TÍTULO: El llamado del MALL: el uso de los teléfonos inteligentes en la educación superior. Una revisión de la literatura.

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RESUMEN: El objetivo de este artículo es presentar una revisión de la literatura relacionada con el MALL (el aprendizaje de idiomas asistido por el teléfono) y el uso de los teléfonos inteligentes para el aprendizaje de idiomas en el ámbito de la educación superior. MALL ofrece numerosas ventajas considerables, pero también algunos inconvenientes. Por otra parte, a pesar de que los teléfonos inteligentes pueden considerarse ayudas útiles para el aprendizaje de idiomas, varios estudios indican que el uso de los teléfonos inteligentes no siempre estimula la enseñanza y el aprendizaje, ya que existen algunas limitaciones que hay que tener en cuenta. Por último, los propios maestros desempeñan un papel importante en la integración del MALL en el proceso de enseñanza y deberían recibir una formación adecuada y eficaz.

PALABRAS CLAVES: MALL (aprendizaje de idiomas asistido por el celular), tecnologías móviles, teléfonos inteligentes, estudiantes de inglés como lengua extranjera, educación superior.

TITLE: The call of the MALL: the use of smartphones in Higher Education. A literature review.

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ABSTRACT: The aim of this article is to present a review of literature related to MALL (Mobile-assisted language learning) and the use of smartphones for the purposes of language learning in higher education settings. MALL offers numerous considerable advantages, but also some drawbacks. Moreover, in spite of the fact that smartphones can be regarded as useful aids to language learning, a number of studies indicate that the use of smartphones does not always spur teaching and learning since there are some limitations which need to be taken into account. Finally, teachers themselves occupy a substantial role in integrating MALL into the teaching process, and ought to be provided with adequate and effective training.

KEY WORDS*:* MALL (mobile-assisted language learning), mobile technologies, smartphones, EFL learners, higher education.

INTRODUCTION.

Due to the popularity and opportunities mobile technologies offer when it comes to language learning and teaching, it comes as no surprise that the amount of L2 research on MALL is increasing.

Mobile devices have become an indispensable part of every person's life all over the world. Current global issues require specialist in various fields to communicate effectively in foreign languages (Nikolajová-Kupferschmidtová, Štubňa & Kučmová-Lenzi, 2018), and with the innovation, development, and enhancement of mobile technologies, the attention of new users is being attracted to a progressively greater extent. Smartphones and other devices, which are undergoing a rapid

evolution at the moment, are not only used for making phone calls, shooting videos, reading and writing posts on social networking sites, or chatting with friends, but they may also aid EFL learners in developing their language abilities, which can be challenging to develop since, according to Bodorík (2017), learning a foreign language is a complex process which covers many specific areas. "As mobile technologies become more widely used in our everyday lives, it is perhaps not surprising that they have attracted the attention of language teachers as a means of providing learning opportunities that learners can take advantage of at a time and place that suits them" (Stockwell, 2013, p. 201). AbuSa'aleek (2014) also claims that cellular phones have become an important part of people in the world, in particular in the field of education.

Fučeková and Metruk (2018) maintain that ICT can be a useful tool supporting learning English also within formal teaching practice, and according to Dashtestani and Stojković (2015) and Karpenko (2017), it is also ESP (English for Specific Purposes) instruction which is positively affected by the affordances and benefits of technologies. Moreover, Traxler (2007) maintains that mobile learning has also growing visibility and importance in higher education. Stockwell (2012, p. 30) also highlights the significance of mobile learning by stating "[m]obile learning will continue to take on new shapes and forms as it becomes more familiar to both teachers and learners". However, it should be also noted that despite the fact that MALL provides both teachers and learners with innumerable resources to improve learning experience (Grimshaw, Cardoso & Collins, 2017), mobile technologies also suffer from some drawbacks which need to be taken into consideration. This article attempts to cast some light on research conducted in this field, exploring advantages and disadvantages of MALL as well as examining the effects of using smartphones in higher-education settings.

The following research questions have been formulated.

1. What are the advantages and disadvantages of MALL?

2. What is the effect of employing smartphones in higher education settings on academic performance?

3. What is the position of a teacher regarding MALL?

DEVELOPMENT.

MALL (Mobile-assisted language learning).

MALL (Mobile-assisted language learning) has been in existence for approximately twenty years (Burston, 2014), but has become an integral part of learning a language only recently (McKim, 2016).

MALL can be regarded as integration of mobile devices into the process of language learning (Bezircilioğlu, 2016). MALL is a subset of CALL (Computer-assisted language learning) and m-learning (mobile learning) (Valarmathi, 2011). Kukulska-Hulme and Shield (2008, p. 273) explains the difference between MALL and CALL by stating that "MALL differs from computer-assisted language learning in its use of personal, portable devices that enable new ways of learning, emphasizing continuity or spontaneity of access and interaction across different contexts of use".

In connection with this, Baleghizadeh and Oladrostam (2010) explain that "[a]s with other forms of technology, mobile assisted language learning (MALL) is a branch of technology-enhanced learning which can be implemented in numerous forms including face-to face, distant or on-line modes". According to Alepis and Virvou (2014), MALL has developed to aid learners' language learning with an increased use of mobile technologies such as cellular phones, mobile music players, PDAs, or mobile smartphone devices.

Chuang (2016, p. 114) explains that "Mobile assisted language learning (MALL) provides benefits that students can learn anywhere and anytime with their mobile devices". Thus, it has been the focus of numerous articles in recent years, and there is no doubt that a plethora of studies will concentrate on MALL in years to come.

Positive perception or attitudes towards MALL in higher education have been recognized in several studies (Abadi & Saadi, 2015; Azli, Shah & Mohamad, 2018; Garcia Botero, Questier, Cincinnato, He, & Zhu, 2018; Oz, 2015; Park, 2014; Saidouni & Bahloul, 2016; Soleimani, Ismail & Mustaffa, 2014). Thus, MALL seems to have secured its place in teaching and learning foreign languages, and its position may be more and more dominant in future years.

MALL advantages and challenges.

Mobile-assisted language learning offers several major advantages. Chartrand (2016) mentions these assets of using MALL in a language classroom: multimedia ability, Internet access, social networking, and immediate feedback. According to Klopfer, Squire and Jenkins (2002), the users of handheld devices may experience the following benefits:

- Portability (can take the computer to different sites and move around within a site).

- Social interactivity (can exchange data and collaborate with other people face to face).

- Context sensitivity (can gather data unique to the current location, environment, and time).

- Connectivity (can connect handhelds to data collection devices, other handhelds, and to a common network that creates a true shared environment).

- Individuality (can provide unique scaffolding; that is customized to the individual's path of investigation).

Zaki and Yunus (2015) maintain that mobile learning contains several features which are beneficial to students, such as:

- mobility (mobile devices can be moved and carried easily).

- Ubiquity (mobile devices can be found everywhere, and it appears that every person is using it).

- Wireless networking (smartphones are the combination of phone, camera and multimedia wireless computer, allowing learners limitless internet connection without the use of any other device or wiring).

- Interactivity (learners are able to interact with each other, regardless of the distance).

- Accessibility (learners are able to obtain information almost immediately so as to answer various questions).

- Privacy (learners may feel safe and are not ashamed of their current level of learning).

Joseph and Uther (2009, p. 28) explain that "[t]he use of mobile devices and their multimedia capabilities can help language learners have more authentic real world learning experiences, situating learning within their cultural and linguistic schemata". Moreover, Romero, Zarraonandia, Aedo and Díaz (2010, p. 373) state that "[a]mong the many benefits that the m-learning modality can provide, what most stands out is the ability to access and follow the learning material simply and without undue effort." Al-Shehri (2011) asserts that mobile technology may involve students in the overall learning process which is sometimes beyond the classroom. Moreover, much of the literature on mobile learning highlights the effectiveness of mobile technology regarding offering opportunities which are authentic and contextually meaningful. It is also culture and cross-cultural communication which needs to be taken into account. "Therefore, the use of new technologies including mobile phones would facilitate this process of familiarity with other cultures and foster cross-cultural communication and in turn learners' L2 learning" (Tafazoli, Parra & Huertas-Abril,

2018, p. 175). Finally, MALL has a tendency to enhance motivation of learners as well as provide a supporting learning environment (Ally et al., 2007).

In spite of the fact that employing MALL offers plentiful obvious advantages, there are also several challenges which need to be addressed. According to Tafazoli, Parra and Huertas-Abril (2018), researchers worldwide have introduced problems with MALL, such as having small screen, limited audiovisual contact, small keyboard, limited length of messages, data storage, etc. Furthermore, a lot of mobile devices have not been designed for the purposes of education. Thus, it may be difficult for students to exploit them in order to accomplish tasks which were given to them by their teachers. It should be also noted that plenty of students seem reluctant to use mobile phones for the purposes of learning a language (Stockwell, 2007), but it appears that this has nothing to do with confidence or competence in using cellular phones, rather than an indication of students unwillingness to use phones for the purposes of education (Stockwell, 2008).

Price of mobile devices may be often rather high, especially in developing countries (Kassem, 2018), so that a low number of learners are able to buy particular portable gadgets. Kassem (2018) further indicates that it is also the screen size which is associated with difficulties since it has a tendency to be rather small and, therefore, it may be problematic when used for a longer period of time. According to Larsen-Freeman and Anderson (2011), limited battery life and memory capacity can also be regarded as drawbacks of MALL. Another pitfall is associated with being dependent on networks which may not always offer high transmission capacity, and could be subject to various disturbances (Viberg & Grönlund, 2012).

One of the main drawbacks to MALL; however, appears to be represented by the teachers themselves. Essentially, teacher's work is a practical activity reflecting pedagogical assumptions, knowledge, experience, and personality of a teacher (Pitoňáková, 2016). When it comes to MALL, it can be generally agreed that educators also ought to demonstrate a certain level of knowledge

about mobile technologies. However, the results of Dashtestani's survey (2013) illustrated that EFL teachers did not possess the required skills to use and develop MALL activities. In a similar way, Ismail, Bokhare, Azizan and Azman's study (2013) indicate that in spite of the positive perception of technology, the readiness of teachers regarding the use of cell phones in teaching and learning was found to be at a fairly low level. The study of Ismail, Azizan and Azman (2013) also shows that teachers are unprepared for mobile learning. Thus, providing sufficient, adequate, and effective training for language teachers appears to be of vital importance. Despite the aforementioned drawbacks, it can be concluded that advantages of MALL outweigh the challenges, which, however, need to be solved in years to come.

Smartphones and MALL.

Typical cellular phones, which were primarily used for communication purposes, are now being replaced with smartphones. Smartphones belong to the category of smart devices. Rai, Chukwuma and Cozart (2017, p. 6) define smart devices as "instant communication medium of the masses", which include things like smartphones, tablets, eReaders, smart watches, and smart eyeglasses. It should be, however, emphasized that the list of smart devices will apparently continue to grow.

When it comes to defining the term smartphone, it seems difficult to find a definition in literature, which would be widely accepted. One of the more satisfactory and adequate definitions is offered by Theoharidou, Mylonas and Gritzalis (2012) who state that "smartphone is a cell phone with advanced capabilities, which executes an identifiable operating system allowing users to extend its functionality with third party applications that are available from an application repository". Based on this definition, smartphones have to include sophisticated hardware with advanced processing capabilities (e.g. modern central processing units), multiple and fast connectivity capabilities (e.g. Wi-Fi), and (optionally) adequately limited screen size. Moreover, the operating system of such devices must be clearly identifiable (e.g. Android, Blackberry, Windows Phone, Apple's iOS, etc.),

and it must allow the installation of third party applications from application markets such as Android Market, BlackBerry App World, App Hub, App Store, etc. (Theoharidou, Mylonas and Gritzalis, 2012). It should be also noted that because of the aforementioned features, smartphones are technologically superior to standard cellular phones (Barrs, 2011).

The amount of smartphone owners is increasing day by day all over the world (Yaman, Şenel & Yeşilel, 2015). "The number of smartphone users is forecast to grow from 2.1 billion in 2016 to around 2.5 billion in 2019, with smartphone penetration rates increasing as well. Just over 36% of the world's population is projected to use a smartphone by 2018, up from about 10 percent in 2011" (Lee & Kim, 2019).

The use of smartphones yields a number of positive benefits to students. Mindog (2016) describes the smartphone as a multifunctional device that is used for communication, entertainment, networking and learning, which is regarded as potentially useful for learning foreign languages due to their portability and connectivity.

Ahmed (2015) mentions that nowadays, smartphones have larger screen size with high resolution display. The central processing units as well as memory capabilities are also evolving. Moreover, there are still more and more functions at users' disposal, enabling them to access unlimited amount of applications.

According to Yaman, Şenel and Yeşilel (2015), smartphones, demonstrating considerable potential for becoming an important gadget in language classroom, can help learners in becoming more autonomous learners as they give independent access to personalized materials, in particular via the Internet. Alzubi & Singh (2017) also acknowledge the importance of smartphones by indicating that learners achieve more control over the learning process, and are able to connect with others.

Another benefit arises of using an unlimited number of applications (apps). Applications concentrating on various areas of language may be installed on smartphones, depending on what learners want to develop. EFL learners are offered the following advantages (Hossain, 2018):

- Practice any item of the language anytime anywhere.

- The smartphones and the apps are portable.

- The learners don't have to carry books, pen and paper.

- They can take tests on the different skills of the target language.

- They can share their proficiency with their friends through the same device.

- They can practice the four skills of the target language on the same device.

- On the apps, they can have lessons and tips on the different skills.

- They can have knowledge and fun together.

- They can be technologically advanced and linguistically benefited simultaneously.

- They can get the apps for free.

- Apps can accompany them 24/7 like an expert teacher on the target language.

Numerous studies have supported the notion that employing smartphones in higher-education settings aids language learning.

The participants of the study conducted by Muhammed (2014) regard smartphones as an effective mobile resource regarding the process of learning English. Yaman, Şenel and Yeşilel (2015) found out that most of the participants in their study use smartphones actively for the purposes of language learning. Similarly, Hossain and Ahmed (2016) found out that the vast majority of university students at Dhaka University, the top-ranked university in Bangladesh, used smartphones for academic purposes.

The study of Han and Gürlüyer (2017), which concentrated on the effects of using smartphones on EFL vocabulary, revealed that the use of smartphones can help learning L2 vocabulary. Leis, Tohei and Cooke (2015) were examining the benefits of using smartphones in EFL classroom by comparing two groups of Japanese university students. One of the two groups was prohibited from using smartphones in the class, while the other one was encouraged to use them for academic purposes. The results suggested that the groups of students who were encouraged to use their smartphones had a tendency to study more in their free time. Moreover, these students demonstrated signs of being autonomous regarding their learning.

According to the research results of the study conducted by Wu (2014), using smartphones is a very effective method of building vocabulary for Chinese university EFL students. Sarhandi, Bajnaid and Elyas (2017) were investigating EFL learners' engagement with various activities. One group used smartphones (the experimental group) and the other group (the control group) used pen and paper. The results revealed that the experimental group displayed considerably higher levels of task engagement. "The experimental group students therefore initiated their activities significantly faster than the control group, and were observed to have significantly more sustained behavioural involvement, overcoming external factors such as the boring content of the lesson, and activities falling at the end of the lesson" (Sarhandi, Bajnaid & Elyas, 2017, p. 115).

The study of Kim (2013) demonstrated that the experimental group learners, who practiced listening skills through smart phone apps, underwent a noticeable development of their listening skills when comparted to the participants in the control group, who did not use mobile apps. The research performed by Davie and Hilber (2015) concludes that using smartphones in language learning is beneficial with regard to student motivation, and may have other long-term benefits.

However, employing the smartphone for the purposes of learning languages may not always bring about only positive effects and spur the language learning process. According to Jackson (2017), smartphones can be used productively, but with appropriate and adequate preparation, which includes the selection of the most desired and suitable applications.

The study of Yavuz (2016) revealed that no significant success difference was detected between the experimental group (this group used WhatsApp Messenger on their smartphones) and control group in terms of teaching listening and pronunciation courses. The findings further indicate that it is a combination of traditional and technology supported approaches which might work better. Another study by Hasan, Rahman, Islam and Hasan (2017) suggests that attentive students, who have a rather satisfactory academic profile, are affected by "good purposes" (they use smartphones for preparing learning materials, course contents, etc.) rather than being affected by bad reasons. On the other hand, inattentive learners represent the opposite scenario. "Motivation and mass-awareness about technology among the students can bring some changes on this unexpected scenario, but in that case the interested shareholders should come forward and act responsively, like the parents, teachers, social leaders, government, and any other authorities" (Hasan, Rahman, Islam & Hasan, 2017, p. 40).

Kibona and Mgaya (2015) explored the effect of smartphones on academic performance of university students in Tanzania. They found out that smartphones delivered negative results on academic performance of university students. Therefore, it is necessary to evaluate and understand better the use of smartphones in university environments. Interesting research results are reported by Hawi and Samaha (2016), who were investigating the adverse effects of being addicted to smartphones. They concluded that every other university student was associated with a high risk of smartphone addiction. "Furthermore, undergraduate students who were at a high risk of smartphone addiction were less likely to achieve cumulative GPAs of distinction or higher" (Hawi & Samaha,

2016, p. 81). Similarly, Samaha and Hawi (2016) were examining relationships between smartphone addiction, stress, academic performance, and life satisfaction by university students. A negative relationship between being addicted to smartphone and academic performance was detected. It should be, therefore, noted that smartphones in L2 settings have to be used appropriately, requiring careful and thorough preparation. Moreover, further investigation into how these mobile devices ought to be employed so as to deliver positive effects is necessary.

CONCLUSIONS.

The findings of the present review have several implications for employing MALL in higher-education settings:

Firstly, mobile technologies have become an essential part of our everyday lives, and are increasingly affecting also the sphere of education. MALL offers numerous considerable advantages to EFL learners such as portability, ubiquity, interactivity, connectivity, individuality, etc., which can definitely spur the process of foreign language learning. In spite of the fact that MALL suffers from certain drawbacks, the amount of benefits seem easily to outweigh the disadvantages.

Secondly, employing smartphones in EFL settings does not necessarily bring about only positive effects on academic performance. Although the use of smartphones may substantially enhance foreign language learning process, a number of studies have highlighted certain limitations on using smartphones in higher education settings. One of the drawbacks is represented by smartphone addiction, which is being increasingly examined by researchers worldwide. It can be concluded that the smartphone must be used properly, with adequate preparation and clear objectives in mind.

Thirdly, it is also teachers who play a powerful role in MALL. They have to possess a certain level of knowledge about mobile technologies. Several studies, however, emphasized that teachers lack such skills, and that many of them may not be ready yet for incorporating MALL into their lessons.

It is vital that teachers all over the world are provided with adequate and effective training so as to employ MALL appropriately and effectively.

Finally, it should be emphasized that research on MALL and the use of smartphones is still in its infancy. There is undoubtedly a great deal of research which needs to be conducted so as to shed more light on this subject.

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