THE CONTRADICTION OF THE AGE: ONLINE TEACHING AND LEARNING VS THE LIMITS ON THE USE OF INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)

Miroslava Tsvetkova
Konstantin Preslavsky University, Shumen, Bulgaria

Abstract: *Nowadays the expansion of the Internet and accessibility as well as the Covid-19 pandemic have resulted in an increase in the demand for online learning across the globe. The vast development of educational technology in the last few years has led to the deconstruction of various barriers and challenges that the traditional approaches were incapable of overcoming.*

The question that arises is if we are over-concerned about being "over-connected". The answer is contradictory and provoking. It is a contradiction between the past and the present that is changing our mind and attitude towards information and communication technologies (ICTs). It is a contradiction between technology addiction and technology requirements. Research about the influence of ICTs on children's cognitive and physical development and the language of the digital age together with the provided survey among students of English philology, Konstantin Preslavsky University of Shumen aimed to identify the effectiveness of various online tools and technologies at any age, the preferred learning methods of students, and other factors that might influence the teaching–learning process. The study concluded that technology addiction was replaced by technology requirements. It proved that, although language itself changes slowly, ICT fosters the process of this change because technical support is essential in the age of online learning and critical thinking, and the creativity of students increases with innovative educational methods. Thus, we must support all types of interaction possibilities and build a sense of community engagement among online leaners. The underlying problem, therefore, is not so much technology, but the content and the approach that is applied in the context of education.

At the end of the article a set of recommendations is given on the implementation and use of information and communication technology tools in fostering English language teaching and learning.

Key words: *online teaching and learning, language, ICT, interdisciplinarity*

Introduction

Since we live in an age when digital tools have totally transformed the world, the rise in the use of information and communication technology (ICT) has led to growing concern about how it affects human brain, body and people's socio-emotional, cognitive and physical development. No one can challenge the necessity of an interdisciplinary approach to both teaching and learning a

second language, particularly when one considers the complexity and changes in the human brain and behavior related to digitalization (Muzur 2018). Language is the key instrument that will encourage competitiveness at a universal level in order to boost innovative, technological, scientific and instructive development. The relationships between language, ICT and interdisciplinarity should be taken into consideration in order to address the needs of education. All of them together in unity are significant to the demands of modern society (Suau Jiménez, Pennock Speck 2011) and will dwell on the challenges of digitalization of education.

Language and ICT are two aspects of second language acquisition in the 21st century educational set up which support each other, while interdisciplinarity is the bridge between them. Interdisciplinarity, however, has to represent a particular state of mind, on the one hand. In order to achieve the goal, we need to broaden our knowledge. Its relevance in bridging the gap between language and technology, on the other hand, has to be stressed, especially when dealing with complex phenomena related to challenges of contemporary education.

Second language teaching and learning in the digital age is a contemporary approach to education. It is practice-driven in a digitally mediated discourse through a variety of digital platforms, in and beyond the classroom. The present study aims to find the changes in second language instruction and learners' attitude to the new media, the role of the second language in the digital era and second language practices in online communities.

The question that arises immediately is: *What is the impact of information and communication technology on modern society?*

Young children

It is obvious that we are more connected than ever before. A lot of children have access to technology even before they learn to walk and talk, and preschoolers become familiar with digital devices even before they are exposed to books. For this reason, the general opinion is that information and communication technologies damage children's cognitive and physical development from a very young age (Barr and Linebarger 2017; Fidler et al. 2010). Since infants younger than the age of two do not learn well from digital media because, at that age, they have limited understanding of what they see and hear on the screen, their screen time should be limited and the media usage should be governed by parental decisions about the child's health. The term "technoference" describes the negative effect of technology on interpersonal interactions and children's disability to regulate their attention or emotions (McDaniel & Radesky 2017).

Research by Kirkorian and his colleagues (2009) on the impact of background television on parent-child interaction revealed a decrease of parent-child interactional quality when they are exposed to TV. Parents are believed to be slower to respond in a more passive manner (Kirkorian et al. 2009). Other researchers associate exposure to background TV with a negative effect on children's language development, as well as their cognitive development and executive functioning skills (Barr et al. 2010).

In a similar way, the study provided by Adamson and Frich (2003) condemns parental mobile phone usage. In the authors' opinion, when using their phones, their faces are still, thus, children respond in an apathetic and indifferent manner.

In contrast, however, exposure to educational television programs is considered to have better cognitive results. For this reason, the content and context of early childhood media exposure are to be considered (Barr & Linebarger 2017).

Further investigation (Barr 2019; Barr et al. 2010; Kirkorian 2018) revealed that children enjoy learning from digital media when the content is age appropriate and consistent with the knowledge that is required. The fact that it is interactive makes it attractive and entertaining, too. For instance, studying 2-year-olds, Kirkorin et al. (2016) found out that those who were engaged with interactive videos on touchscreen tablets increased their word learning as compared to their peers who did not use the technology (Kirkorian et al. 2016).

Technology also helps communication and builds family relationships (McClure and Barr 2017). But if children are constantly exposed to digital media during the preschool years, there is a great risk of having problems with their attention span and emotional control. Children's brains may adapt to visual stimulation and have little need for imagination.

Nowadays digital technologies provide a great opportunity for communication and learning. The use of appropriate technological processes and access to useful resources facilitate learning. Guerrero (2019) studied both clinical and educational implications of the availability of evidence-based screening tools for identifying children with dyslexia with the help of mobile apps which were properly adapted according to the developmental characteristics of children. After evaluating seven pre-reading predictors of later reading success, he concluded that a mobile screener has the potential to identify children with a risk for future reading problems (Guerrero 2019).

In relation to the impact of early media exposure on children's socio-cognitive development, researchers (Lauricellla, Blackwell and Wartella) demonstrated that young children enjoy and learn better from well-designed media when they interact with others (Lauricella et al. 2017). That is another reason the current study does not stick to any utter assumptions in relation to the adoption of digital devices.

Heydon and Du (2019) also support the process of digitalization. They studied the way digital tools could be integrated in an intergenerational art programme and tried to contextualize literature to develop literacy skills and ethnography.

Furthermore, Dore et al. (2019) describe their experience studying children's e-book reading. Although they note the value of the existing literature, they express their view that e-books have great potential for language development and collaboration. Some of the conclusions they came to are that "research needs to keep up with the rapidly changing pace of technology" and highlighted "the challenge of creating generalizable findings, given the many types of e-book features available" (Dore et al. 2019). They focused on the need for innovative methods for fostering language acquisition and expressing emotions during interaction.

Other researchers in the field (Mangen et al. 2019) discussed the role of narratives and storytelling in children's language development. They showed that interaction with children could be promoted and comprehension could be facilitated while reading books as well as how culture is introduced in texts focusing on the physical and cognitive development of children. They consider the need for interdisciplinary approaches to incorporate technologies in literacy and reading.

Media sources are a challenging opportunity to make learning experiences more meaningful (Lee 2019). Still, in the past, language was seen as a cognitive behavior and the Behaviourist theory explains language acquisition through association, imitation and reinforcement. The use of ICTs fit into this theory in that ICT tools provide an avenue for the principles of conditioning and foster second language acquisition.

The language of the digital age

The use of ICTs, which led to social distancing, limited interpersonal interaction, and changed teenagers' language in communication, has increased in the past decade. The changes in verbal and non-verbal means of communication determined me to study the language of the digital age 4 years ago. As a philologist, I was interested in various types of abbreviations, punctuation marks, spelling changes, sometimes even grammatical and spelling mistakes on the web. "Although 'language' was the key word, the one that changed the direction of my study from its traditional view was 'digital'" (Tsvetkova 2018, 1545). The language that was studied was that of technology, innovation, and rapid growth. The study proved that, although texting is notorious with its brevity and language itself changes slowly, ICT fosters the process of this change. It reveals how language could be deconstructed and then constructed again to convey meaning.

"The Internet is now an integral part of contemporary life", and, although people still debate on the scope of the changes it brings, "linguists are increasingly studying its influence on language" (Barseghyan, 19). A lot of researchers (see Chapelle and Sauro 2017) discuss the technology-education interface and cover all aspects of language learning starting from the basic language skills, going through vocabulary and grammar, and examining pragmatics and intercultural learning.

Cultural differences result in different use of emoticons. Kavanagh's cross-cultural analysis (2010) proved that the frequency of use of emoticons correlates with the high-low context distinction. Japanese, as a high-context culture, for example, relies more on emoticons than the USA, a representative of a low-context culture because of the wide diversity of cultures within the United States.

Nowadays social media and ICT inevitably remove the use of facial expressions, gestures, volume, pitch, and intonation of voice. This is where emoticons step in to make communication easier, more effective, and more expressive. One's feelings can be expressed by a single character-sized graphic only, while onomatopoeia (yap! ha-ha) simulates the sound (Tsvetkova 2018). Although they come in the contemporary world with the swift rise of technology, the language has deep evolutionary origins. Making some connections between literature and texting, it was found that abbreviations, letter and number homophones, and various symbols were used in poetry ("Essay to Miss Catherine Jay" by Charles Carroll Bombaugh) as early as the 19th century (Unknown 2011).

> Texting poetry is only one way in which the creativity of language and technique is expressed by contemporary technology. In the world of prose, the way in which texting allows for the compression of

> expression and the brevity of mood, the use of symbols, and an attention-grabbing endingare all ways of creating a new human experience (Rahma Al-Mahrooqi 2014, 4).

Online abbreviations like LOL and OMG also predate technology and the expansion of the Internet (see Oxford English Dictionary). Since they are part of the official English language, these acronyms have been included in The Oxford English Dictionary Online since March 2011.

Language emerges, changes, and continues to evolve in contexts of use (Tsvetkova 2018). Consequently, new technology is advancing learning and interpersonal interaction. The possibilities of the Internet and the mobile revolution just revived the language of the past and brought a swift rise of texting as a medium of communication.

This argument is supported by the British linguist David Crystal (2008) in his book *Txtng: The Gr8 Db8*, "The main effect of the Internet on language has been to increase the expressive richness of language, providing the language with a new set of communicative dimensions that haven't existed in the past."

In his book *Internet linguistics,* David Crystal (2011) addresses online linguistic issues and discusses the use of the medium from various perspectives.

Practices and forms of enquiry into technology and its incorporation in online language teaching and learning are on focus in contemporary research, (White 2017) as well as tools, technologies and the learning environment that have been influential in the process.

Given this background, technology will continue to evolve and it will alter communication. Why is our speech adapting and evolving to incorporate these textual shapes and forms? The answer is short and it is 'Necessity'. Texting gives us the opportunity to write the way we talk (Tsvetkova 2018).

Nowadays, the expansion of the Internet and accessibility as well as the Covid-19 pandemic have resulted in an increase in the demand for online learning across the globe. The swift development of technology that is incorporated in education has led to the deconstruction of various barriers and challenges that the traditional approaches were incapable of overcoming.

Among numerous barriers contradicting digitalization within society, George Foster (1962) noticed changes in human motor paradigms. In the recent past, Muzur (2018) is the reasercher who poses the question if we have reached the biological limits of our own speed of information development.

The present opens a debate if we are over-concerned about being over-connected.

The retrospective on technology in language learning confirms that technology addiction was replaced by technology requirements – those for teachers and learners, those of one's job or just for a safety issue.

The contradiction

And here comes the contradiction. A contradiction between the past and the present that is changing our mind and attitude towards ICTs. A contradiction between technology addiction and technology requirements because "If we teach today's students as we taught yesterday's, we rob them of tomorrow" (John Dewey, a philosopher, psychologist and education reformer).

In the context of instructional research, Guerra and Mellado (2017) observe that implementing ICTs in the educational context is a challenge. In their opinion, the "system must be theoretically motivated and designed to tackle specific cognitive skills (e.g., interference making) supporting a given cognitive task (e.g., reading comprehension), and must be able to identify and adapt to the user's profile."

In the shift from learning in the classroom to online learning, information and communication technology has redesigned the notion of learning. The challenges and opportunities it brought scared both learners and facilitators in the beginning. We all had to accept the idea that teaching and learning at home with the help of ICT is a continuum of the traditional second language acquisition, but it just has diverse and overlapping views of knowledge, teaching and learning.

The implementation of ICTs in online teaching and learning definitely brings flexibility in the learning process. A key issue to successful online learning, however, is the interdisciplinary approach we apply in combination with competences and knowledge about how to use digital learning methods.

Since there's no direct contact with the educator and it is the ICT that has significant impact on learners' experience and advancement, learners should develop social qualities, skills and competencies such as self-study, the ability to plan and organize their study, time management, the ability to solve problems and take responsibility under pressure, as well as be creative have

initiative. The attitude of the educator towards e-learning, on the other hand, can also be a barrier depending on their technological knowledge and that of the learners.

The survey

The need for a survey on effective online learning appeared as a result of the pandemic and the accompanying social restrictions, which were supposed to change the way our brain functions. During the process of teaching, various methods have been sought and implemented with different degrees of success. The survey aimed to carry out an assessment of the level of applicability and effectiveness of the use of ICT tools in facilitating the teaching and learning of a second language. The survey touched upon online learning both from a methodological and a psychological perspective. Since the growing misuse of language is often attributed to invasion of technology, the survey investigated how L2 learners draw on their L2 linguistic resources with the help of technology. It looked at how changing digital practices impact the way a second language is acquired. Contrary to this notion, technology was hypothesized to promote greater language learning success because it correlates language with identity. For the purpose of the survey, a questionnaire was designed and distributed among students of English philology, Konstantin Preslavsky University of Shumen.

The students' questionnaire aimed to identify the effectiveness of various online tools and technologies. Thus, the questions explored the preferred learning methods of students and the factors that influence the teaching–learning process. The students were asked if online learning improved their performance, whether or not they enjoyed being taught online and which methods engaged them personally to learn digitally, whether they were encouraged to do research using ICT as well as if ICTs made lessons enjoyable and more comprehensible. Last but not least, they were asked about the difficulties they faced in learning a second language using ICTs.

In this way, the survey focused on the linguistic as well as social practices and attempted to ascertain whether or not online teaching satisfies the criteria for learning and virtual 'community'; The term 'community' in the study is used to refer to the active participants in online spaces. The parameters were based on different types of learners, advantages, and obstacles to online learning. Questions 1–3 were asked to find out the effectiveness of the medium used for teaching and learning. The next set of questions 4-5 were used to determine the learning style of the student. Questions 6-9 were aimed at identifying the factors that influence effective online learning.

Results of the survey

Being asked to evaluate their overall experience regarding online education, the students responded it was either 'Average' (50 %) or 'Excellent' (50 %). None of the students answered it was 'Poor'. This leads to the conclusion that half of the learners appreciate and enjoy the opportunities that online leaning offers while the rest of the learners tend to accept them.

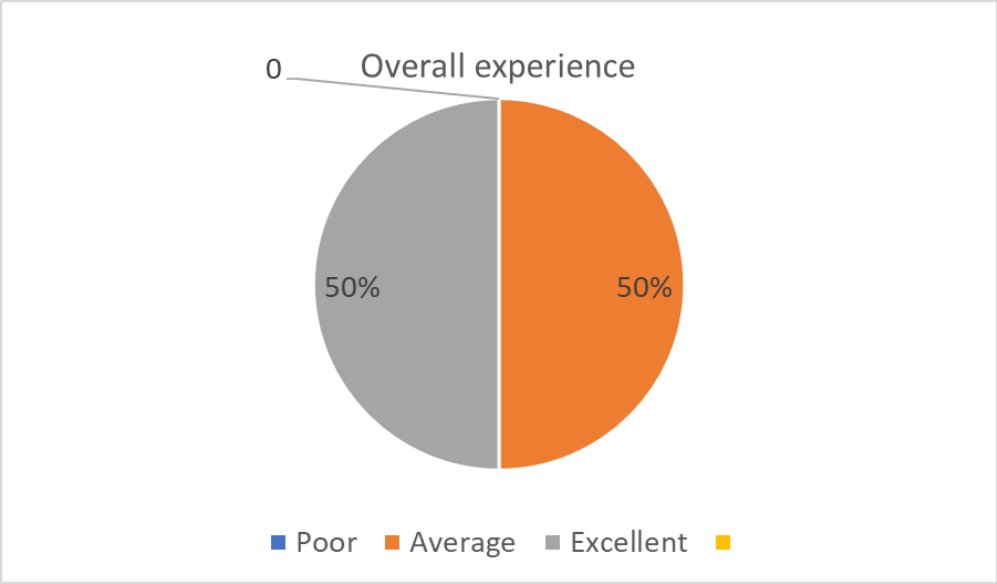

Figure 1. Overall experience

From the above figure (Figure 1), it is evident that students have a very high interest in online learning. This is exemplified by 100 % of the participants in the survey.

Depending on the individual's personality, students may like to learn in an interactive environment in the classroom or alone at home. More than half of the students (58 %) said that online learning was 'Very effective' for them. There was a decline in the effectiveness of online learning assessment, from 58 % to its minimum value of 17 %. 3rd year students found online learning more effective compared to 1st and 2nd year students.

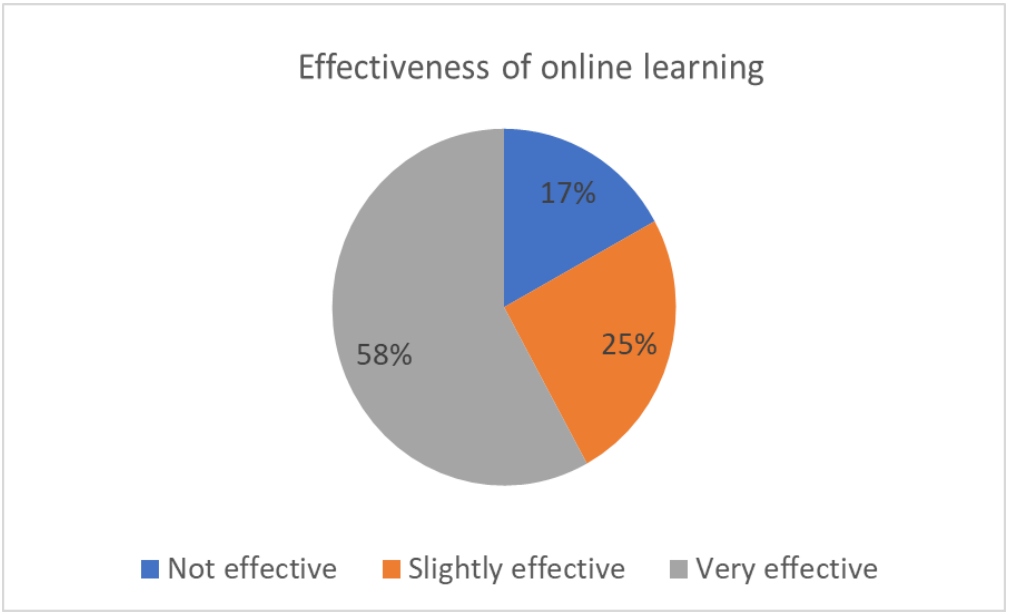

Figure 2. Effectiveness of online learning

Sharing their experience with online learning, the majority of students (75 %) said that they learned at their own pace comfortably. Other students (15 %) were distracted by various activities at home. These were mainly 1st year students. 10 % of the students found that the situational challenges were not suitable for them. The analysis shows that the choice of medium, the environment, the way we show our skills and the methods we use to meet learners' needs as well as our own beliefs communicate a metamessage and create this overall impression.

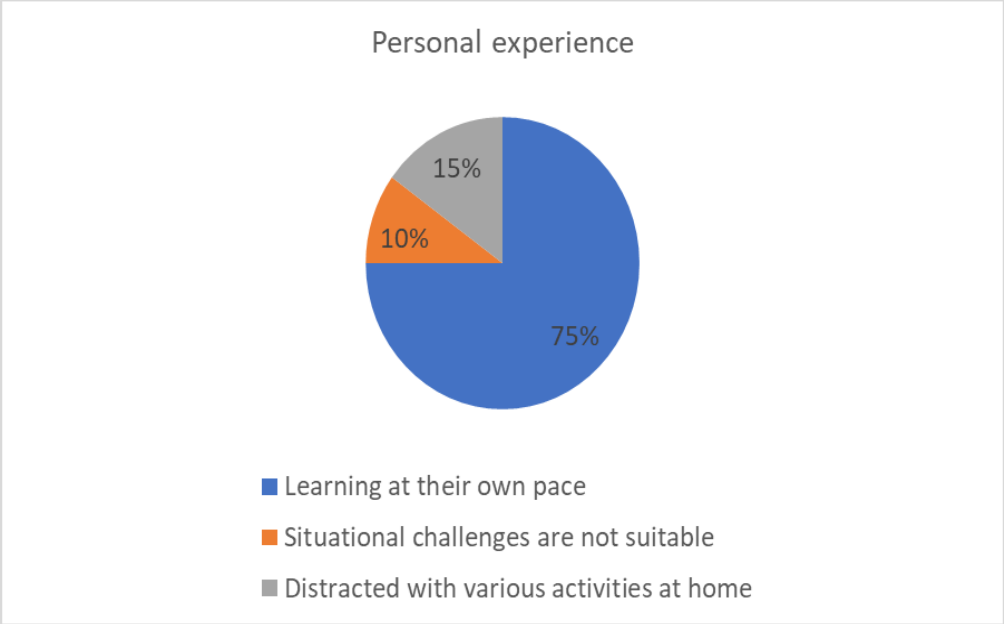

Figure 3. Personal experience

The difficulties that both learners and educators faced in using ICT in the process of second language teaching and learning consisted in insufficient level of computer literacy, slow Internet connection, unavailability of computers and difficulty in reading on phone screens. The students also complained of problems with downloading documents. These difficulties were obvious since students were not taught using ICTs in class to improve their technology skills.

Being asked about their most preferred method for clarifying doubts in online learning, 50 % of the students preferred asking the lecturer during an online lecture to going through online materials providing additional explanation (42 % - mainly 3rd year students).

Which of the methods engage them personally to learn digitally and fill knowledge gaps? 66 % of the learners pointed to 'Individual assignment'. The usefulness score dropped significantly in the case of 'Digital collaboration' to work on a specific task (Pair or group work, 17 %) and 'Project-based learning' (17 % as well). It can be assumed that, as an interactive and collaborative medium, ICT gives students the opportunity to easily share knowledge and experience as well as learning practices.

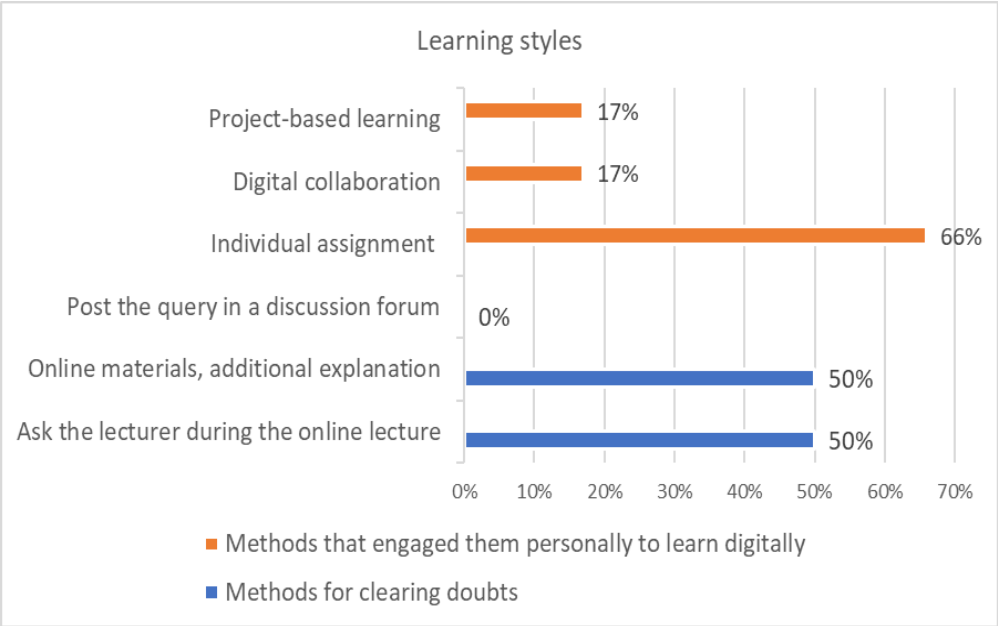

Figure 4. Learning styles

In seeking help, more than half of the students (67 % - mainly 3rd year students) found their teachers 'Very helpful' during the online classes, while 33 % answered they were 'Slightly helpful'.

Face-to-face communication was 'Not important' for 75 % of the students; 25 % insisted on face-to-face communication. The results confirm the assumption that Internet addiction increased during the COVID-19 pandemic (Nascimento et al. 2021).

Analysing the shortcomings of the traditional second language classroom, online classes were more effective because they provided PPTs in front of every student (83 %), while the rest of them (17 %) could hear the lecture clearly. If students missed any online classes, bad Internet connection, illness, or an appointment were the reasons (see difficulties below). The results are controversial given our initial attitude towards online teaching and learning.

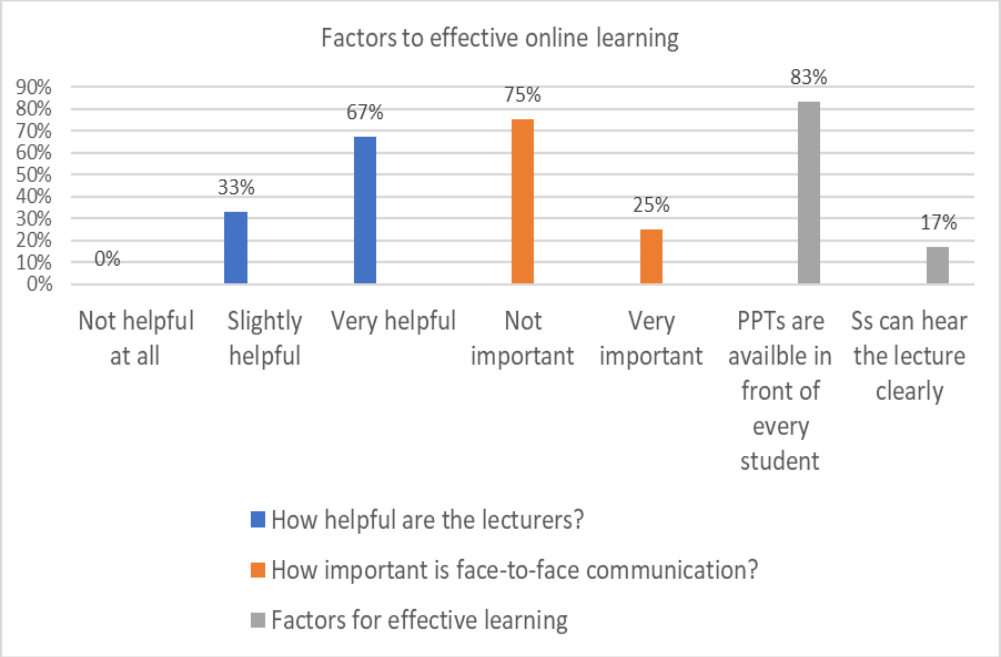

Figure 5. Factors to effective online learning

Giving learners little control over what and how to learn, the teacher-controlled classrooms force learners into a particular kind of L2 discourse and allow them little room to negotiate social identity position. The study proved that:

- Technical support is essential in the age of online learning.
- Critical thinking and creativity of students increase with innovative educational methods.

Conclusion

"Time doesn't pass, it continues" (Marty Rubin), and situations change, and we must adapt to these changes as soon as possible. Thus, we must support all types of interaction possibilities and build a sense of community engagement among online leaners. Using ICT in online learning can help in crossing boundaries of space and time for lifelong learning, because it has new, inviting, promising and diversified possibilities.

Thus, the problem is not so much technology, but the use of an appropriate approach. ICT creates opportunities for learners to access education and increase learning quality, and we, as educators, have to respond to the challenges of the globalized world. "The whole purpose of education is to turn mirrors into windows" (Harris 2017) and it is our task to let learners look through them because the integration of ICT will improve efficiency and

effectiveness of learning and enhance the quality of understanding and mastery of the second language. The findings imply that Information and Communication Technology Assisted Learning is useful for developing English language skills and knowledge, and has come to be a solution to academic problems; therefore, it needs to be fully implemented as far as the teaching and learning of a second language are concerned.

Recommendations

Since education is a two-way process, educators as facilitators should include ICT in order to diversify teaching. This will ease their work, deal with difficulties and foster second language acquisition.

Learners, on the other hand, should embrace the challenges of new technology and take responsibility for the student-centered model of the learning process.

Works cited

Adamson, L., Frick, J. 2003. "The Still Face: A History of a Shared Experimental Paradigm". *Infancy*, 4, 451–473.

Al-Mahrooqi, R. 2014. *Using Technology in Foreign Language Teaching*. In Rahma Al-Mahrooqi, Salah Troudi (eds.). Using Technology in Foreign Language Teaching. Cambridge Scholars Publishing, 1-7.

Barseghyan, L. *On Some Aspects of Internet Slang*. Retrieved from <http://ysu.am/files/Liana%20BARSEGHYAN.pdf> [Access 3 August 2022].

Barr, R. 2019. "Growing up in the Digital Age: Early Learning and Family Media Ecology". *Curr Dir Psychol Sci.*, 28(4): 341–346.

Rarr et al. 2010. Barr R, Lauricella A, Zack E, and Calvert S. L. 2010. "The Relation between Infant Exposure to Television and Executive Functioning, Cognitive Skills, and School Readiness at Age Four". *Merrill Palmer Quarterly*, 56, 21–48.

Barr, R., Linebarger, D. N. (Eds.). 2017. *Media Exposure During Infancy and Early Childhood: The Effect of Content and Context on Learning and Development*. Springer, New York, NY.

Chapelle, C., Sauro, Sh. (eds.). 2017. *The Handbook of Technology and Second Language Teaching and Learning*. John Wiley & Sons, Inc.

Crystal, D. 2008. *Txtng: the Gr8 Db8*. Oxford: Oxford University Press.

Crystal, D. 2011. *Internet Linguistics: A Student Guide*. London: Routledge.

Dewey, J. Quotes. Retrieved from <https://www.goodreads.com/quotes/833916-if-we-teach-today-s-students-as-we-taught-yesterday-s-we> [Access 7 June 2022].

Dore et al. 2019. Dore, R., Zosh, J., Hassinger-Das, B., Golinkoff, R., Hirsh-Pasek, K. 2019. *Reading in the Digital Age. Lessons Learned*

and Future Opportunities. The Routledge International Handbook of Learning with Technology in Early Childhood. Routledge.

Fidler et al. 2010. Fidler, A., Zack, E., and Barr, R. 2010. "Television Viewing Patterns in 6- to 18-month-olds: The Role of Caregiver-Infant Interactional Quality". *Infancy*, 15, 176–196.

Foster, G. M. 1962. *Traditional Cultures and the Impact of Technological Change*. New York: Harper & Row, 86–89.

Guerra, E., Mellado, G. 2017. A Book: A Feedback-based Adaptive System to Enhance Meta-cognitive Skills during Reading. Front. Hum. Neurosci., 13 March 2017 Sec. Cognitive Neuroscience. Retrieved from https://www.frontiersin.org/articles/10.3389/fnhum.2017.00098/full [Access 17 Aug 2022].

Guerrero et al. 2019. Guerrero, S., Ozernov-Palchik, O., Gonzalez, M., Zuk, J., Gaab, N. 2019. *Using Tablet Technology in Preschool and Early Kindergarten for the Identification of Children at Risk for Reading Difficulties*. The Routledge International Handbook of Learning with Technology in Early Childhood. Routledge.

Harris, S. 2017. *The Whole Purpose of Education Is to Turn Mirrors into Windows*. Kimberly Long.

Heydon, R., Xiaoxiao, Du. 2019. *This is the Stuff That Identities are Made of. Children Learning with Grandparents and Other Elders*. The Routledge International Handbook of Learning with Technology in Early Childhood. Routledge.

Kavanagh 2010. "A Cross-Cultural Analysis of Japanese and English Non-Verbal Online Communication: The Use of Emoticons in Weblogs". *Intercultural Communication Studies* XIX: 3, 2010.

Kirkorian, H. L. 2018. "When and How Do Interactive Digital Media Help Children Connect What They See on and off the Screen?" *Child Development Perspectives.*

Kirkorian et al. 2016. Kirkorian, H. L., Choi, K., and Pempek, T. A. 2016. "Toddlers' Word Learning from Contingent and Noncontingent Video on Touchscreens". *Child Development*, 87, 405–413.

Kirkorian et al. 2009. Kirkorian, H. L., Pempek, T. A., Murphy, L. A., Schmidt, M. E., and Anderson, D. R. 2009. "The Impact of Background Television on Parent-Child Interaction". *Child Development*, 80, 1350–1359.

Lauricella et al. 2017. Lauricella A. R., Blackwell C. K., and Wartella E. 2017. The "New" Technology Environment: The Role of Content and Context on Learning and Development from Mobile Media. In R. Barr and D. N. Linebarger (Eds.), *The Effect of Content and Context on Learning and Development*. New York, NY: Springer. 1–24.

Lee, L. 2019. *When Technology Met Real-life Experiences. Science Curriculum Project with Technology for Low-income Latino Preschoolers*. The Routledge International Handbook of Learning with Technology in Early Childhood. Routledge.

Mangen et al. 2019. Mangen, A., Hoel, T., Moser, T. 2019. *Technologies, Affordances, Children and Embodied Reading. A case for interdisciplinarity*. The Routledge International Handbook of Learning with Technology in Early Childhood. Routledge.

McClure, E., Barr, R. 2017. Building Family Relationships from a Distance: Supporting Connections with Babies and Toddlers Using Video and Video Chat. In R. Barr and D. N. Linebarger (Eds.). *Media Exposure During Infancy and Early Childhood: The Effect of Content and Context on Learning and Development*. New York, NY: Springer. 227–248.

McDaniel, B. T., Radesky, J. S. 2017. "Technoference: Parent Distraction with Technology and Associations with Child Behavior Problems". *Child Development* doi: 10.1111/cdev.12822

Muzur, A. 2018. "Interdisciplinarity As a State of Mind: How Can Individuals and Societies Reach It?" *European Review*, 26 (S2), S76-S84.

Nascimento et al. 2021. Nascimento, S., Silva, M., João Oliveira, J., Reis, J. 2021. "Internet Addiction During the Pandemic COVID-19: A New Paradigm?" *Acta Med Port* 34(5):402.

Oxford English Dictionary (OED). Retrieved from <https://public.oed.com/how-words-enter-the-OED/graphic/> [Access 3 August 2022].

Rubin, M. Quotes. Retrieved from <https://www.goodreads.com/author/quotes/1936218.Marty_Rubin> [Access 17 June 2022].

Suau Jimenez, F., Pennock Speck, B. (eds.) 2011. "Interdisciplinarity and languages: Current Issues in Research, Teaching, Professional Applications and ICT". *Coleccion: Contemporary Studies in Descriptive Linguistics*, Vol. 30. Bern: Peter Lang.

Tsvetkova, M. 2018. *The Language of the Digital Age*. In R. Dimitrovski (Ed.), Knowledge – International Journal, Vol. 22.6, Serbia.

Unknown 2011. Versedays: An Essay to Miss Catherine Jay by Charles Bombaugh.

Vandergriff, I. 2016. "Second-language Discourse in the Digital World: Linguistic and Social Practices in and beyond the Networked Classroom". *Language Learning and Language Teaching*, 46. John Benjamins Publishing Company, Amsterdam/Philadelphia.

Vulchanova et al. 2017. Vulchanova, M., Baggio, G., Cangelosi, A. and Smith, L. 2017. Editorial: "Language Development in the Digital Age". *Front. Hum. Neurosci*., 05 Sept. 2017. Sec. Speech and Language.

What Do We Know about Children and Technology? Retrieved from <https://www.oecd.org/education/ceri/Booklet-21st-century-children.pdf> [Access 11 June 2022].

White, C. 2017. *Distance Language Teaching with Technology*. In Carol A. Chapelle and Shannon Sauro (eds.), The Handbook of Technology and Second Language Teaching and Learning. John Wiley & Sons, Inc.