TEACHERS' RESEARCH IN LANGUAGE EDUCATION:

Voices from the Field

LA INVESTIGACIÓN DOCENTE EN LENGUAS:

Voces de los actores

Editado por
Verónica Sánchez Hernández, BUAP, México
Fátima Encinas Prudencio, BUAP, México
José Luis Ortega Martín, Universidad de Granada, España
Yonatan Puon Castro, BUAP, México

Cover Photo Credit: Name Cover Photo Credit

Contenido

Teacher Educators' Perspectives and Attitudes towards ICT, a Case Study

Oscar Manuel Narváez Trejo, Patricia Núñez Mercado y Gabriela Guadalupe Estrada Sánchez

INTRODUCTION

The term Information and Communication Technologies (ICT) encompasses any communication device such as television, cameras, IPods, Web 2.0 (social networking sites, blogs, wikis, video sharing sites, hosting facilities, Web apps, etc.), USBs, pcs, laptops, tablets, CD players, apps, Internet, TV, projectors, smartphones, satellite systems, etc. (Shalini Jayanthi and Vijay Kumar 34). To Rouse, the most accepted definition of ICT is referred to as a mixture of devices, applications, networking, elements and systems that individuals use to immerse themselves in the digital globe (par. 2-3). The impact of ICT in every aspect of our daily lives is indisputable. ICT has dramatically altered the way people communicate with each other and has changed our everyday life and how we relate to each other.

According to Noni, Jefri and Nasrullah, recent technology has changed the world we live in and has provoked a paradigm shift in education. In education, the impact of ICT in creating better teaching methods has been considered useful (88). ICT can transform the teaching and learning process in academic settings, given that ICT serves as a tool to assist and strengthen new patterns of communication between educators and learners that can promote learning; consequently, new educational models and educational designs (Deutschmann and Vu 43, Gunawardena et al. 217, Simon 201, Korkut 44) have emerged given ICT impact in and outside the classroom.

The increasing number of technological devices has transformed all levels of the educational system. Integrating ICT is now very commonly seen as essential in order to meet the learning needs of the new generations of students as today's learners perceive and process data differently as natives of the digital world (Prensky 1). However, there are some studies which suggest that there are a number of issues that need to be considered if the goal is for ICT to improve learning and make a difference in the learning process (Higgins and Moseley 191, Hernández 325).

The study of perspectives, attitudes and beliefs about educational issues has permeated the literature in the last years. Its importance relies, according to Richardson, on the fact that they allow understanding of educational actors' actions (102). Richardson grouped attitudes, beliefs, and perceptions as a set of mental constructs that "name, define, and describe the structure and content of mental states thought to drive a person's actions" (102). She also advocates the definition offered by anthropologists, social psychologists, and philosophers that beliefs, and related notions, are "psychologically held understandings, premises, or propositions about the world that are felt to be true" (103). Ferreira refers that several terms have been used as synonyms to beliefs about foreign language learning (e.g. folklinguistic theories of learning, learner representations, learners' philosophy of language learning, and cultural beliefs) (7). According to Ferreira, this is positive as it reflects different researcher stands (25).

Arguing in favour of a social constructivist approach to language learning, Williams and Burden brought to the forefront the close relationship between beliefs and actions among both teachers and students. They claimed that teachers' actions are highly influenced by their beliefs and asserted that their beliefs "will influence their actions in the classroom" (48–49). The authors argued that an essential stage in the social constructivist approach is for educational researchers to identify what educational actors' beliefs are. Thus, in this report, we study beliefs and perspectives from a social constructivist approach, following Williams and Burden's framework.

Regarding the study of ICT integration into education, Lim argues for a more holistic approach by adopting a sociocultural perspective. A sociocultural approach towards the study of Information and Communication Technologies (ICT) in education rejects the view that ICT can be studied in isolation; it must be studied within the broader context in which it is situated (411). With the emergence of technology in education, Mishra and Koehler consider imperative the integration of knowledge of contents, pedagogy and technology in any educational system for effective teaching and to reach quality education (1017). Consequently, they developed a framework called *Technological Pedagogical Content Knowledge* (TPCK). The TPACK framework has been increasingly used by educational technology researchers around the world as a framework to study issue related to technology integration into education. Thus, we approach the study of ICT integration from a sociocultural perspective using Mishra and Koehler's framework.

ICT IN ELT

The incorporation of ICT into English Language Teaching (ELT) is not exactly a new development. It has been around ELT for decades as tape recorders, language laboratories and videos, which have been used since the 1960s and 1970s and are still being used in classrooms around the world. In the middle 1980s, educational technology included more basic electronic and non-digital tools (e.g., chalkboards, overhead projectors, video cassette recorders). However, as the second millennium

begun, the use of digital technology increased around the world along with ICT integration into language teaching and learning in the early 1990s; process that has steadily continued up to date.

The use of ICT and media tools in ELT has been well-described in the literature (Bax 13-28, Warschauer 41-45, Cimermanová 13-23). ELT has undergone significant changes due to the specific developments in ICT, and thus the learning environment, classroom practices, material types and the role of teachers have changed dramatically in the last years (Bax 13, Warschauer 41). The inclusion of multimedia and the arrival of the Internet led to a more integrated learning environment with enriched learning materials and better personal interactions, which promised a continuous process towards full ICT integration (Warschauer 41, Cimermanová 13). With the increasing accessibility to the Internet, teachers and students are faced with endless ways of exploring, collecting and sharing knowledge; thus, the nature of communication and the essence of language education have changed dramatically considering that ELT is closely related with human interaction and technology use.

ICT as an instrument for teaching English has grown as teachers have grasped their capacity to develop autonomous and collaborative learning environments in which learners can easily practice and learn the language. The technological hardware and software instruments used in ELT can create many contributions to educators and learners in terms of repeated use of equipment, accessibility of materials everywhere and at all times, costless or low material costs, and efficient teaching in a short time (Gunuç and Babacan 349). Nevertheless, there are some studies that report some of the drawbacks when using ICTs in the ELT classroom such as the difficulty in the integration of ICTs in the lessons, the lack of technical support, insufficient access to the resources, institutional restrictions, among others (Livingstone 9, Çakici 73).

THE STUDY

This study ought to find out how English language teacher educators perceive the use of ICT in an EFL context. A mixed-method approach was used to gather the data. During a first stage, an open-ended questionnaire was administered to general English teachers taking an ICT in ELT course. Then, an adapted version of the survey "Factors Affecting Teachers Teaching with Technology" (SFA-T3) (Papanastasiou and Angeli 81) was administered to teachers giving the English courses of a BA in English. Papanastasiou and Angeli performed an exploratory factor analysis to determine the construct validity of the constructs measured in this questionnaire. They explain that the analysis was performed separately for each section of the questionnaire as it comprises distinct sections that are not comparable to each other and uses different measurement scales. Varimax rotation was used in these analyses for the clearer interpretation of the factors, while the eigenvalues cut-off point for the creation of the factors was set to 1.1. Lastly, 3 other BA teachers were interviewed using a semi-structured interview guide (69-86).

Research Context

The study took place at the School of Languages of a major state university in southeast Mexico. It offers three BA programs (English, French, and ELT), one MA in TEFL and a PhD in Language Studies and Applied Linguistics. It also offers general language courses through its Foreign Language Department, including English, French, Italian, German, Portuguese and Chinese. The English courses from this department are organized in 8 levels that go from beginners (A1) to intermediate (B2), and each level comprises 5 classroom hours a week for 15 weeks.

The BA in English holds both national evaluation and accreditation badges as a quality BA degree program. Its curriculum includes different academic areas such as English language, Spanish language, Linguistics, Culture, Literature, Research, Teaching and Translation. It admits 220 students each year (approximately 40% of the demand), and has two main objectives: to help students develop a good command of English equivalent to C1 of the Common European Framework of Reference for Languages (CEFR) and to provide students with the basic competencies to perform in teaching and/or translation professions, as well as in any other area in which English is the main vehicle of communication. Students must earn 318 credits to graduate, completed in five or up to 10 continuous terms.

The learning experiences related to Teaching that all BA students have to take are *English Teaching and Learning*, *Current Methods and Approaches in ELT*, and *Teaching Practice Planning*. They can also take three out of the four optional learning experiences offered related to teaching: *Teaching Practice*, *ICT applied to ELT*, *English Teaching and Learning for Young Learners* and *English Teaching through Literature*. As can be seen, only one of them is directly related to the use of ICT to teach the language. The 15-week English courses of the BA are 6, going from beginners (A2) to Advanced (C1); and except for the beginners' course, which is 10 hours a week, all courses are 8 hours a week.

Participants and Research Instruments

The participants of the first stage of the study were six English teachers from the Foreign Language Department. Before they started an ICT in ELT course offered by the School, they were given an open-ended questionnaire with 6 questions related to the use of ICT in the language classroom. The main aim of this questionnaire was to know teachers' familiarity with technological tools. The questions inquired about the technological tools they knew, the ones they used and how frequently, and what they considered the benefits and drawbacks of using technological tools in the language classroom. Lastly, they were asked to mention which tool or tools they would like to know more about.

The participants of the second stage were 10 out of 15 English teachers of the BA in English. They were given the adapted version of the SFA-T3 depending on their availability to answer it (during class, office hours or exam administration). This

survey consists of 6 parts: Teachers' background, Knowledge of computer software, Frequency of software for personal purposes, Computer attitudes, Perceived self-confidence in integrating ICT, and School climate and support. The first part inquired general information about the teachers such as age, gender, years of experience, language courses they give, professional development in ICT and whether they owned a computer. The rest of the sections consisted in a Likert scale which varied according to each part. Part 2 offered options regarding the extent to which they could use a variety of computer software. Part 3 options were related to frequency (never, once or twice a semester, a month, a week, almost every day) while parts 4, 5 and 6 consisted in a completely disagree to a completely agree scale.

For the last stage, three English teachers from the BA who had not answered the survey were interviewed using a semi-structured interview guide in relation to their perception of the use of ICT in the language classroom, and their own use of them. There were 4 core questions to this respect, but according to teachers' answers, some of them were rephrased and some other questions emerged.

FINDINGS

During the first stage, mainly exploratory, most teachers expressed that they are acquainted with some digital tools such as Prezi, Power point, Quizlet, and social media. However, they do not use them very often, at most once a week, which could imply that they do not know how to fully integrate ICT in their teaching practice. They agreed that the benefits of using technological tools in the English classroom include learning enhancement, more dynamic classes, the fulfilment of students' needs and context, and simplification of material design (Çakici 76). In general, teachers believe that using as many digital tools as possible is beneficial for their classes. They also expressed that they would like to learn more about tools that help them in the design of interactive materials and videos, as well as statistical software.

From this, it can be inferred that teachers are interested in applying ICT in their daily teaching practice, as they consider this might make their classes more meaningful for students. Nevertheless, teachers also expressed some concerns regarding the use of ICT. They fear that by relying too much on ICT in their language learning, students may not be using their imagination and creativity. They also mentioned that access to some of these tools may not be adequate at school, and that it is very likely that students make wrong use of these tools. Yet, all in all, the general teachers' perception seemed to be that the use of ICT in the English classroom is an issue that cannot be evaded.

After this exploratory stage, we proceeded to survey (second stage) and interview (third stage) the BA English teacher educators. Those who answered the survey, five male and five female teacher educators, were from 30 to more than 60 years old, and had from two to more than 30 years of experience. The English levels they teach covered all the levels offered at the BA (Beginners to Advanced), most of them had taken courses related to the use of ICT in the classroom, and they all own a computer.

The backgrounds of those who were interviewed, 2 male and 1 female, also fit into the previous description (SFA-T3 Part 1). Therefore, a wide range of ages, years of experience, and English levels taught were included. It is also fair to say that most seem to be interested in ICT training, and the use of the computer has become essential for their practice in one way or another.

For the second part of the survey, knowledge of computer software, the results can be seen in the following figure (Figure 1), where the colours indicate the extent to which teachers consider they can use the digital resources presented to them.

Figure 1. SFA-T3 Part 2: Knowledge of Computer Software
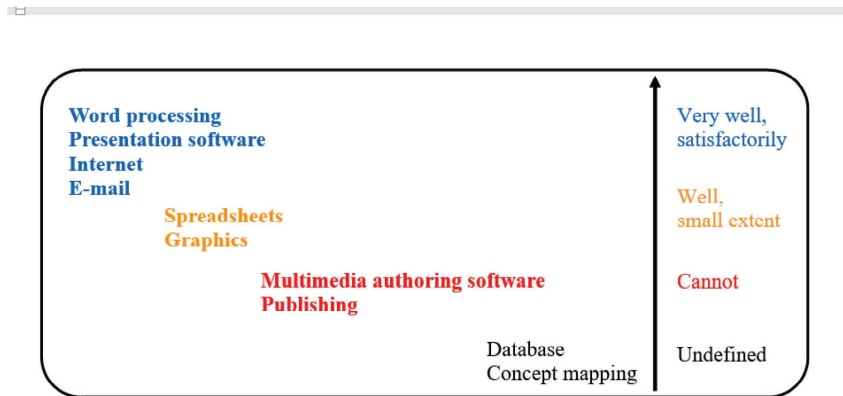
We learn from this, that teachers' use of the ICT seems to be limited to Word, Power Point, Internet & e-mail. This can be corroborated in the following figure (Figure 2), where teachers indicate how often they use some technological tools for personal purposes.

Figure 2. SFA-T3 Part 3: Frequency of Software for Personal Purposes
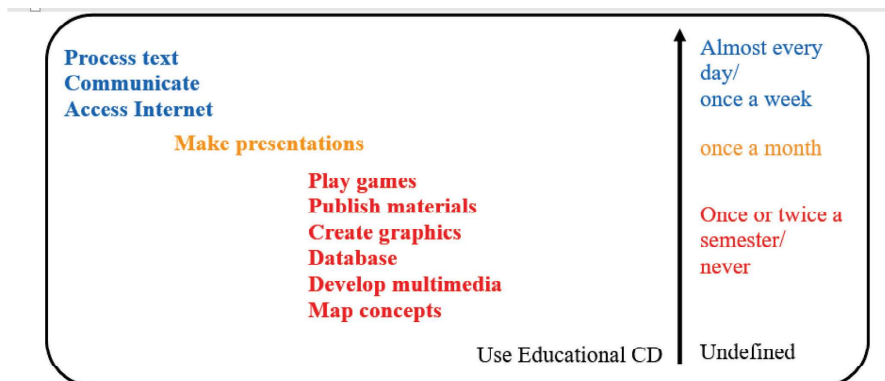
In the interviews, the answers also corresponded to this limited use of ICT. Although teachers seemed to be eager to use them <u>frequently</u>, they mainly came up with the idea of using Internet to find information, and material so as to adapt it, most likely using Word or Power Point:

"We used computer and projector, web sites <u>at least once a week at least couple of hours</u>. We use CDs and cd players <u>a couple of times a week</u>." *T1*

"We use them <u>in a daily basis</u>. We use it in presentations, sometimes some materials that I collect from the net, so in that way they find it learner friendly." *T2*

"I use them <u>all the time</u> …" "… if you don't know the meaning of a word you can look it up in your mobile. If you didn't design your materials you can find them online and you can adapt them." *T3*

This is also consistent with the answers from teachers during the first stage of the interview, in which they mainly mentioned software to make presentations and social media as the technological tools they use. Therefore, it could be said that it is true that the use of ICT has become an essential part of the language classroom, but the variety of tools used has not increased over the years as it should be expected given the number of new ICT applications for educational purposes that emerge day a day; and thus it is commonly reduced to what might be the most practical for teachers, which is most likely what they already know how to use.

Nevertheless, when inquired about their perceived self-confidence to integrate ICT in the language classroom (STF-T3 Part 5), teachers seem to feel quite capable of doing so, as it can be seen in Figure 3.

Figure 3. SFA-T3 Part 5: Perceived Self-Confidence Integrating ICT

Software selection for teaching
Power Point use
Technology-enhanced activities design
E-mail communication with students
Helping students select software for projects
Internet use to meat certain goalset

Completely agree, agree

ICT helping students understand concepts more easily

Completely disagree, disagree
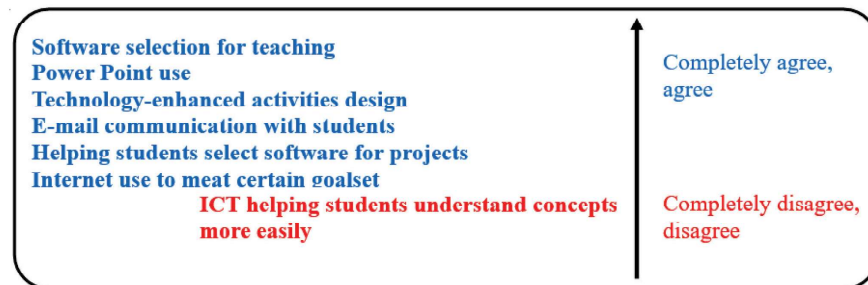
Source:

If teachers consider themselves quite capable of not only using power point and communicating with students via e-mail, but also selecting software for teaching, designing technology-enhanced activities and helping students select software for projects, why does this not seem to be happening? This can probably be explained by understanding teachers' attitudes towards the use of ICT (SFA-T3 Part 4).

Figure 4. SFA-T3 Part 4: Computer Attitudes
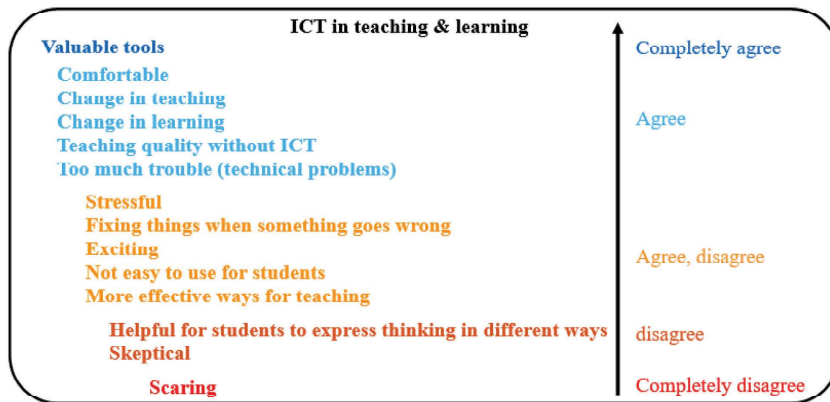
In this part of the survey (Figure 4), teachers were asked in different ways how they felt about using ICT for teaching and learning purposes. It may seem at first sight that teachers have a very positive attitude towards ICT, as it has been demonstrated in other studies (Noni, Jefri and Nasrullah 88-92, Zyad, *Integrating* 65-78, Zyad, *Pre-service* 4-18), since they consider ICT valuable tools that will change the ways in which they teach and the way students will learn. They also claim to feel comfortable with the idea of ICT as tools in teaching and learning, and not to feel scared or sceptical to this respect. In the interviews, teachers also show this apparent positive attitude:

"Adds a little bit of variety to the class. Class is not only book, book. Students seem to enjoy it." *T1*

"ICTs are very necessary nowadays, especially because sometimes the most attractive and visual materials English teachers can get comes precisely from technological sources, so they are very necessary." *T2*

"I think is important to be up to date, it's important for teachers to implement new approaches both pedagogical and technological ones." *T3*

"If you create learning objects, they are likely to be successful because students know what they are all about. You can increase the amount of time of input outside the classroom and I think you're enhancing autonomy because with those resources you're leading, teaching to be further, to be broaden, and students are more involved." *T3*

Nonetheless, from the survey (Figure 4) we also learn that teachers are not sure whether they feel stressed when using ICT or whether they would be able to fix a problem if something went wrong when using them. They are not even quite sure if they feel excited about using them as learning tools, or if they actually help them

teach in more effective ways. They also doubt how easy it is for students to use ICT in order to learn. This scepticism was also expressed in the interviews by one of the participants:

"I think it is not a good idea for everyone, but it is a good idea for a lot of people. If you're happy using it it's ok, if you don't feel very comfortable with them maybe you shouldn't use them." *T1*

"Although we might think that we are all very technological and we, teachers, expect students to be more technological, they are not, but it's ok to be at the same level." *T2*

"It seems that students, contrary to the popular belief, are not qualified to use ICT." *T3*

What is more, in the survey (Figure 4) teachers disagreed with the idea that using ICT allows students to express their thinking in better and different ways. They also think that their use implies too many technical problems, and most importantly, they think that they can do what ICT do equally as well when it comes to teaching. This, added to teachers not believing that ICT can help students understand concepts more easily (Figure 3), suggests that teachers are still not quite convinced that fully integrating a wide variety of technological resources in the teaching and learning processes is indispensable. In the interviews, a participant also expressed uncertainty as to whether using ICT constitutes a better way to teach and learn:

"Students seemed to enjoy, but what I mean is that I don't know if they learn more or less because of ICT, so I'm not sure about the results." *T1*

Finally, in the last part of the survey, related to school climate and support (SFA-T3 Part 6), teachers' perspectives were very negative (Figure 5).

Figure 5. SFA-T3 Part 6: School Climate and Support
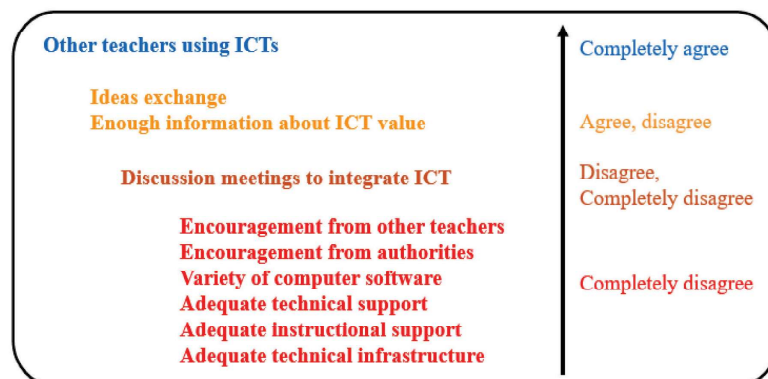
Source;

Although teachers do agree that there are several colleagues using ICT, from the previous survey sections and the interviews it can be inferred that they are mainly talking about audio players, computers, projectors, internet as a resource for finding information and material, and word processing software. Furthermore, from the teachers' perspectives, encouragement to use ICT seems to be absent, as well as appropriate training, resources, infrastructure, and despite the importance of using ICT is acknowledged, there does not seem to be much discussion on or knowledge about how to fully integrate them in the curriculum. Some of these problems are also mentioned in the interviews:

"I try to incorporate them, but honestly with the facilities we have, with the server we have, sometimes it is a bit difficult." *T2*

"We are in a public university and we don't have a lot of equipment, tools, the necessary stuff to increase our expertise regarding technology, communication technologies, information technologies, social networks, platforms; internet access, wireless, is really poor, our projectors are not very efficient, not everybody has a smartphone." *T3*

All these problems are similar to results from previous research on the subject when it comes to technical problems, lack of training and support from their work environment (Livingston 21), lack of ICT hardware and learning software, and additional Internet bandwidth capacity (Noni, Jefri and Nasrullah 90), curricular, infrastructural and logistical barriers (Zyad 72), more training to boost teachers' confidence (Mavroudi and Tsagari 344), and lack of integration of technology, pedagogy and content (Zyad 16).

Another issue brought up by one of the interviewed teachers also poses the students' lack of resources as a possible difficulty to overcome when trying to incorporate the use of ICT in the language teaching and learning process:

"If we try to include every single student, we can find that they come from different backgrounds, they are from different walks of life, some of them come from rural areas, they are not in touch with technology, so it's hard they can be integrated, they can be part of the community." *T3*

All things considered, although English teachers at the School of Languages of this university acknowledge the importance of ICT in language teaching and learning processes, they still hesitate to fully integrate them in their actual practice. One of the main reasons for this, deals with a general negative overview of the institution's support and infrastructure, but training is offered more and more everyday regarding different technological tools that can be used in the classroom to effectively foster learning, and corresponding authorities are constantly working on improving internet connection. Also, most of the classrooms at the School of Languages have been recently equipped with projectors. However, the main reason why teachers do not integrate a wider variety of ICT in their daily practice very probably lies within the very same teachers' beliefs regarding this issue; they seem to support the idea that fully integrating technology does not necessarily imply that teaching and learning will be more effective, and thus only use it in the most possible practical way.

CONCLUSION

The teacher educators consulted are aware of the importance of ICT in English language learning and teaching; nonetheless, they are also aware that, despite the many advantages that ICT offers, there are still many challenges to overcome. If schools are to introduce ICT successfully, several issues need to be resolved in advance. For example, they should increase training in application of social websites for learning and teaching English, overcome any infrastructure barriers so identified by educational participants (sufficient computers, bandwidth, reliable wireless connectivity), and provide carefully crafted use of web-based materials as complement to book-based materials.

Teachers educators also seem to firmly believe that face-to-face traditional instruction is equally valued by teachers. This actually corresponds to the students' preferences in terms of face-to-face interaction in a previous study at the same research context (Narváez, Núñez and Estrada 89-90). In fact, a recent study reports that when it comes to effective teaching, the use of ICT in the classroom is not one of the main characteristics considered by students (Valtonen et al. 431). Moreover, it has also been argued that using ICT for educational purposes does not seem to indicate that there will be better results when it comes to learning (Nilsson 5; Mena, Singh, and Clarke 588).

All in all, the fact that the use of ICT is quite limited indicates that, despite a positive self-confidence perception towards it, a not so favourable attitude still prevails. The lack of adequate infrastructure and training also indicates a not so favourable school climate. Therefore, there is still a lot to do for a change of attitude with respect to the use of ICTs in ELT, at least at this School of Languages; however, a prevailing question remains: how to implement ICT successfully into a teacher education programmme?

REFERENCES

Bax, Stephen. "CALL-Past, Present, and Future". System. 2003: 13-28. Web. 27 Sep. 2019
<http://www.editlib.org/p/96413>

Çakici, Dilek. "The use of ICT in teaching English as a foreign language". Participatory Educational
Research (PER). Nov. 2016: 73-77. Web. 28 Oct. 2019 <http://www.partedres.com>

Cimermanová, Ivana. "Historical background and pedagogical principles of CALL". CALL and Foreign
Language Education: e-textbook for foreign language teachers. Ed. Silvia Pokrivčáková et al.
Nitra: Constantine the Philosopher University, 2015. 13-23. Web. 27 Sep. 2019 < HYPERLINK
"http://www.klis.pf.ukf.sk/public/S.%20Pokriv%C4%8D%C3%A1kov%C3%A1%20et%20al.%
20-%20CALL%20and%20Foreign%20Language%20Education.pdf"
http://www.klis.pf.ukf.sk/public/S.%20Pokriv%C4%8D%C3%A1kov%C3%A1%20et%20al.%
20-%20CALL%20and%20Foreign%20Language%20Education.pdf >

Deutschmann, Mats and Mai Trang Vu. "Computer assisted language learning in language education: an
overview of theories, methods, and current practices". Språkdidaktik: researching language
teaching and learning. Ed. Eva Lindgren and Janet Enever. Umeå: Department of Language
Studies, Umeå University, 2015. 43-60. Web, 20 Jul. 2019
<http://urn.kb.se/resolve?urn=urn:nbn:se:umu:diva-106898>

Ferreira Barcelos, Ana María "Researching beliefs about SLA: A critical review". Beliefs about SLA: New
research approaches. Ed. Paula Kalaja and Ana María Ferreira Barcelos. Amsterdam: Kluwer
Academic, 2003. 7-33. Web. 23 May 2019
<https://www.springer.com/gp/book/9781402047503>

Gunawardena, Charlotte N. et al. "New Model, New Strategies: Instructional design for building online
wisdom communities". Distance Education. Aug. 2006: 217-32. doi:
https://doi.org/10.1080/01587910600789613.

Gunuç, Selim and Nuri Babacan. "Technology Integration in English Language Teaching and Learning".
The Journal of Teaching English for Specific and Academic Purposes. Dec. 2016: 349-358. doi:
10.22190/JTESAP1702349G.

Hernández, Roland M. "Impacto de las TIC en la educación: Retos y Perspectivas". Propósitos y
Representaciones. Jan-Jun. 2017: 325-47. doi: http://dx.doi.org/10.20511/pyr2017.v5n1.149.

Higgins, Steve and David Moseley. "Teachers' thinking about information and communications technology
and learning: beliefs and outcomes". Teacher Development. Feb. 2007: 191-210. doi:
10.1080/13664530100200138.

Korkut, Perihan. "The Dispositions of Student Teachers Regarding the Use of Technology in Education".
Cumhuriyet International Journal of Education. 2016: 44-57. Web. 20 Jul. 2019
<https://www.researchgate.net/publication/330201564>

Lim, Cher Ping. "A theoretical framework for the study of ICT in schools: a proposal". British Journal of
        Educational Technology. Dec. 2002: 411-21. doi:10.1111/1467-8535.00278.

Livingstone, Sonia. "Critical reflections on the benefits of ICT in education". Oxford Review of Education.
        Jun. 2011: 9-24. doi: 10.1080/03054985.2011.577938.

Mavroudi, Anna and Dina Tsagari. "Language Assessment Literacy Enhancement: any room for
        Technology-Enhanced Language Learning?". IEEE 16th International Conference on Advanced
        Learning Technologies. Austin: Texas, 2016: 342-46. doi: 10.1109/ICALT.2016.87.

Mena, Juajo, Balwant Singh and Anthony Clarke. "Teacher education for ICT integration in classroom".
        Proceedings of the Sixth International Conference on Technological. Oct. 2018: 588-91. doi:
        10.1145/3284179.3284279.

Mishra, Punya and Matthew J. Koehler. "Technological pedagogical content knowledge: A framework for
        integrating technology in teacher knowledge". Teachers College Record. June. 2006: 1017-54.
        Web. 23 May 2019. <http://one2oneheights.pbworks.com/f/MISHRA_PUNYA.pdf>

Narváez Trejo, Oscar Manuel, Patricia Núñez Mercado and Gabriela Guadalupe Estrada Sánchez.
        "Teachers' and students' perspectives on the use of ICT in TEFL". Alfabetización digital para la
        enseñanza de lenguas. Coord. Manuel Antonio Becerra Polanco and Felipe Hernández
        González. Cozumel: Universidad de Quintana Roo. 2017: 77-93. Web. 15 Oct.
        2019<https://www.uv.mx/idiomas/files/2019/02/EVALUACION_GUIA_2017.pdf>

Nilsson, Sven. "EFL classroom: cherished challenges. A qualitative interview study with six Junior High
        School English teachers in Sweden". Thesis. Jönköping University, 2018. Web. 15 Oct. 2019
        <http://www.diva-portal.org/smash/get/diva2:1225381/FULLTEXT01.pdf>

Noni, Nona, Riny Jefri and Nasrullah. "Teachers' preference toward and needs of ICT use in ELT". Global
        Journal of Engineering Education. Dec. 2017: 88-92. Web. 13 Oct. 2019
        <https://www.researchgate.net/publication/323111424>

Papanastasiou, Elena C. and Charoula Angeli. "Evaluating the Use of ICT in Education: Psychometric
        Properties of the Survey of Factors Affecting Teachers Teaching with Technology". Educational
        Technology & Society. 2008: 69-86. Web. 19 Jan. 2019
        <https://www.researchgate.net/publication/220374660>.

Prensky, Marc. "Digital natives, digital immigrants". On the Horizon. Oct. 2001: 1-6. Web. 04 Jun. 2019
        <www.marcprensky.com/writing/prensky-digital natives, digital immigrants-part1.pdf>

Richardson, Virginia. "The role of attitudes and beliefs in learning to teach". Handbook of research on
        teacher education. Ed. John P. Sikula, Thomas J. Buttery and Edith Guyton. New York:
        Macmillan Library Reference, 1996: 102-19. Web. 23 May 2019
        <https://www.researchgate.net/publication/239666513>

Rouse, Margaret. "ICT (information and communications technology, or technologies". TechTarget. Web. 19 Jul. 2019. <http://searchcio.techtarget.com/definition/ICT-information-and-communications-technology-or-technologies/>

Shalini Jayanthi, N. and R. Vijay Kumar. "Use of ICT in English Language Teaching and Learning". Journal of English Language and Literature. 2016: 34-38. Web. 19 Jul. 2019 <http://joell.in/wp-content/uploads/2016/03/34-38Use-of-ICT-in-English-Language-Teaching.pdf>

Simon, Krisztián. "Where is e-learning headed?". Argumentum. 2016: 201-15. Web. 20 Jul. 2019 20 Jul. 2019 <http://argumentum.unideb.hu/2016-anyagok/simonk.pdf>

Valtonen, Teemu et al. "Students' perceptions of ICT use in higher education context" Proceedings of EdMedia: World Conference on Educational Media and Technology. Ed. T. Bastiaens et al. Amsterdam, Netherlands: Association for the Advancement of Computing in Education (AACE), 25 Jun. 2018: 431-39. Web. 13 Oct. 2019 <https://www.learntechlib.org/primary/p/184227/>

Warschauer, Mark. "Sociocultural Perspectives on CALL". CALL Research Perspectives. Ed. Joy L. Egbert and Gina Mikel Petrie. Mahwah, New Jersey: Lawrence Erlbaum, 2005: 41-45. Web. 27 Sep. 2019 <http://education.uci.edu/uploads/7/2/7/6/72769947/spoc.pdf>

Williams, Marion and Robert L. Burden. Psychology for language teachers. A social constructivist approach. Cambridge: Cambridge University Press, 1997. Web. 23 May 2019.

Zyad, Hicham. "Integrating Computers in the Classroom: Barriers and Teachers' Attitudes". International Journal of Instruction. Jan. 2016: 65-78. doi: 10.12973/iji.2016.916a.

- - - . "Pre-service training and ICT implementation in the classroom: ELT teachers' perceptions". International Journal of Education and Development using Information and Communication Technology. 2016: 4-18. Web. 13 Oct. 2019 <https://pdfs.semanticscholar.org/6b9b/92f1172a22fd163a23234b149befe7236586.pdf?_ga=2.38740004.620057613.1587527250-1313034258.1587527250>