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## The links between technology and principles of language teaching and learning: theoretical and practical insights

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**Abstract.** The paper examines the integration of technology into various language learning aspects, mainly how technology can enhance language learning and teaching. The focus is on selected studies that highlight the significant role of technology in promoting higher levels of motivation, enhancing language input, contextualizing the language learning process through access to various cultural materials, improving learners' L2 attitudes and enhancing better language teaching instruction. In examining these areas, we hope to provide pedagogical insights that would help practitioners and curriculum developers to utilize technology in an effective way to promote a better language learning experience.

**Keywords.** Second language learning, EFL, Technology

### Introduction:

Empirical studies of the integration of technologies into language learning indicate that technology has contributed to the development of language acquisition (Chapelle, 2009). Some of the aspects that have been investigated include motivation, learner engagement, interaction, communication, authentic input, cultural learning, and learning styles. In the following sections, studies that explore the connections between technology and motivation, authentic input, and cultural learning are reviewed, as these principles of SLA / second language teaching (SLT) are most prominent.

### Technology increase language learning motivation

For decades, motivation has been a central area of empirical and theoretical research in SLA. Motivation represents one of the more appealing and complex variables used to explain individual differences in language teaching (MacIntyre et al., 2001), and plays a crucial role in determining the rate and success of second language learning attainment (Dörnyei & Csizér, 1998). Research shows that motivation directly influences L2 learning strategies, the amount of input which learners receive, and overall achievement and proficiency (Oxford & Shearin, 1994). According to Sulaiman and Kassim (2011) "When motivation is emphasized, the learning environments are customized towards students' needs and thus, able to create a conducive setting for learning and constructing knowledge" (p. 47).

In his seminal work, Gardner (1985) identified two main motivational types relating to language learning; namely, integrative and instrumental. Integrative motivation refers to the desire to learn the language to interact with members of the target culture group; this also

encourages positive attitudes towards the people and their culture. Instrumental motivation refers to the pragmatic gains for learning a language, such as travelling or job promotion. Despite the fact that both types of motivation are essential for language learning, it is believed that integrative motivated learners are more successful than instrumentally motivated learners, because the aim of learning a language is not only to gain competence, but also to psychologically integrate with the target culture (Ellis, 1997). Ellis (1997) claims that integrative motivation is very important in classroom environment. And it is seen as a strong predictor of linguistic achievement. However, instrumental motivation is also important, and may be even more influential in some contexts where direct contact with the target language is limited.

Regardless to which type of motivation is driving the learning of the language, language learners should be provided with challenging tasks and activities in the classroom that help them stay focused on, and engaged with, the instructional content (Dörnyei & Csizér, 1998). Building on language learning motivation needs for a pragmatic education-centered approach, Dörnyei and Csizér (1998) proposed ‘ten commandments’ to motivate language learners. These commandments include teachers being personal example of learners, developing relationships with learners, increasing learners linguistic self-confidence, making classroom interesting, promoting learners autonomy, personalizing learning, increasing goal orientation, familiarizing learners with the target culture, creating relaxed environment in the classroom, and presenting tasks properly. With the assistance of technology, most of these commandments can be promoted more efficiently.

The relationship between technology and motivation is well documented, with a number of researchers finding that technology provides tools that influence crucial processes for language acquisition. Some of the benefits associated with technology use include higher motivation levels, higher self-esteem, increased learner attention, and engagement (Lai, 2019; Loewen et al.; Stockwell & Reinders, 2019; Weinberg, 2017), in addition to increased student involvement and satisfaction (Mullamaa, 2010). The Internet is a rich motivational tool that allows teachers and learners to have access to a vast range of materials about the language itself, and about the culture of the target language. The internet particularly social networking site (SNS), has attracted many researchers in the area of language teaching and learning. Reinhardt (2018) conducted a review paper for studies of 87 that was published between 2009 and mid 2018 which were focused on the use SNSs of language teaching and learning. The findings that studies identify SNSs as tools to offer developmental of intercultural, sociopragmatic, and audience awareness, language learner and user identities, and particular literacies.

One the current technology that has been found to be motivating for learners is Video. Shi et al., (2019) examined the perceptions of language learners in regard to the use of an interactive whiteboard (IWB) as a platform for integrating different types of ICTs –such as CD ROMs, digital videos, and web-based materials. The findings indicated that the use of IWBs facilitated the language learning processes as it affected students’ attention, concentration, and motivation levels. In addition to facilitating understanding, it aided the memorizing of lexical items, and it catered for different learning styles (Shi et al., 2019).

In Saudi Arabia, Hassan Taj et al., (2017) investigated the influence of using technology in teaching and learning vocabulary acquisition skills for EFL learners. One group of students was encouraged to use the computer and Internet to improve their vocabulary learning. The findings indicate that this group performed better than the control group, experienced higher motivation, and showed elevated achievement and self-esteem. Outside the classroom the students who used technology expressed their enjoyment and encouragement to exchange ideas about their vocabulary acquisition.

### **Technology enhance language input**

Theories regarding the learning of a second language recognize the significance of 'input' as a basic component in the acquisition process (Gass & Mackey, 2006). Input in second language learning refers to any L2 data that the learner is exposed to, or experiences, in various forms (Smith, 1993). Most of the research on input has been influenced by Krashen (1982) "comprehensible input" hypothesis. Krashen (1985, p. 2) proposed that an essential condition for language acquisition to occur is that the acquirer understands inputs that contains structures that are just beyond his or her current level of competence. If the acquirer is at level  $i$ , then the input should contain  $i+1$  and the claim is that "comprehensible input is "the primary causative variable in second language acquisition" (Krashen, 1982, p. 32). Comprehension is, to some degree, achieved using extra-linguistic information in the context. Zhao and Lai (2007) maintain that early research on input focuses on input manipulation that facilitates language learning, while current research on input has shifted to finding ways that present input in a manner that draws language learners' attention to particular linguistic forms, in order to help build a form-meaning connection.

Technology is one of the greatest tools that can assist in the effective provision of input. Technology has contributed to shifting the types and sources of inputs from classroom-bound pictures, and teachers' gestures, to reams of information supported through technology, which can better contextualize words and sentences and provide more extended discourses (Butler-Pascoe, 2011). Lai and Zhao (2005) assert that technology plays an important role in relation to input for three main reasons. Firstly, technology provides convenient access to a broad variety of target language inputs sources via different media or combinations of media. Several studies (Jones & Plass, 2002; Zhao & Lai, 2007) suggest that the use of multi-modal technologies is useful to aid comprehension, promote noticing and deep processing of the input, and accommodating different learning styles. Secondly, technologies allow language teachers and learners to access a vast library of input in a variety of formats that are relevant and in line with learner's needs. With the availability of technologies, such as the Internet, a language teacher can play news clips, songs, or any other linguistic input in which the learners have expressed an interest. Particularly in regard to the English language, the Internet has abundant materials that are prepared by other teachers and which can be used to complement the curriculum, or the topic that is being taught. Thirdly, technology lends itself to easy and quick configuration of comprehensible input and enhanced input to increase the possibility of it being processed and integrated. Input enhancement is a concept relevant to cognitive approaches to second language acquisition (Smith, 1993). Focused attention to relevant linguistic input is achieved through making some features of the input salient. Current technologies such as the Internet or interactive whiteboards allow teachers to highlight words or texts when reading paragraphs, thus helping students focus and remain engaged during instruction.

Importantly, the use of technology in the language classroom allows teachers to provide learners with *authentic* input. Nunan (1988, p. 9) defined "authentic input" as the language produced by a real speaker/writer for a real audience, conveying a real message. According to Gilmore (2007), the concept of "authenticity" is situated in the text, the participants, and the social or cultural situations, the purposes of the communicative act, or a combination of some of these. Bacon and Finnemann (1990) observed that authentic input has cognitive and affective advantages. In terms of the cognitive advantages, authentic input provides the context for appropriately relating form to meaning in the language acquisition process. In terms of affect, authentic input helps to motivate learners and overcome cultural barriers which may negatively impact on language learning. Researchers highlight the importance of exposing language

learners to engaging, authentic, comprehensible, and challenging input in the target language as a crucial factor for successful language learning ( Zhao, 2013).

Summarizing, technology can assist in the presentation of a variety of authentic inputs through different media or a combination of media. Modern technologies can facilitate and accelerate the provision of authentic inputs via radio, films, podcast, CDs, and the Internet. Exposing language learners to authentic contents and dialogues that occur among native speakers has become significantly easier than before. Authentic audio and video clips that are available online allow students to listen and watch native speakers in realistic, meaningful, natural, and culturally appropriate situations (Panneerselvam, 2020; Zanca, 2019). Access to these materials through various technologies gives teachers the opportunity to expose learners to the accents of native speakers of the language. These provide models for learners to mimic and to learn how certain linguistic inputs are constructed and used in the social context of the language. Exposure to authentic dialogue enhances language learners' speaking and listening skills, while increasing motivation and giving them a sense of belonging.

Jaqueline (2019) examined the effects of audio and video inputs on listening comprehension of two genres (passage and long dialogue). Her findings indicated that both types of input - audio and video - were interactive and they engaged the learners; however, video input aided learners' listening comprehension had more impact than audio input. Growing numbers of research project into language teaching and learning have focused on mobile-assisted language learning (MALL) which includes smart phones and tablets. These technologies have proven to be valuable for language learners and teachers (Bezircilioğlu, 2016; Botero et al., 2018; Loewen et al., 2019; Shi et al., 2017). One form of mobile learning that attracted a number of studies in language learning is the use of podcast (audio files). Podcasts are generally online audio files (Mp3 format) that are available on various topics. Language teachers can download any podcast and then use them in the language classroom. Abdulrahman et al., (2018) investigated the effect of podcasting on EFL learners, finding that it reinforces instruction by making input salient through rephrasing of key words and ideas as well as allowing for the provision of input in multiple modes in order to enhance learners' understanding and development of listening strategies.

### **Technology provide more access to cultural materials**

Teaching and learning about culture in language classrooms has been a concern for researchers and language teachers for decades (Bayyurt, 2017). Culture is one of the factors that affect the rate and degree of second language learning (Byram & Morgan, 1994, p. 5). According to Kramsch (1993), "Culture in language learning is not an expendable fifth skill tacked on, so to speak, to the teaching of speaking, listening, reading, and writing, It is always in the background right from day one" (p. 1). Teaching a language will be inaccurate and incomplete without the teaching of culture because language learning will make no sense if learners have no knowledge about the assumptions, values and norms of the country where the language is spoken; so learning a language is more than learning words and grammar (Genc & Bada, 2005). Language learners need to have access to the sort of cultural context and rules which are used in the interactions they are likely to encounter (Crozet & Liddicoat, 2000, p. 2), this being vital to enhancing learners' language skills, in addition to their cultural knowledge. Byram and Morgan (1994) asserts that language is dysfunctional if separated from its particular social context. This view is based on Vygotsky (1978) socio-cultural theory which asserts that learning is grounded in a social context.

Technology, particularly the Internet, has provided both language teachers and learners with easy access to large amounts of culturally-rich material. Traditionally, teachers have been

a source of cultural input if there were native speakers, or well-exposed to the target culture (Al-kahtani & Al-Haider, 2010). Alternatively, paper-based materials (e.g. magazines, newspaper) were used to provide cultural input. Today, easy access to television, video, the Internet, and mobile devices expands the amount and variety of cultural input sources almost exponentially. These materials are authentic representations, exemplifying the language and culture of the language that learners are studying, and taking learners into the world of the native speaker (Ahmed, 2017).

The use of modern technology to present cultural materials has been documented in recent studies. One of the most common technologies used to teach culture is video, and a number of studies (Nguyen and Nguyen, 2019; Tawil, 2018; Warner-Ault, 2020) have reported that language learners using this medium can improve their cultural understanding quite markedly. Nguyen and Nguyen (2019), investigated the effectiveness of technology to enhance the intercultural communicative competence of 40 Vietnamese English learners. Findings indicate that the integration of technology had a positive impact of students' intercultural competence.

In summary, technology holds great potential for language learners and teachers, as it can positively transform the experience of learning and teaching. Technologies are used to motivate learners, and they provide a channel to offer authentic linguistic and cultural input, which are all crucial principles for SLA. Therefore, many EFL/ESL institutions are trying to successfully integrate educational technology in their courses.

### **Technology improve language learners' attitudes**

A positive attitude by language learners and teachers towards technology is critical in improving their knowledge and their expectations of the role of technology in language teaching and learning (Bhatia & Ritchie, 2009, p. 549). A large number of studies that looked at language teachers and student attitudes toward the integration of technologies, ranging from computers to new emerging technologies, affirm that both reported positive perceptions and attitudes about how these technologies can affect language learning and teaching (Dilfiruz, 2019; Rubadeau, 2016). MacWhinnie & Mitchell, (2017) conducted a study on 241 Japanese EFL at two universities in Japan, EFL learners' positive attitudes result in lower anxiety levels, higher interest, and improved participation. This is in line with the established second language acquisition hypothesis based on the affective filter, as proposed by Krashen (1982) which states that acquisition and learning of another language is accelerated and improved when learners have lower anxiety levels, as well as higher confidence and motivation (Horwitz, 2001). Despite the importance of teachers and students' perceptions and attitudes, Egbert, Akasha, Huff, and Lee (2011), indicated that among other problems faced by technology in language teaching and learning, research is overreliance on student perceptions studies. This suggests that emphasis should rather be on how effective learning environments can be best established.

### **Technology enhance language teaching instruction**

The growing number of studies establish a strong connection between technology and language teaching and learning where the focus of research has shifted from investigating whether to accept technology use, towards how effectively teachers and learners can use technology for language teaching and learning, both inside and outside of the classroom (Zhao, 2005). It has been argued that it is difficult to expect that a single study can provide an answer as to how effective technology is in language teaching and learning, but rather, a compilation of findings from a range of empirical studies of different technologies used for teaching and learning languages will provide a clearer picture. Studies suggest that technology-based instruction in language teaching and learning can be as effective as teacher-delivered

instruction, depending on how teachers are informed, and how competent they are in using it to enhance language learning and teaching. Technology, by itself, does not lead to any learning gains as it is simply a tool; rather, it is how teachers pedagogically integrate technologies into the classroom that counts (Egbert et al., 2011). Zhao (2005) coined the notion of “technology capacity”, claiming that every technology has its own capacity, and language teachers need to interpret the capacity of each technology to support teaching and learning. Zhao (2005) asserts that the process of exploring the capacity of a technology is essential to translate these capacities into solutions to problems in the second language learning process. The teacher needs to evaluate how and when each technology can be applied in the classroom, before it is actually used. In the same vein, recent understanding suggest that for effective technology integration into language teaching, teachers must go beyond functional competence (knowing how to use the tool) toward a critical competence that entails realizing what the tools are good for, and then rhetorical competence which entails understanding how these tools will transform the learning environment (Blake, 2020). Therefore, when teachers have such a competence the chances of creating positive learning experiences can be higher. Once again, the issue of teachers’ knowledge is identified as crucial.

### **Conclusion:**

The impact of technology on language teaching and learning is documented in many studies on various language skills. Teachers needs to evaluate existing and emerging technologies and see their potentials and uses in the language classrooms. Language Teachers need to discuss the integration of such technologies with their respected students’ based on levels and preferences to maximize its effectiveness. In addition, some technologies are not developed for language teaching uses, however, teachers need to think of re-purposing them to be used for language teaching.

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