MOBILE TECHNOLOGY & ONLINE LANGUAGE LEARNING

SUMMARY

As new digital technologies emerge, such as mobile apps, augmented or virtual reality (3D virtual environments) and are almost immediately embraced and employed in language teaching and learning, new research opportunities to investigate questions about language learning and language teaching through technology, arise. In addition, despite the emergence of many Open Educational Resources (OER) and those created by publishing houses dedicated to creating digital and online language learning materials, the role of mobile technologies in language learning, however, has remained unequally explored in different contexts of language teaching and learning.

This paper explores the roles of mobile technologies in English language learning and provides a review of the selected body of knowledge regarding the relevant research in mobile technologies and online language learning (research articles, webinars, conference presentations, interviews, discussions on social media, blog articles, etc.). It also aims to provide valuable insights into current developments, specifically how teachers can use mobile technologies to amplify language learning beyond traditional learning contexts.

The main competences for language teachers of today, are the ability to know how to use technology and be able to train students to use it for learning or in learning. More importantly, they need the ability to decide on which contexts and which features of emerging mobile technologies, mobile technology could help in offering learners more choices, and in creating opportunities for meaningful language learning experiences, preparing English language learners for successful participation in the 21st Century knowledge society and economy.

As new mobile technologies are entering the global educational landscape, they are also influencing teaching experiences and the methodology in teacher education, training, research, professional development and lifelong learning. One of the main positive aspects of such change, is that, teachers, educators, teacher trainers, academic managers, curriculum developers, materials writers, researchers and educational consultants, are now making valuable connections and exchanging knowledge and experiences globally in synchronous or asynchronous time, using mobile technologies (social media and online platforms), to participate, interact and collaborate in different online events and networks dedicated to innovation in educational processes. Finally, this paper provides readers with a vision of potential future application of mobile technologies in language learning and teaching.

Key words: Mobile applications, mobile technologies, Mobile-Assisted Language Learning (MALL), online games, Online Language Learning (OLL), pedagogical issues, social media, Virtual Learning Environments (VLEs), Virtual Worlds (VWs).

INTRODUCTION

Language is at the root of all learning, thus all teachers, whatever subject they teach (at all levels of study), have an important part in providing quality language education. In addition, the number of English language learners, of all ages in different learning contexts, and the demand for language learning courses and programmes is growing at an exponential rate. New technologies, materials and methodologies are constantly emerging and are having many consequences for pedagogy, teaching and learning. Many of the jobs available now, and in the future will depend on digital and media literacy skills, and many will also involve communicating in many world languages with people in different countries, especially communicating in English on everyday basis.

"Language literacy is an essential life skill for the 21st century, providing access to information, easing communication and collaboration, helping in keeping pace with the ongoing
changes of the knowledge society, and in obtaining a professional advantage in labour market as they facilitate the access to multilingual resources.” (Adams Becker, et al. 2016: 409).

The most important aspects of mobile language learning are that students by learning and developing in supportive digital environments may acquire skills needed to understand technology and feel comfortable with digital ways of communicating, learning, education, and future work in similar environments. Research in language education shows that digital media technologies are perceived as effective pedagogical teaching tools in the real, blended and virtual 21st century teaching and learning settings (Stempleski, 2002, De Haan, Reed & Kuvada 2010; Gjedde & Bo-Kristensen 2010, Kretschmann 2010).

The digital media technologies generally available for use are digital audio and video, online games, software applications, interactive whiteboards, and online learning environments. The aim is to maximise the potential of digital technologies in language teaching with the support of pedagogical approaches that promote lifelong learning.

In response to the fact that digital technology is still underused in many parts of the world when it comes to language teaching and learning of English as a foreign language, and the fact that this situation often arises from a shortage of teacher training opportunities in digital literacy, new projects have emerged that provide a basis for a teaching methodology which integrates digital technologies. In 2016 the European Centre for Modern Languages of the Council of Europe (ECML), project titled “Digital literacy for the teaching and learning of languages” (e-lang), aimed at “providing a range of online digital tools and resources to develop language and intercultural skills and foster online interactions between teachers”. Different online networks were formed, such as Online Language Learning Research Network (OLLReN), aimed to help bring together all the research, from multiple institutions and sources, about learning technologies around the various areas in ELT, such as: Blended Learning, Classroom Management, Efficacy and Outcomes, E-books, Flipped Classroom, Gamification, Institutional Support, Learner Training, Learners’ Perceptions, Mobile Technology, MOOCs, SLA Online, Social Media, Teacher Training, Teaching Resources, Virtual Classroom, etc.

Furthermore, many research interest groups of international language teaching associations, such as IATEFL and TESOL, have identified the need for increased research into this area of education, and they are focused on exploring the emerging learning technologies in the context of learning and teaching of English.

MOBILE LEARNING OF LANGUAGES

One of the basic misinterpretation people have about mobile learning or m-learning is that mobile learning means “learning only by using mobile phones”, and that is not the case, because there are many different mobile devices (Hockly, 2010). There are many ways in which learning can be considered mobile, such as, mobility of technology and mobility of the learner across diverse contexts and settings (Hockly, 2016:122). In addition, mobility can be considered:

- in terms of space – learning happens in school, at the workplace, at home, at places of leisure;
- between different areas of life – learning is related to school education, work demands, self-improvement, or leisure;
- with respect to time – learning happens at different times during the day, on working days or on weekends. (Vavoula & Sharples, 2002:152).

Mobile language learning can be simply referred to as “the use of mobile or wireless devices for language learning”. There are many kinds of mobile technologies that can be classed as ‘mobile’ on interrelations between ‘portable’ and ‘static’, and ‘personal’ as opposed to ‘shared’ context of use (Naismith et al 2004):

- portable – personal:
  - mobile phones
  - games
  - consoles
  - PDAs
  - Tablet PCs
  - Laptops

- personal-shared:
  - kiosks

- personal – static:
  - classroom response systems
There are some examples of application of cell phones, palmtops, personal digital assistants/PDAs, and personal digital media players (MP3 or MP4 players) in language learning in past, more than today, when typical examples of the digital devices used for mobile learning include smartphones and handheld computers (tablet PCs, laptops), as they can include educational mobile/online learning apps, eBooks and eLibraries, course management systems, audio, video and pictures, QR codes and social media. Mobile learning with mobile phones is specially connected with micro-learning modules that learners can take at their own time and pace in self-guided or instruction-led learning, such as a video explaining basic or specific features of language or content for learners to go through before a lesson.

Instructional designers and educators especially recognise the potential of mobile technologies as a learning tool for students and have incorporated them into the following main types of environments:

- real teaching environments (schools/faculties)
- blended (using real and online environments), and
- virtual learning environments (online).

Therefore, in the context of language learning, Mobile Assisted Language Learning (MALL) can be defined as an approach to teaching and learning languages that is assisted or enhanced through the use of handheld mobile devices or wireless devices, that are used to access, present, reinforce, and assess material to be learned, or to create environments where teachers and learners can interact with one another and the outside world, all with the purpose of learning languages, in formal (instruction-led) or informal (self-guided) contexts of learning, and across physical and virtual contexts of learning spaces.

Nickey Hockley (2010), a teacher trainer, author, and a specialist in technology in ELT, had characterised mobile learning as a spectrum, where on the one end there is this discrete, product or content oriented approach to the use of mobile learning with portable devices that can include games, apps for learning grammar, quizzes, app dictionaries, and on the other end of the spectrum, there are almost all the latest mobile Wi-Fi enabled devices that include the full integration with social media (network) and multimedia experiences (excess MOOCs, Twitter, etc.). This bring us to Online language learning (OLL) that can be defined as a rich, interactive experience, whether in informal or formal language learning contexts, in Web-facilitated, hybrid, or fully virtual classes, using digital mobile technologies such as computers and/or mobile devices.

The main factors which support mobile and online learning are increasing smartphone ownership among students of all ages, high speed mobile and Wi-Fi internet, but also a positive attitude towards digital devices in general. Students now carry with them powerful devices with which they can (Kukulska-Hulme, Norris & Donohue, 2015):

- create multimodal texts and construct artefacts and share them with others,
- communicate spontaneously with people anywhere in the world (through text, image, video, sound),
- capture language use outside the classroom,
- analyse their own language production and learning needs, and
- provide evidence of progress gathered across a range of settings, in a variety of media.

Apart from providing the ideal opportunity to present content, gather responses, and provide appropriate feedback in learning, mobile devices can facilitate making connections, interaction among students, teachers and wider learning communities, through supporting both individual and social aspects of learning, integrating real life communication into language learning, while offering also the possibility of fast content creation and sharing. Therefore, students and teachers can easily access information, take photographs, record their thoughts with one device, and share these with friends, other students, colleagues, their communities, or the wider world. The challenge for teachers, trainers, academic managers, curriculum developers, materials writers, educational consultants, however, is one of understanding and exploring how best we might use mobile technologies and online learning resources to support and improve language teaching and learning.

2 A full graphical representation of a pedagogical framework for mobile assisted language teaching and learning can be found in Kukulska-Hulme, Norris & Donohue (2015:29).
PRACTICAL APPLICATIONS OF MOBILE TECHNOLOGIES IN LANGUAGE LEARNING

As technology can provide opportunities for language use, social interaction and increased motivation, English language learners (ELLs) to be successful in learning, need literacy skills and focused and intensive instruction, as well as, instruction in how to appropriately and effectively use technological tools (digital media literacy) to facilitate and encourage language development (Clark, 2013). However, learners' personal use of mobile phones and their apps for learning benefit is still very open to research. The flexibility and portability of mobile devices makes them an excellent potential learning tool, where, mobile learning outside the classroom is often referred to as 'learning on the go' and mobile learning inside the classroom means that schools provide class sets of mobile devices, such as wi-fi enabled pocket computers or netbooks, or students bring their own mobile devices which teachers can integrate into the classroom work. The most important considerations of application of mobile technologies in learning contexts might be the accessibility to such devices and internet access, and other technical connection problems.

The answers to the questions “How effective is mobile learning and teaching?” and “How effective is online learning and teaching?” vary dramatically and depend entirely on the design of the mobile and online learning experiences. Mobile device applications for classroom activities in language learning:

- using smartphone camera apps (taking photos, videos)
- using voice recording apps (recording speech)
- QR code (“Quick response”) reader and creator apps (reading text or message - instructions, listening, watching a video, etc.) (examples of activities: Hockly & Dudeney, 2016)
- apps for practising grammar (e.g. "English Grammar in Use" by CUP),
- apps for practising vocabulary,
- apps for exam preparation,
- city guide apps (planning and presenting a day trip),
- virtual reality apps – Discover VR, Google Earth 3D, Google Expeditions, YouTube app channel Virtual Reality, 360° videos.

Mobile technology integration can provide individualised learning accessible to all, more specifically, various mobile apps, as learning tools, can afford innovative opportunities for acquiring target language vocabulary knowledge and can enhance vocabulary acquisition (as an essential part of acquiring a language), through multimodal interaction with apps, with the following research-based vocabulary learning strategies such as:

- phonological analysis (i.e., learning words by analysing the sound parts),
- morphological analysis (i.e., learning word meanings by analysing the componential word parts), and
- contextual analysis (i.e., learning word meanings by referring to learning context) (Deng & Trainin, 2015).

Genres of digital video that can be used in lesson can include: historical speeches, retro music videos, famous sporting moments, historical footage, public information films, silent movies, film trailers, and newer forms, such as, animation, advertising, animated lectures, video poetry, video art, vlogs, music videos, “unboxing” videos, “how-to” videos, video guided tours, etc.

The most common use of music videos is using gap-fill activities, and apart from that, the use of a website lyricstraining.com. However, there are many other ways in exploiting music videos, such as:

- visualising the video from the lyrics,
- analysing performance,
- evaluating the music video (is it authentic or not), etc.

Use of digital sound recording (audio/video) can easily help learners tune in to the various pronunciation patterns. Through video materials students, by listening to the sound (speech), are more exposed to various accents and rates of speech and can master correct pronunciation of vocabulary which is sometimes commonly or not commonly used in everyday speech (Dimitrova Georgieva 2015:13).

Digital story creation with digital cameras for taking images, and simple text and image editing and presentation software, in learning English, can be a very positive and engaging learning experience. This type of storytelling by students not only develops their language but also can enhance their content knowledge and literacies, therefore, provides a new avenue for learners to share and discuss their life experiences (Widodo, 2016).
Making recordings of their own speech through creating voice projects, as additional speaking practice every week, for example, using the iPad Adobe Voice application (or any other voice/video recording app), can motivate students to practice and develop their speaking abilities and allow them to spend more time using the target language outside of the classroom (Schenker & Kraemer, 2017). Having a record of their speaking practice allows the teacher, to easily listen to their speaking projects and to provide feedback, trace development, and monitor student progress, but also the student to self-evaluate. Also, recording as the activity outside the classroom provides learners with a chance to examine their output immediately in relative privacy and to improve their performance on subsequent takes (Hockly, 2016:124).

Synchronous online teaching and language learning through videoconferencing platforms (e.g. Skype) can be challenging for teachers and learners as it can be a very solitary experience for learners in lessons one-to-one, and it requires self-discipline, and digital literacy (Peachey, 2017:144). Early opportunities for learning a language online tended to be at tertiary level, and now there is a growing industry of online language learning platforms that offers self-study lessons or instructor-led lessons (one-to-one or even group lessons) for pre-school children to faculty students, adults, especially business people.

‘Formal’ online language courses focus on all four language skills (reading, writing, listening, and speaking), as well as on grammar and vocabulary, and typically take place in a VLE (Virtual Learning Environment) or LMS (Learning Management System) where students are likely to be formally assessed for credits or a qualification. Such courses are still frequently offered by schools or universities and include online language learning materials produced by the institution, or pre-packaged online learning materials produced by publishers. Students work fully online and mainly in asynchronous mode (that is, not in real time) to practise reading, writing, and listening, that is often complemented by regular synchronous (real time) speaking classes, for example via a videoconferencing platform (Hockley, 2015).

Learning Management Systems (LMS) in teaching and learning English language, are usually available as user-friendly and reliable platforms, where teachers can interact with their students online, track their progress and run quick and easy reports, and students usually can listen to examples, interact with the teacher, complete interactive exercises and have them automatically marked. Using LMS in teaching can be more effective when EFL instructors receive previous training (Tawalbeh, 2018). The findings by Lyashenko (2014), show that in general, the LMS as a web-based technology is an effective platform for collaboration where the teachers must play a critical role in successful implementation of the system and overcome the possible difficulties and problems the users can experience when working in the LMS. In summary, there are the two main types of LMS:

1. With already made content by a publishing house, designed for language teachers, school administrators, usually aligned with coursebooks, e-books and exams at different levels that can be used as standalone teaching resources or additional resources, where teachers can assign grammar units for studying (e.g. Cambridge University Press LMS), and
2. With content developed and implemented by teachers on platforms that offer them that opportunity (e.g. Moodle, Blackboards, Edmodo, etc.)

Massive Open Online Courses (MOOCs) or Language MOOCs (or ‘LMOOCs’) for English language learning are relatively recent phenomena (Hockly, 2015). These courses can be seen as educational or learning “events” that support the idea of lifelong learning, open learning, open educational resources and represent a new generation of online education (Perifanou, 2015). They can be free to enroll (but with the possibility to pay the certificate) or paid learning courses, and they focus on self-study and personal development, based in most cases on peer or self-evaluation, and in some cases through immediate computer-enabled technology assessment of test or reading/listening comprehension tasks (e.g. Cambridge English MOOCs on Future Learn: Inside IELTS: Preparing for the test with the experts, and Exploring the world of English language teaching).

In recent years, a great number of research studies have examined the use of virtual worlds (VWs) for language learning (da Silva, 2012). Virtual reality (VR) is “an immersive, computer-enabled technology that replicates an environment and allows a simulation of the user to be present and interact in that environment” (Lloyd, Rogerson &
Virtual Worlds (VWs) are computer-based online environments that can provide online spaces for formal and informal language learning courses (Hockley, 2015), for example:

- “Second Life”, as the 3-D virtual world (developed in 2003, that in 2010 had more than 20 million registered users, continues to be used as a platform by many educational institutes and languages schools) (e.g. European Union-funded “Avalon Project”, provided structured English language learning (and teacher training) in “Second Life”), and
- “World of Warcraft” as the three-dimensional MMORPGs (Massively Multiplayer Online Role-Playing Games).

Augmented Reality (AR) and Virtual Reality (VR) headsets in language learning and teaching have already entered ELT classrooms with Google Cardboard and other VR devices, all around the world, where students are exploring location-based topics which take them out of their current location, for example, on a detailed tour of exploring literary works through the Italian city of Verona, the setting for Romeo and Juliet, including locations featured in the play as well as those of historical or cultural interest in the city, with Google Expeditions. Therefore, it can be a virtual field trips to important cultural or historical sites, using Google Expeditions, Google Earth or other 360° panorama of scenes and high quality 360° videos (Godwin-Jones, 2016). Furthermore, students work collaboratively to create their own 360° videos on smartphones with, for example, with thinglink.com or the free Cardboard Camera app.

In summary, teachers can build on the traditional use of images as a way in scaffolding prior knowledge, extending this idea to ways where virtual reality technology tools such Google Street view, Google Expedition, and 3D glasses can provide a way for engaging students with content, in an experiential learning through “field trip-like” experiences, utilising VR as a learning tool (Pilgrim & Pilgrim, 2016). For example, students can experience the “Buckingham Palace Expedition” tour in VR (virtual-reality) or 360° format, view through the YouTube app on a smartphone. This guided tour with the “Master of the Household” or “The Chief Operations Officer for The Queen” and the curator of the paintings for the Royal Collection Trust, lasts about 10 minutes and provides students with authentic language, history and culture experience.

Activities with virtual reality apps, apart from “going on a field trip” and experiencing places and cultures, it can be “experiencing new situations,” such as experiencing a speaking test day at Cambridge English Assessment with a girl named Maria, where students can practice real speaking test parts with a 360° video.

Therefore, language areas and skills that students could practice in such activities with mobile devices according to Sutcliffe & Barns (2017) are the following:

- Agreeing and disagreeing.
- Expressing preferences.
- Having discussion or debate.
- Justifying opinions.
- Making connections about similarities and differences between places, spaces and objects (comparison).
- Making suggestions.
- Persuading.
- Predicting and guessing.
- Working out the meaning of new words, matching new words to synonyms, labelling items seen in the field trip.

**FINAL REMARKS**

The benefits of bringing authentic English into the classroom, by using mobile apps, virtual reality (VR), MOOCs, projects, and other, are the following:

- motivating students,
- providing more examples of real communication in English,
- providing a wider range of language and genre,
- offering new and interesting topics (or a new more immersive way in approaching familiar topics)
- enhancing greater cross-cultural understanding and social responsibility (Sutcliffe & Barns, 2017).

In conclusion, a range of language learning benefits of mobile technologies and online learning can result in:

- Facilitating student engagement in learning.
- Enriching learning activities with authentic language resources.
- More easily integrating into instruction tasks.
involving the use of images, audio, and video (in real, blended and online learning contexts).

- Enabling more effectively collaborative (online) classroom activities for writing, listening, or speaking.
- Enhancing students’ digital literacy, and other 21st century skills.
- Encouraging out of school and life-long language learning (Godwin-Jones, 2018: 2).

Mobile technologies and online tools have created the need for reconsideration of literacy to meet the 21st century needs and challenges in this growing digital age, and also the need for redefinition of (foreign/second) language pedagogy, that would suit the needs of our time, through the learning activities with using mobile technologies, aiming to foster the students’ critical understanding, cultural sensitivity, awareness and communicative skills.

The importance of CPD is frequently discussed in ELT contexts (Xerri & Vassallo, 2015). However, the choice of what actions to take are still largely based on subjective impressions. Teachers will need to start participating or become more active in online learning courses as learners so that they can fully understand those learning environments that their learners are already using or will be using in the nearest future.

“As online language learning opportunities have moved beyond the confines of the formal course, so too it falls to research agendas to do the same” (Hockley, 2015)

Researchers in education should focus even more on the role of mobile technologies in managing multimodal data in online and virtual world research in language learning. Avatar-embodied intercultural interactions and collaboration on solving online task-oriented or content-based problems in language learning are themes on world educational conferences this year, and insights and results will follow in the nearest future.

“The future is not an empty space but like the past an active aspect of the present” (Milojevic, 2005)

Intensive creation and exploration of materials for mobile and online learning, as well as 3D virtual world–based language learning curriculums will be needed, where teachers and educators should embrace the opportunity to collaborate with the industries for the development of educational technologies to innovate and ensure the pedagogical aims and learning needs of their learners.

7 Authentic English – examples of English (spoken, written) as genuine communication, not specifically aimed to be used as teaching materials, or with the purpose of language teaching.
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FURTHER READING & WATCHING:


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