TECHNOLOGY-ENHANCED LANGUAGE LEARNING:
Choices, attitudes and recommendations from previous research

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INTRODUCTION

The fast development of technology itself and applications that can be used for language learning has prompted the use of new instructional aids for language teaching. On the one hand, it is important to consider that the everyday use of technology could enhance language instruction and learning attitudes (Izquierdo, Simard & Garza, 2016); through its use, learners can retain content in the new language and internalize linguistic resources available in the content they cover. On the other hand, the use of some types of technologies, such as the internet and social networking bring out some issues, as they could represent a risk, possibilities of misinformation, inappropriate language use or access to offensive material (OECD, 2015).

Consequently, careful planning and selection of the technology resources are of great importance for language teachers.

When integrating technology in language learning, the selection of the resources is crucial and should be done carefully. Teachers must make wise technological choices keeping in mind that CALL applications are tools to foster the learning of the various aspects of an L2 (Cumbreño et al., 2006). Nonetheless, some authors believe that technology has not always been used serving pedagogical needs because: it is not integrated in the syllabuses and everyday practice (Izquierdo, De la Cruz, Aquino, Sandoval & García, 2017); different needs that vary according to the age of students have not been considered; and those who teach are not often engaged in discovering how

to use technology contemplating pedagogical principles (Macaro et al., 2011; Warschauer, 1996 as cited in Bax, 2003; Chapelle, 2001).

Building upon an extensive review of CALL research, this paper first, discusses how CALL materials can enhance learners' attitudes towards language learning. Then, the paper presents some principles that teachers should keep in mind for the selection of CALL materials in order to foster learners' positive attitudes toward the use of technology for language learning.

TECHNOLOGY AND LANGUAGE LEARNING ATTITUDES

The importance of affective factors and the way they influence learning have been studied for many years. Motivation and learn-

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ing style are two relevant factors that influence the learning process when talking about young language learners (Ellis, 2004, as cited in Cumbreño, 2006). Izquierdo, Simard and Garza (2015) noted that, under certain conditions, technology could foster positive attitudes, motivation and engagement. To better document the impact of ICTs on learning, the social and environmental motivations are important elements to consider, as they could have an effect on learner's interest in learning and learning attitudes (Izquierdo, Simard & Garza, 2015; Cumbreño, 2006). ICTs make lessons more fun and enjoyable and can have impact on academic achievement (Tay et al., 2013). The multimodality that technology provides may cater for learners' different learning styles and increases children's awareness about learning while playing as Yáñez and Coyle (2011) indicate. Technology can enhance the learning experience, when the learners have good disposition and open mind for creative thinking that will lead them to find different ways to face situations and make decisions to solve problems.

Motivation is particularly relevant among young foreign language learners (Ellis, 2004, as cited in Cumbreño et al., 2006; Dôrnyei & Ushioda, 2011, as cited in Sundqvist & Sylvén, 2014). As Cumbreño explains, effective learning and knowledge development are related to cognitive and social perspectives so the use of games, child-to-child interaction, immediate feedback and collaborative projects and other teaching practices are important to promote success. When personal satisfaction is involved in doing an activity, it can be said that intrinsic motivation is pres-

ent and deep learning will be the result. One key element to foster willingness to learn is to promote learners' engagement and autonomy. The sense of achievement increases confidence. To achieve a goal, when completing a task, is more satisfying for young language learners than doing something just for fun, for instance. As Pintrich et al. (1993 as cited in Campbell & Jane, 2012) expressed: autonomy, involvement in the task and willingness to persist are indicators of motivation. In this regard, researchers have reported that positive attitudes, overall satisfaction and less boredom result when secondary school students have the opportunity to express themselves as they participate in voice or text chat rooms or online discussions. This might be due to the sense of being in a non-threatening environment for this kind of group activities. Teachers must consider learners' interests when choosing the resources and activities to avoid rejection or decay of motivation in the students. Macaro et al. (2011) found that some differences in the interests in technology-enhanced task completion were related to gender among the primary school students of the 71 studies they reviewed. There is evidence that boys and girls are attracted to different aspects of ICTs. Boys are more interested in technical aspects and problem-solving activities and girls are more interested in creative aspects and social activities. They also found that multimedia applications were more appealing to elementary students, particularly with vocabulary and reading tasks. This might be due to the variety of combinations to present the material (text; text and speech;

text, speech and graphics; video) which influence young learners' interest.

Macaro et al., (2011) also found in their review that learners were interested in real learning experiences, they enjoyed while using text chat, voice chat and multimedia storytelling. These digital resources also lead to a decrement of the learning anxiety. Hence, nowadays learning should be extended outside the classroom to help learners find connections with everyday situations that are familiar to them, their needs and interests. Finding these connections will foster intrinsic, social and environmental motivation to obtain positive and effective learning attitudes. When learners are able to apply what they learned in class, continuous learning takes place. When they feel they can apply what they know in daily life, motivation is promoted (Hwang et al., 2014, p. 362). As previously mentioned, learners' engagement and autonomy bring about sense of achievement and in the end positive attitudes and motivation.

LANGUAGE LEARNING AND CALL MATERIAL SELECTION

To foster positive attitudes towards the use of technology for L2 learning, teachers should consider some principles such as integrating CALL in the curriculum and using the computer to promote independent learning. Learners are capable of participating in different kinds of activities during the learning process, and they will do their own observation, interpretation and judgement of their own learning. Using the appropriate tools, justified and correctly integrated in

the curriculum, teachers should facilitate the production of different learning outcomes. When learners are engaged with this kind of activities, deeper learning occurs. Building upon this consideration, expected curricular outcomes should vary from basic knowledge acquisition to products that require higher type of thinking skill engagement (TAY ET AL, 2013; DE PRADA & FERNÁNDEZ, 1998, as cited in FERNÁNDEZ, 2010). Piaget (1971) stated that "children construct meaning by assimilating information into their existing schemata as well as by accommodating the existing schemata to new knowledge" (WOOD, 2001, P. 168). This means that the curriculum needs to push children to use technology in order to integrate new knowledge into the one they previously had. To this end, technology has been documented to enhance memory retention and to promote collaborative work and problem solving in educational settings (LAN, SUNG & CHANG, 2007; MORRIS, 2005; STICKLER, 2011; GODWIN, 2004; MESKILL, 2005). "ICTs are promoting new approaches to working and learning, and new ways of interacting" (BALACHEFF, 1993 as cited in WHEELER, 2000).

Teachers facing the widespread possibility of using the internet and multimedia applications should promote the use of the computer as a tutor. Cerezo et al. (2014) explain, in their analysis of 16 developmental studies with high school and college students, that it is possible to give the computer a directive role in which the learners use CD-ROMs or other multimedia applications, guide them along their use to provide input, facilitate interactive practice (CEREZO ET AL., 2014, P. 296), and promote output generation.

It is also possible to take advantage of computer-mediated cultural exchanges by working with literacy-related projects. While using the computer under teacher's guidance, learners can discover what they are able to do. Teachers should incorporate collaborative work and increase learners' motivation and autonomy expanding learning possibilities and helping them to learn flexibly connecting with each other (WHEELER, 2000). Nonetheless, this requires that teachers change role from information-giver, expert or authority to a facilitator, coach or mentor (FERNÁNDEZ, 2010).

Recent CALL developments have focused on helping students to practice and learn grammatical structures (CEREZO, 2014, P. 297; LEE, 2002 as cited in LEE, 2008). Drawing on this purpose, CALL applications and resources have been developed to trigger cognitive processes using graphic, aural and linguistic input which can be not only context integrated, but communication centered in a technological learning environment (CEREZO, 2014; BILLINGS & MATHISON, 2012; CHIRIMBU & TAFAZOLI, 2013; GOLONKA 2014; MESKILL, 2005).

Based on the principle that learners can use resources that are available to them for learning on their own, the concept of self-access learning emerges. This concept entails responsibility of the learner for his/her own learning. This kind of learning changes the focus from the teacher to the learner, facilitating consequently an autonomous learning. It can be said then, based on the constructivist theory, that learners can construct their own understanding based on previous knowledge and their learning experiences.

Therefore, the use of technology should provide learners with the opportunity to learn on their own having self-access to interesting or new materials (KEMBER, 1977 as cited in KIM, 2014).

Kirgkgöz (2011) acknowledges that second language learning has combined technology with face-to-face instruction. Researchers have found that, under this combination, language learning is promoted because of the flexibility and independence that technology gives to the learners (HWANG ET AL., 2014; KIM, 2014; MESKILL, 2005). Consequently, this independence implies changes in the learners' and teachers' roles. Giving students a more active role leads them to develop responsibility for their own learning building their own knowledge and using different skills, abilities, attitudes and strategies (CUMBREÑO ET AL., 2006). Learning autonomy encourages learners to organize their learning and be aware of their own progress (KIM, 2014; HAYTA & YAPRAK, 2013; MORENO, 2011). It helps them to notice what they have learned and retained, increases motivation and promotes positive attitudes towards learning (KIM, 2014).

Various pedagogical recommendations were put forward building upon existing CALL research, but it should be acknowledged that a great number of CALL-related studies have been carried out in English speaking countries where the second language learners are immersed in an English context. In a study with college-level learners using digital storytelling, Kim (2014) found that using new resources they directed their own learning, produced target language output, noticed their errors and corrected their

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own output. Something mentioned by Kim (2014, p. 28) is that even the learners improved their oral proficiency, there are factors that could influence the results because the students in the study attended other ESL programs and they were living in English-speaking contexts. The situation is completely different for learners who study in the foreign language context where they are exposed to the target language for a limited amount of time while they are at school. In this case, their practice is frequently communicative (in the classroom) and sometimes content-based limited to grammar instruction (Morris, 2005, p. 31). Therefore, the extent to which the recommendations previously made can be generalized to other international contexts has yet to received research attention.

Another aspect to consider regarding the pedagogical recommendations previously presented is that the majority of CALL-based studies have been carried out with adult learners (e.g., Grgurovic, 2013; Izquierdo, Simard, & Garza, 2015; Felix, 2005; Liu et al., 2002) and only a limited number with children (Mackey et al., 2005; Oliver, 1995, 2000, 2002 as cited in Morris 2005; Ramírez & Alonso, 2007; Alvarez et al., 2014). Felix (2005) found that studies in tertiary settings are more frequent, but the number in schools with young learners is increasing as Liu et al., (2002) reported in their review of CALL studies. Nonetheless, in his meta-analysis of 85 studies between 1970 and 2006, Grgurovic (2013) showed that primary and secondary settings are underrepresented. Along these lines, Macaro et al. (2011) reviewed 117 post-1990 studies that investigated the efficacy of technology

in primary and secondary education. The authors observed that only 40% of the studies were conducted on primary students and mostly in non-English Speaking countries (Felix, 2005).

Some examples of studies with young learners can be mentioned. Morris (2005) used synchronous and text-based mediated communication with elementary learners to analyze corrective feedback in child-to-child interaction. Ramírez and Alonso (2007) used digital stories to present linguistic forms and vocabulary in a meaningful context to 6 year-old Spanish young learners and they found significant differences in their listening comprehension skills. Moreno (2011) considers multimedia as an effective tool for the autonomous learning of vocabulary for elementary students. He considers multimedia important because it adapts to individual needs and learning styles in a learner-centered approach. Lee (2012) used storytelling supported by technology as an alternative for children with learning difficulties to improve their comprehension and motivation. Alvarez et al. (2014), who worked with elementary level learners, claim that their study "is significant in that few researchers have focused on randomized trial studies to determine effective EFL strategies" and there are no studies "with a rigorous design at the elementary grade levels conducted using CALL to teach EFL in Latin America".

CONCLUSION

Along these lines it was discussed that, it is undeniable that the impact of technology use on language learning is positive in many

aspects. On the one hand, in this article we suggest that teachers should work towards integrating CALL in the curriculum to cause a positive effect on learners' attitudes and promote collaborative work.

On the other hand, the diversification of ITCs fosters the integration of new knowledge into the one learners previously had because ITCs facilitate the use of new approaches to learning and interaction.

To enhance cognitive processes of second language learning, the use of the appropriate tools under the teachers' guidance can expand the possibilities using varied stimuli such as graphic, aural and linguistic input. Nonetheless, teachers should not forget that the applications and resources must be context integrated an whenever it is possible communication centered to create learning experiences that foster autonomous learning.

Furthermore, if what was mentioned above is accomplished, blended learning (combination of technology with face-to-face instruction) benefits flexibility and independence in language learning consequently increasing motivation and positive attitudes towards learning.

Teachers should be prepared to take the best advantage of the materials in the classroom enhancing the learning experience, and consequently promoting in the learners the need of learning on their own (autonomous learning). This way learners will be keen on using their electronic devices to practice on their own. The challenge would be to design language learning applications appealing enough for children to use at will.

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