these technologies in language learning.

In the second part of the workshop, we demonstrate two Virtual Reality applications: LanguageVR and Mozilla Hubs. In the next part, we invite the participants to our space in Mozilla Hubs and continue with a discussion about the use cases of VR for language learning and about the implementation of language learning scenarios in VR. The participants explore the application and perform simple language learning tasks. In the fourth part of the workshop, we invite the participants to the LanguageVR prototype. For the demonstration of the Virtual Reality application LanguageVR we invite the participants to try it out in a simplified form available for desktop computers with Windows operating system. The participants explore the application and perform simple language learning tasks while working in small groups. In the third part of the workshop, we invite the participants to discuss their experience with LanguageVR and any other questions related to immersive technologies and language learning.

Learning objectives

- Understand the basics of Virtual Reality and Augmented reality technologies
- Understand the possibilities of Virtual Reality together with Speech Recognition for Language Learning
- Get a practical experience of using a simple browser-based Virtual Reality app
- Get a practical experience of using a language-learning Virtual Reality app in a headset or on a desktop

Target audience

The target audience of this session includes language teachers with solid intermediate digital skills. The trainer should expect that immersive technologies might be new to most of the participants. Immersive technologies provide a conceptually different three-dimensional spatial experience from most other tools. Both virtual and augmented reality applications often require special hardware devices, while the apps for the conventional smartphones often provide a sub-par experience.

Training techniques

- Short lecture (for presenting the basic concepts of immersive technologies and examples of their use for language learning)
- Demonstration (to familiarize the participants with the interface and interaction in the immersive apps that are used later in the session)
- Collaborative work in small groups (for performing small tasks in the immersive tech apps)
- Simulation (to get the participants immersed into the context of the immersive virtual environment)
- Group discussions (for discussing the experience of using the immersive tech apps)
- Pre-reading / further reading (to get more information about the use cases and the best practices of using immersive tech for language learning)
- Role play (for testing the immersive tech apps, where learning situations can be played out by the participants)

Tools

- Zoom https://zoom.us/
- LanguageVR - application for language learning available with VR headsets and as a Windows desktop app (available on request from IMTEL NTNU)
- Mozilla Hubs https://hubs.mozilla.com/docs/welcome.html

Pre-activities

- Installing the LanguageVR app (before the synchronous session)

Schedule for online learning implementation

- Theoretical background: basics of Virtual Reality tech and its use for language learning in Zoom (10 min)
- Demonstration of Mozilla hubs and LanguageVR app (10 min)
- Hands-on experience with Mozilla Hubs, exploring the features (20 min)
- Hands-on experience with LanguageVR app, working in small groups, exploring the possibilities (20 min)
- Role-playing language-learning scenarios in the LanguageVR app in small groups (20 min)
- Discussion and Q&A in Zoom (30 min)
- Recommended reading (individually, after the synchronous session)

Implementation of the synchronous session

Tools based in novel technologies offer alternative approaches to language teaching. Educators have already integrated many tools into their everyday practice. The Innovative Immersive Technologies for learning (IMTEL) research group at NTNU worked on a virtual reality (VR) tool for language education. Social-constructivism and experiential learning inspired the learning content for the application. The application illustrates some approaches that are possible to be supported in order to facilitate language learning. The LanguageVR application demonstrates the potential of immersive technologies for collaborative, situated and self-regulated learning.

The application can be used by students working independently, exploring an environment and checking or improving their vocabulary. They can work on grammar, for example, nouns, by recognizing objects existing in the virtual environment, word recognition or in pronunciation with speech-recognition. They can help each other or receive support from an instructor.

The LanguageVR app is interactive, offering two scenarios, a camping site and a cafeteria. In both scenarios, students can generate objects by correct use of nouns (for example, apple, tent, flower, etc.). They can grab and manipulate such objects whilst seeing their correct spelling. The app encourages social interaction by offering places to gather and interact with each other, for example, a bonfire on the campsite, to encourage conversations. The participants can also pass objects to one another and practice their vocabulary and pronunciation.

The initial evaluation of the tool showed that participants perceived a strong feeling of immersion. Use of the app suggested increased motivation on students and a change in the social hierarchy between teachers and students.

In this workshop the educators learn about the app, it's design and development, functionality and reflect on how it can be applied to delivering language learning content.

Recommended reading

Legault, J.; Zhao, J.; Chi, Y.-A.; Chen, W.; Klippel, A.; Li, P. Immersive Virtual Reality as an Effective Tool for Second Language Vocabulary Learning. Languages 2019, 4, 13. DOI: 10.3390/languages4010013

Alfadil M. Effectiveness of virtual reality game in foreign language vocabulary acquisition. Computers & Education 2020, 153. DOI: 10.1016/j.compedu.2020.103893

Parmaxi, A. & Demetriou, A. (2020). Augmented reality in language learning: A state-of-the-art review of 2014–2019. *Journal of Computer Assisted Learning,* 36, 6 DOI: 10.1111/jcal.12486

Theoretical Background

Virtual Reality (VR) is a computer-generated simulation of a three-dimensional environment that can be interacted with in a seemingly real or physical way by a person using special electronic equipment, such as a helmet with a screen inside or gloves fitted with sensors. In other words, Virtual Reality is replacing the real world with a digital reality.

Augmented Reality (AR) refers to enhancing human perception with additional, computer-generated sensorial input to create a new user experience including, but not restricted to, enhancing human vision by combining natural with digital offers. In other words, Augmented Reality is combining a digital layer and the real world.

Multiple research studies underlined the positive impact of VR in education, there is evidence which demonstrates that teachers and trainers hesitate to incorporate it in their teaching practice due to the need of advanced technical knowledge or the high cost of VR devices. According to Parmaxi (2020), VR is an invaluable tool for language learning but it entails challenges regarding its technical configuration, as well as its pedagogical grounding.

VR can also offer virtual tours and visits for individuals or groups. Students can use an alternative representation of themselves which could be useful for those who feel insecure to speak in public or just want to feel more confident in their learning environment. VR also can support different surroundings and contexts without requiring travel. A multiuser VR environment could support meeting of several students digitally which is convenient to address restrictions related to control of the COVID19 pandemic.

VR has potential for transactional and transformationist approaches. Collaborative learning can be supported through group work and interaction whilst keeping the teacher in control of activities and syllabus. Nonetheless, exploration activities and collaborative learning can lead to raising unexpected problems from which teachers can self-reflect and learn themselves.

The research in the application of AR to language learning has been limited, and concluded by Parmaxi & Demetriou (2020), the learning theories were not often considered in the implementation of language learning AR apps. The same paper also reports the popularity of mobile-based AR for supporting vocabulary learning, reading, speaking, writing and generic language skills.

References

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Parmaxi, A. & Demetriou, A. (2020). Augmented reality in language learning: A state-of-the-art review of 2014–2019. *Journal of Computer Assisted Learning*, 36, 6 DOI: 10.1111/jcal.12486

Session 15. Interactive Videos for Language Teaching

Summary

This workshop aims at helping participants to see how to effectively use interactive videos in their language teaching to strengthen their lesson plans. The workshop focuses on the use of programs such as EdPuzzle, PlayPosit, and others. It includes practical activities to help familiarize participants with the features of the relevant programs, and the differences between them. Participants also have the chance to express their ideas, and exchange experience, related to the benefits and limitations of this tool in their teaching.

Learning objectives

- Evaluate the benefits of using interactive videos in a language classroom
- Investigate the tools available for creating interactive videos
- Create their own interactive video
- Learn how to integrate interactive videos into existing learning management systems

Target audience

Basic-Proficient

Training techniques

- Lecture/presentation
- Demo
- Collaborative work.

Tools

- Thinglink
- Edpuzzle
- PlayPosit
- Panopto
- Aventr

Recommended reading

Canning-Wilson, C., & Wallace, J. (2000). Practical aspects of using video in the foreign language classroom. *The Internet TESL Journal*, 6(11), 36-1.

Cinganotto, L., & Cuccurullo, D. (2015). The role of videos in the teaching and learning of content in a foreign language. *Journal of e-Learning and Knowledge Society*, 11(2).

Bajrami, L., & Ismaili, M. (2016). The role of video materials in EFL classrooms. *Procedia-Social and Behavioral Sciences*, 232, 502-506.

Schedule for online learning implementation

- Theoretical background: Interactive videos for language learning (15 min)
- Examples of tools, functionality, features (possibilities, advantages, limitations) (15 min)
- Hands-on demonstration of one tool, EdPuzzle (10 mins)
- Best practices for making and using interactive videos (10 mins)
- Group work (30 mins)
- Discussion (10 mins)

Implementation of the synchronous session

Stage 1: After presenting the overview of the workshop, the facilitator asks the participants to share their experience and impressions from using interactive videos in their own classes. This warm-up activity is aimed at focusing the participants' attention on the topic and implicitly gives the facilitator an idea about the proficiency level of the audience.

Stage 2: The facilitator asks the participants to give their own definition of an interactive video, and gives several examples of various descriptions found in relevant literature. Then the facilitator familiarizes the participants with the history of using videos in general, and interactive videos in particular in education. Later, the methodological aspects of using interactive videos in a language classroom are considered. To make the outcome from the session more practical, the facilitator discusses the particular examples of how this tool can be used in a foreign language classroom.

Stage 3: The comparison of five free popular tools is presented to the audience: Thinglink, Edpuzzle, PlayPosit, Panopto, and Aventr. The tools are described through four dimensions: number and variety of interactive tools, importing options, suggestions for the best application and other unique or useful features.

Stage 4: Next, the facilitator demonstrates how to use one of the tools - Edpuzzle. The participants see the interface of the account as it looks for a teacher, and how the final video looks for a student. The facilitator shows where to get the video content, how to crop & edit it, and how to embed the interactive features.

Stage 5: Group work. The participants are divided into three groups (or more) of 3-4, on the basis of their proficiency level in the use of interactive videos and are asked to work with one of the tools themselves. The beginners try out Edpuzzle, the intermediate users work with PlayPosit, and the advanced ones practice using Thinglink. The facilitator shows the anticipated result of the group work: in 20 minutes each group should present to the others the tool they worked with, and answer the following question:

- Was it easy to use?
- What did you like about the tool?
- What was complicated?
- Is there any functionality missing?
- Would you recommend using it?
- Example of how you could use this tool in your teaching practice

Stage 6: As a final part of the session, the facilitator invites the participants to discuss possible issues to consider when choosing videos for language learning - what are the strengths and possible limitations of this tool.

Theoretical Background

There is no one all-encompassing definition for the term "interactive video" (Kolås, 2015). Videos are in themselves already interactive simply because you can pause, rewind and fast-forward (Benkada & Moccozet, 2017). Some possible definitions include: "a video where you work while watching the video", "a video where the user participates" and "a video where the viewer is active when it comes to what happens next" (Kolås, 2015). Unlike some other tools, which might need to be introduced to students specifically for language learning, videos are an integral part of their

lives already. According to Benkada & Moccozet (2017), "40% of Millennials use YouTube at least once a day, to be entertained, to connect with others, but also to learn".

Interactive videos are used in language learning as a complementary tool to increase students' engagement, offer opportunities for self-study in blended or remote learning, help develop students' self-regulation and improve listening and comprehension skills (Delen et.al 2014). There are many benefits to using videos in a foreign language training setting, namely its capacity to enhance student's interest and make learning more pleasant for them. (Bajrami & Ismaili, 2016). Interactive videos where questions pop up during the video have been shown to have a positive effect on students' grades long-term, with the short-term effect dependent on the timing of questions during the video (Wachtler et. al, 2016).

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Language Teacher Trainer Guide on Digital Competences

Practical instructions and advice on how to organize digital competence training for language teachers

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