

Role of Digital Technologies in the Foreign Language Classroom

Iermachkova O., Chvalova K.

University of Ss. Cyril and Methodius in Trnava, Trnava, Slovakia

**Corresponding author. olga.iermachkova@ucm.sk*

ABSTRACT

This paper aims to investigate the use of digital technologies in foreign language teaching. The importance and role of technologies is analysed in the educational process with a focus on their pros and cons, but also on the ways they are implemented in a foreign language classroom. The significant role of visualisation is also stressed, as it points at individual personality variables that need to be considered in order to prevent the emerging feelings of exhaustion and fatigue in the foreign language classroom. The particular research interest is placed around presentations as one of the crucial visual devices in the foreign language learning process. Videoconferencing is also investigated as a popular alternative in respect of their peculiarities and benefits.

Keywords: *digital technologies, visualisation, presentation, software, videoconferencing*

1. INTRODUCTION

Digital technologies have been changing the teaching and learning process the world over since they first appeared and then became an inalienable part of our daily life. In a modern society, the quality of education is affected either by the teacher's effective intervention or the education technologies or resources used in the foreign language classroom. Hence, digital technologies not only accelerate and significantly facilitate the educational process, but also make the learning process more interactive and cognitive. Furthermore, new ways of testing and preparing such assignments can open up a platform to reflect systematically upon students' acquired knowledge, thus enabling teachers to review results immediately after completing their tasks; this way they can raise the learning process to a much higher level. Consequently, applying information technologies to the learning process not only assists in resolving any problem issues (passivity, poor grades, backwardness, fatigue etc.), but also guides the creative potential of individuals through the process of selectivity, in terms of perception. Incorporating information technologies makes students more concentrated, attentive and thus contributes to the development of different memory types. Their attention is not of a contemplative nature, but mobilizes them to action, since their response is needed as a reaction to stimulus on the screen. Hardly surprising then how technologies are of great help to self-learners. Factors such as visualisation, the opportunity to change pace and forms of learning materials, and artistic licence, allow digitalization to become an indispensable and important part in reducing weariness in learners. One of the benefits of digital technologies in supporting foreign language lessons is the fact that teachers have unlimited opportunities to organize their lessons to their full potential with creativity. Technological innovations con-

tribute to the effective organization of group and independent work at seminars and lead to better practical skills and abilities in students, thus making the learning process more individualized, while increasing students' interest in lessons. This way teachers not only develop cognitive activity in students, but also their creative potential.

Considering all the benefits of digital technologies, one needs to take into account that their excessive use even misuse could also deteriorate the learning process. Even though technologies play a significant role in education, they need to be correctly integrated into the teaching process, while being accompanied by new learning models.

The incorporation of digital technologies has its own specifics in foreign language teaching, but it also comes down to the ability of the teacher to choose the correct learning strategy and digital means, which in turn has an impact on the degree of the students' success in their lessons. Regarding the aims and chosen teaching strategies, there are various teaching aids supporting the learner in lessons, such as CDs, DVDs, cameras, computers, the Internet, tablets, telephones etc.

The aim of the research is to show the effectiveness of various digital technologies in the foreign language classroom by conducting comparative analyses and student questionnaires.

The research interest focuses on using presentations in foreign language teaching, while examining the most effective visual and communicative strategies in foreign language lessons.

2. METHODOLOGY

2.1. Literature review

The phenomenon of implementing digital technologies in education has been part of active discussions not just in Russian conferences, but also at foreign language conferences for many years: “International Conference on Education Technology and Computers” (UK, 2009), “Developing Information Technologies in Education: The use of new generation teaching materials in education process” (Tomsk, 2010), “New information technologies in education” (Ekaterinburg, 2014) and etc.

Different monographs and studies were published, including Information and communication technologies in education edited by B. Dendev (Moscow, 2013), Teaching secondary English with ICT Adams & Brindley (UK, 2007), New trends in Foreign language teaching (Methods, Evaluation and Innovation) edited by Lopes & Ruiz Cecilia (UK, 2018), Blended Learning in English Language Teaching: Course Design and Implementation edited by Tomlinson and Whittaker (UK, 2013), Research Methods in Education by Cohen, Louis, Manion, Lawrence and Morrison, Keith (UK, 2010) and etc.

These topics are actively covered in journals like the Journal of Information Technology for Teacher Education, Higher Education in Europe, Learning, Media and Technology, Technology, Pedagogy and Education, Journal of Educational Administration, Quarterly Review of Distance Education, British Journal of Educational Technology etc.

2.2. Visualisation

The visual aspect occupies a special place in the educational process. Visualisation is the process of presenting data using images, while its aim is to maximize the ease of understanding; the visible form can be applied to any conceivable object, subject or process etc. Jan Comenius was one of the first scholars to pay attention to the visualisation principle in education, emphasizing the fact that it was one of the most important tools in the learning process. The importance of visualisation was also asserted by another Russian teacher, Ushinskij, who described it as a tool reflecting on individual learners` characteristics. Ushinskij emphasized the fact that visualisation makes learning more accessible, specific and interesting, representing a factor preventing feelings of exhaustion and fatigue [27].

Consequently, computerization of the educational process opens up new paths in the development of thinking, providing new opportunities for active learning.

The most used devices in visualization are presentations, Wordle, Mind Maps and infographics.

The visualization of educational material not only develops students' ability to work with images and so creates a connection between particular representations, but also contributes to the forming of new original ideas, semantic lines, stimulates their artistic imagination, promoting and accelerating memory in assuming educational information. The use of multimedia presentations in foreign language classes enables the full development of a communicative approach, involving mastery of the following foreign language aspects: educational, developmental, cognitive and pedagogic, and all receptive and productive skills within the educational aspect: reading, speaking, listening and writing [9].

2.3. The use of ICT technologies in the foreign language classroom

The use of information and communication technologies is closely integrated with incorporating digital media in foreign language learning and was originally closely related to individualized computer-based drills and practice activities aimed at supporting learning in mastering grammar, vocabulary and pronunciation. This view was replaced by a newer approach to technology in teaching foreign languages in which the media has become an essential tool of global interaction and global literacy. Incorporating new technologies in any international foreign language classroom appears to be an essential tool for developing foreign language acquisition as it boosts motivation and the communicative competence of learners. There has been a large number of new devices supporting students in autonomous learning of a foreign language. Implementing a corpus in foreign language teaching has become very popular, using such tools as concordancers, with these representing extremely useful assets enabling teachers to create their own teaching materials or students to conduct research for themselves [8]. Having access to a corpora of authentic language might not only help learners to clarify their assumptions about the correct way of using the language, but also teachers to learn about the most frequent collocations, thus supporting them in creating their own worksheets based on authentic materials. Other types also used for assessing students` productive skills are automated scoring engines, representing a very practical approach to assessment, as they produce more reliable and quicker scores with a lower cost than human scoring [26]. The modern era has moved us to even greater innovative use of tools such as Skype, Zoom, Loom, podcasts to blogging and microblogging contributing to more independent way of learning and making it more interactive. Digital media also offer a number of ways to enhance the development of materials and also learner feedback across the traditional skills. One of them is using a software that can provide annotations through multimedia and promote word recognition, enabling teachers to quickly translate grade-level texts into language appropriate to their foreign language learners using software such as e-Lective [6] or educational testing services, including Text Adaptor (2010). Visual-syntactic text formatting via Live Ink software can

also make authentic English language materials more comprehensible to learners. To make the text more comprehensible, the VSTF method is used to assist with both visual and syntactic processing in reading. The software is also useful for writers, as it identifies ambiguous expressions and punctuation irregularities that grammar checkers would miss Walker et al. [29]. For fostering writing, digital media provide various options for supporting writing when the focus is on formal features of written language in traditional classrooms. On the other side, for grammar instruction, there are different types of websites that provide individualized practice of grammar, e.g. Purdue Online Writing Lab or freeware such as Hot Potatoes allowing instructors to create their own vocabulary and grammar activities and enabling them to post them on the Internet. As for speaking and listening skills, through computer tools digital media can provide individualized feedback on speaking and options for learner-controlled listening activities [15]. The advantage of such activities can be found on websites, while allowing students to control the speed, to pause, or to repeat segments of speech (e.g. <http://EnglishCentral.com>). Moreover, these tutorial-based options with the use of digital technology help learners practice listening and speaking skills, as they represent more interactive tools such as podcasting, letting students download a wide variety of authentic materials and upload their own files for studying out of the classroom. Hegelheimer and O'Bryan [19] introduced a platform called ESLpod.com that gives students free files and helps them to enhance their academic listening skills, using note-taking, and so prepares them for their future tests. Furthermore, digital media also enable students to record and review their own speech, to speak with others at no cost via online voicemail and to create audio blogs, or to take part in voiced bulletin boards.

3. RESULTS AND DISCUSSION

3.1. Presentation and her options

One of the important aspects of implementing information technologies in English lessons is project activity. Multimedia presentations are actively included in the learning process and students use the Internet to collect material. The method used for collecting and explaining new material, is called the clustering method. We can conduct a foreign language lesson by preparing different types of presentation. Traditionally, the study of a topic or section ends with a generalization of the material. All these elements can be combined by inviting students to create a multimedia project at the final stage of each topic. It should be noted that students are very enthusiastic about making multimedia presentations. This is another incentive to develop students' interest in learning the language. The positive result of using presentations is the faster pace of the lesson, the interest of students, the manifestation of their creativity.

The presentation makes classes exciting, informative and emotionally intense. The student can be present in the learning process on three levels of the perception process: visual, audio, tactile (written), allowing him to assimilate more deeply and understand the studied material. This technology may contain text materials, photographs, drawings, slide shows, sound design, audio recordings of outstanding artists of musical art, narration, video clips and animation, three-dimensional graphics. The main difference of the presentation is its unique richness of content and interactivity. Presentations enable different types of speech activity and their use in different combinations, thus giving the teacher a chance to choose from a broader number of the forms concerning educational activity and materials; this type of multimedia presentation can be used in various forms and can save the time for the teacher. It is worth to mention that presentations have advantages over other teaching tools, as they can be easily and quickly copied and distributed. The simplicity of using an electronic presentation lies in its easy manipulation and demonstration in the learning classroom. At the same time, the teacher comments on the information that appears on the screen, accompanying it by additional explanations, examples and entries on the board. When presenting new material, the presentation should not substitute the teacher, but it should enrich the story, by supplementing unique facts that cannot be explained in words or demonstrated by other means. Screen technology should entertain the students in the time allocated to the particular lesson.

Presentations has 3 main benefits: 1) increasing the level of acquired theoretical material: organizing the presenting material in a logical order, using images in the oral speech makes information more accessible; 2) allows a better understanding of the content of the topic of the lecture and its remembering; 3) convenience in forming students' abstracts: correctness of notes, emphasizing the most significant points, note alignment.

The use of visual presentations is one of the options given by the Microsoft Power Point program, which lets you create electronic slide shows, lecture notes, audience handouts and so on. Information can be presented in the form of text, table, graph, as figures, statistical or dynamic images, or in audio form as an accompaniment. A digital presentation serves not only to present knowledge, but also to check, consolidate, repeat, generalize and systematize it.

Other presentation options are available today that are being successfully applied in the educational process. One of these is Prezi – a new form of presentation, appearing on the market in 2009 in Hungary before gaining more in popularity around the world than its predecessor PPP. This service enables operation with data in 2.5 D and Parallaxi, while its creation is possible only with the Internet. It is time efficient, as the necessary illustration material can be downloaded instantly from the Internet. Prezi has a number of unique templates and tutorials that can also be shown without the Internet.

In our research, students were asked to use the aforementioned types of presentations. Most of them managed to prepare it without any problems, with 60% of students assigning Microsoft Power Point higher score, but this can be put down to greater familiarity and their conservative approach

to work. On the other hand, only 40% of students were inclined to Prezi software, which attests to their openness, enthusiasm and willingness to learn something new.

Presentations are created based on subject-object relationships: teacher-creator or student-creator, while they can be used in various forms of lessons.

In our research we compare several ways of making presentations: individual, pairs of students, in groups. In terms of group work, students work together on creating the presentations, each person taking a particular task, which might not only improve their interpersonal communication skills, but also project defence skills, solidarity, mutual assistance and the exchange of experience. Students evaluate this type of presentation positively (77%), since cooperative learning is psychologically much easier than working alone. Therefore, the results of the whole group point to success or failure in using presentations, while emphasizing pair work as the ideal way of working with presentations. 23% of the students showed a critical approach to the group presentation, asserting their characteristic traits such as leadership, self-confidence, unwillingness to cooperate with weaker students, or a desire to be the centre of attention.

3.2. Videoconferencing as a presentation tool nowadays

Considering the fact that limited opportunities for interaction outside the classroom have now transferred us to another level of teaching foreign languages, with the main objective to develop learner's communicative competence, the use of new technologies, especially new capabilities for audio and video communication that have emerged recently in educational contexts, have become particularly crucial elements for achieving success in foreign language lessons. Meeting this communicative goal boosts the development of communicative competence, which according to Canale and Swain [2], [3] were based on the following areas of knowledge and skills: grammatical, sociolinguistic, strategic competence and discourse competence. While grammatical competence is aimed at mastering the linguistic code necessary for understanding and depicting the literal meanings of utterances, sociolinguistic competence is based on using appropriate language in different sociolinguistic and sociocultural contexts. On the other hand, strategic competence helps learners deal successfully with any gaps in communicative competence, while focusing on the use of verbal and non-verbal communication strategies. Subsequently, discourse competence is associated with mastering the rules that determine cohesion and coherence in spoken and written texts. Therefore, well-designed tasks need to focus on communication, while giving us an opportunity to use linguistic elements correctly and to express oneself appropriately within social contexts [24]. Oral interaction has been considered an important element in the field of second language acquisition for a long time, and many scholars agree that speaking skills develop best in authentic situations involving negotiation of meaning [16]. To make the interaction more comprehensible, we do not focus on differences

between learners' interlanguage and target language forms, but on two additional factors involved in interaction and acquisition: the learner's attention and output [20]. The emphasis is on three components: input, attention and output, while underlying Long's [16] interaction hypothesis, depicting negotiated interaction, where corrective adjustments are made by native speakers or teachers who are more competent than learners, thus revealing gaps in learners' interlanguage. As the interaction between learners and native speakers is different than those between learners, Varonis and Gass [28] suggest that the model for negotiation among L2 learners is more suitable for identifying and analysing the negotiation routines in the case of the videoconference oral interviews between foreign language learners. The model proposed the negotiation of meaning consisting of a trigger, or an utterance on the speaker's part resulting in some indication of non-understanding on the part of the listener, and of resolution. Within the resolution, we find the following elements: an indicator, or utterance on the part of the listener that essentially terminates the horizontal progression of the conversation and begins a downward progression; the speaker's response to the indicator, acknowledging the non-understanding in some way; and an optional reaction to the response. In this model, comprehension checks can appear at any step of the way, and conversational continuants can function to keep the conversation going either with a positive or negative outcome.

The term videoconferencing describes a system where two or more participants interact while two or more participants see or hear each other in real time with the help of specialized equipment and a high-speed Internet connection [21]. There is a rising number of studies concerning the practices and obstacles to effective teaching on the educational uses of videoconferences, especially in higher education [17]; [18]; [13]. The benefit of videoconferencing is that it provides an audio-visual channel in interaction that is close to a real-life authentic situation. In a recent study Kim and Craig [11] carried out experimental tests where test-takers took part in face-to face and videoconference oral interviews. Many scholars tried to link videoconference interactions that had the aim of fostering foreign language speaking skills with issues of self-confidence, anxiety and communication apprehension. In particular, Kinginger [12] analysed classroom interactions taking place between language learners in the US and France via international videoconferencing. The research project looked to identify the morph syntactic and discourse difficulties experienced by American second language learners interacting with native speakers of French. The results were very positive as good students were highly motivated while participating in videoconferences, and lower ability students became more confident.

With ongoing difficulties and the looming reality of increased distance teaching, we have appeared in the situation to come up with more interactive ideas on how to keep in touch with our students also with Coronavirus threatening our lives. We opted for a more up-to-date and versatile version of Skype called Zoom. It is a highly convenient way to teach courses remotely, to multiple sites, or co-teach a course with another teacher if you share it together. The

greatest advantage of Zoom is the ability to create groups like in regular classrooms, while letting group members connect from various locations. Zoom allows students to show PowerPoint presentations or share anything on their screen that is necessary for lessons, while keeping the audio for the entire group with muting options, so multiple locations can listen to the lecture and everyone can answer the questions.

The main aim of our project was to give university students the opportunity to discuss the tasks they had been given by lecturers and to practice speaking about the topics of assigned lectures. As students were asked to work within the framework of task-based instructions, they were able to actively participate in sharing and exchanging information through problem solving situations, assisting in the clarification of any doubts they had concerning the topics covered in their courses.

Research participants were given questionnaires where they were supposed to answer open-ended questions. The results obtained show that Zoom sessions contributed to boosting participants' self-confidence with regard to the pragmatic competence in a foreign language. Furthermore, the majority of respondents agreed that they were motivated to speak in this virtual environment than during the regular classes at university, which might be related to a lower level of anxiety and stress learners usually face in the university classrooms.

4. CONCLUSION

The role of digital technologies in teaching foreign languages has been one of the most discussed topics in conferences not just in Russia, but also in the UK, having been published in various monographs. The visual aspect plays an important role in implementing digital technologies in education and visualisation therefore plays a vital role in education in various forms, from full-time education to distance learning. Visualisation is closely integrated to distance or virtual learning, where a teacher does not serve as a guide, but preferably as a tutor, while incorporating different simulation processes aimed at developing speaking skills and critical thinking. Presentations are the most used devices for developing visualization, contributing to the formation of new original ideas, stimulating artistic imagination and enhancing the level of receptive and productive skills. Productive skills and analytical skills can be improved using various software programs such E-lective, Text adaptor or Live-ink software which make a foreign language text more comprehensible for students thanks to visual-syntactic formatting [29]. In addition, the current situation surrounding the Covid-19 virus, which greatly affected how teachers around the globe work, has influenced the teaching environment and turned it into a virtual reality, where many teachers and lecturers are forced to work with more innovative programmes such as, Zoom, Loom, Learn-Cube and so on, which let them present classes to students, while applying strategies aimed at reducing anxiety. These platforms not only allow teachers and lecturers to provide feedback to their learners, but also give students a unique

chance to interact with their peers, regardless of where they are located. Both students and teachers can share their presentations and unlike a face-to-face model, videoconferencing lowers the level of stress in weaker students and increases their willingness to communicate, thus allowing greater distances to be bridged and their communicative competence to be fully developed.

REFERENCES

- [1] H. Bowles, P. Seedhouse, *Interactional Competence and the LSP Classroom, Conversation Analysis and Language for Specific Purposes: Linguistic Insights: Studies 19 in Language and Communication* vol. 63, Berlin: Peter Lang, 2007, pp. 305-329
- [2] M. Canale, M. Swain, Theoretical bases of communicative approaches to second language teaching and testing, *Applied Linguistics*, 1 (1980) 1–47.
- [3] M. Canale, M. Swain, A theoretical framework for communicative competence, In *The construct validation of test of communicative competence*, eds A. Palmer, P. Groot and G. Trosper, Washington, DC: TESOL, 1981, 31–36
- [4] M. Canale, From communicative competence to communicative language pedagogy, In *Language and communication*, eds. J. C. Richards and R. W. Schmidt, London: Longman, 1983, 2–27
- [5] M. Canale, A communicative approach to language proficiency assessment in a minority setting, In *Communicative competence approaches to language proficiency assessment: Research and application*, ed. C. Rivera, Clevedon: Multilingual Matters, 1984, 107–122
- [6] J. Cummins, Technology, literacy, and young second language learners: Designing educational futures, In L. L. Parker (Ed.), *Technology-mediated learning environments for young English learners: Connections in and out of school*, New York: Routledge, 2008, pp. 61–98
- [7] Presentations of Specialized Topics as a Ways of Testing Communication Skills, In: *Testing Language Competence of Tertiary Students in LSP Courses*, Hradec Králové: TAH reklamní agentura, ISBN 9788026065203, 2014, pp. 8-15
- [8] L. Flowerdew, *Corpora and language education*. Basingstoke: Palgrave Macmillan, 2012
- [9] N. Izotova, E. Buglaeva, Sistema sredstv vizualizatsii v obuchenii inostrannomu yazyiku, *Vestnik Bryanskogo gosuniversiteta*, (2) (2015) 70-73

- [10] S. Katz, Videoconferencing with the French-speaking world: A user's guide. *Foreign Language Annals*, 34 (2001) 152–157
- [11] J. Kim, D. Craig, Validation of a videoconferenced speaking test. *Computer Assisted Language Learning* 25 (2012) 257
- [12] C. Kinginger, Videoconferencing as access to spoken French. *Modern Language Journal* 82 (1998) 502–513.
- [13] T. Lawson, C.H. Comber, J. Gage, A. Cullum-Hanshaw, Images of the future for education? Videoconferencing: A literature review, *Technology, Pedagogy and Education*, 19 (2010) 295–314
- [14] Y. Lee, Fostering second language oral communication through constructivist interaction in desktop videoconferencing, *Foreign Language Annals*, 40 (2007) 635–649
- [15] M. Levy, Technologies in use for second language learning. *The Modern Language J.*, 93 (2009) 769–782
- [16] M.H. Long, The role of linguistic environment in second language acquisition, In *Handbook of second language acquisition vol. 2*, eds. W. Ritchie and T. Bhatia, San Diego, CA: Academic Press, 1996, 413–478
- [17] M. Martin, *Videoconferencing in teaching and learning—case studies and guidelines*, Omagh, Northern Ireland: Western Education and Library Board, 2000
- [18] D. L. Newman, J. Falco, P. Barbanell, S. Silverman, *Videoconferencing Technology in K-12 Instruction: Best Practices and Trends*, Hershey: Information Science Reference, 2008
- [19] A. O'Bryan, V. Hegelheimer, Integrating CALL into the classroom: The role of podcasting in an ESL listening strategies course, *ReCALL J.*, 19 (2) (2007) 162–280
- [20] R. Schmidt, The role of consciousness in second language learning, *Applied Linguistics*, 11 (1990) 129–158
- [21] S. Smith, Online videoconferencing: An application to teacher education, *JSTEE Journal*, 18 (2003) 62–65
- [22] Y.A. Sverchkova, Vizualizatsiya uchebnoy informatsii kak sredstvo preobrazovaniya blokovyih modeley, *Pedagogika i psihologiya, teoriya i metodika obucheniya*, Mezhvuzovskiy sbornik, NNGASU, 2012, 650 p.
- [24] M. Swain, The output hypothesis and beyond: Mediating acquisition through collaborative dialogue, In *Sociocultural Theory and second language learning*, ed. J. P. Lantolf, Oxford: Oxford University Press, 2000, 97–114
- [25] Text Adaptor [Web-based support], Ewing, NJ: Educational Testing Services, 2010
- [26] B. Topol, J. Olson, E. Roeber, The cost of new higher quality assessments: A comprehensive analysis of the potential costs for future state assessments, Stanford Center for Opportunity Policy in Education, 2011
- [27] K.D. Ushinskiy, *Pedagogicheskie sochineniya: V 6 t. T.5*, sost. S.F. Egorov, M.: Pedagogika, 1990
- [28] E. Varonis, S. M. Gass, Non-native/non-native conversations: A model for negotiation of meaning, *Applied Linguistics* 6 (1985) 71–90.
- [29] S. Walker, P. Schloss, C.R. Fletcher, C.A. Vogel, R.C. Walker, Visual-Syntactic Text Formatting: A new method to enhance online reading, 8(6) (2005). http://www.readingonline.org/articles/art_index.asp?HREF=r_walker/index.html