

Positive Effects of Mobile Learning on Foreign Language Learning

Marina Kuimova¹, Douglas Burleigh², Huseyin Uzunboylu³, Ruslan Bazhenov⁴

¹National Research Tomsk Polytechnic University, Russia

²Lq Jolla Cove Consulting, San Diego, USA

³Near East University, Nicosia, Turkey

⁴Sholom-Aleichem Priamursky State University, Russia

Abstract – In our increasingly mobile world, portable devices play a central role in ensuring the continuity of the learning process and they also provide access to education and training. Mobile learning technologies become a valuable addition to traditional learning techniques, as students have the opportunity to participate in educational activities at any time and place. This paper reviews the benefits and challenges of mobile learning and its prospects for foreign language learning. Experiments at the National Research Tomsk Polytechnic University indicate that mobile learning can be a helpful tool to accelerate learning, encourage both independent and collaborative learning experiences, provide valuable interactions, enhance opportunities for language practice and promote lifelong learning.

Keywords – academic achievement, foreign language learning, informal learning, mobile applications, mobile learning.

Think outside the course
Judy Brown

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Corresponding author: Marina Kuimova,
National Research Tomsk Polytechnic University, Russia

Email: mkuimova@mail.ru

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1. Introduction

There is a growing trend to use modern technologies and many universities have launched programs to expand the use of (electronic) E-learning to promote active and independent learning, develop student responsibility for their studies, increase self-discipline, self-motivation and time management. E-education allows students to develop essential skills and competencies for the 21st century, such as digital literacy, good communication skills, creativity and innovation in their field of study, thinking skills (critical, logical, problem-solving, etc.), the ability to learn independently and to work as a member of a team, etc. [1–3].

E-learning in a foreign language education provides opportunities to vary the methods of presenting and using educational materials, free and independent access to multimedia materials and resources under the guidance and support of teachers [4, 5]. A sub-category of E-learning is M-learning (mobile learning). Mobile learning provides a way to facilitate the educational process using mobile applications and wireless communication (WAP or GPRS technology, Wi-Fi, etc.). The use of E-learning and M-learning can turn educational institutions into learning centers that are available at all times (24/7) and have no barriers [6–8].

In M-Learning, communication and information exchange occur over a wireless network and can be accessed from anywhere in the world, so training can take place inside or outside an educational institution, on-line or off-line, under a professor's guidance.

Mobile learning includes the following four components:

- education
- communication
- organization
- technical content

Mobile learning is more flexible, informal, interactive and individualized [9–11]. In general, the introduction of mobile technologies in education

expands the scope of the learning process beyond the walls of the educational institution; allows disabled people to study without having to travel or even leave their homes; promotes better material learning and memorizing; supports a scientific research process; increases motivation and interest in the educational process and promotes efficient learning [12–15].

2. Theoretical background and research

Over the past few years, mobile devices (smartphones, tablet computers, etc.) graduated from being just phones and toys and became valuable working tools. Today mobile devices are routinely used in various academic disciplines, and the study of foreign languages is no exception. The use of the latest information technology in foreign language teaching creates a close relationship between two disciplines (computer science and foreign language).

It is generally recognized that the introduction of various game components promotes the process of obtaining new information and increases student learning motivation. New mobile electronic devices, such as mobile phones, tablet computers, gaming devices, etc., attract students who may have lost interest in education. Educational games adapted for mobile devices can combine static and active learning with fun [16–18].

Educational mobile applications and games are especially effective in foreign language education, as they change it from a dull, repetitive process into a more exciting and interactive one. M-learning games can be also used to teach foreign language skills such as vocabulary, pronunciation, grammar, listening comprehension, reading comprehension and spelling. M-learning motivates students through challenge, curiosity, control, recognition, competition and cooperation [19].

The introduction of mobile learning into the educational process improves literacy, encourages communication, enhances creativity, develops thinking, and increases students' activity and interaction [20].

Introducing mobile learning into the educational process satisfies the basic principles of teaching, including:

- scientific and objective nature (access to the worldwide network and constantly updated scientific information)
- connection between theory and practice (mobile access and interaction with necessary data and literature)
- consistent and systematic (automation and analysis of students' progress)

- accessibility (a wide choice of didactic material for individual development, depending on the student's mastery of the subject)
- visibility (active use of multimedia content: texts, images, video / audio)
- activity (quick teacher / student feedback)
- retention of knowledge (knowing how to update and use the gained knowledge) [12, 21, 22].

Mobile learning activities are usually organized to a relatively fluid schedule and are generally individually-tailored to meet students' different learning styles and approaches. They are flexible, autonomous and can include watching, listening, reading and writing. Scientific literature and experience show that mobile learning has a number of positive aspects:

- enhancement of cognitive activity
- encouraging independence
- individualization of learning
- increasing the motivation to learn
- provides a creative approach to the solution of theoretical and practical problems [23–25].

At the same time there are some challenges in mobile learning. First, it is sometimes difficult to convince teachers that mobile training contributes to the educational process because tasks are performed on devices (phones) that are usually prohibited in classes, since mobile devices are often used as electronic cheating devices. Second, not all teachers have the appropriate level of ICT (information and communication technology) competence to provide interactive support for mobile tasks and some need training and guidance to feel secure in implementing this method. Third, there is still a lack of well-established theoretical and methodological base regarding the implementation of mobile learning in education [6, 26, 27]. Other challenges of M-learning include:

- Limited working time of the mobile device due to battery life
- Small screens on mobile devices limit the amount and type of information that can be displayed, and this makes it difficult to work efficiently with spreadsheets and large texts. The latter would be used to develop reading skills in a foreign language
- Small screens provide poor resolution, which makes viewing difficult, and may strain the eyes of the viewer
- Recognizing that some people have a tendency to become addicted to electronic "gadgets" or to the ability to look up details and facts at all times on Google or other websites.

In addition, mobile learners can be easily affected by external interference, so they cannot stay focused

for a long period of time [16]. The use of mobile devices can limit real interpersonal communication and can decrease attention when the teacher is speaking [8]. Students can become obsessed with, or addicted to, these electronic devices and exchange messages with peers during lessons. Mobile phones are frequently used for cheating among students and they can cause distractions in the classroom by ringing (or vibrating) during lectures [28]. Excessive use of mobile phones may also lead to health risks. Thus, when mobile phones are used for learning purposes, the following are important:

- The appropriate time to introduce a block of tasks to be performed with the help of mobile-learning
- The amount of time that should be allowed for processing the data and performing follow-up tasks
- A methodical sequence and content of tasks depending on the expected results;
- A method of assessing students' achievement

To determine whether M-learning is worthwhile, we performed an experiment. We took four groups of first-year students who were studying English as a foreign language at National Research Tomsk Polytechnic University; two groups became experimental and two were control groups. Each group consisted of ten students, aged 17-22. The level of English was pre-intermediate, and the length of the experiment was ten weeks. The experimental groups received traditional teaching plus M-learning as a complement to enhance learning, while control groups received only traditional teaching.

Before the experiment we asked all of the students if they had access to the Internet on their mobile phones and for what purposes they used their mobile phones. The following results were obtained: 95% of respondents had a mobile phone and access to the Internet; 93% of respondents noted that they often chat and exchange short videos in the WhatsApp application; 85% of respondents used a mobile phone for finding reference resources and for online dictionaries (Multitran, Google Translate, etc.), and 15% of respondents played a variety of Java games.

To perform the experiment, we chose WhatsApp because it is a free and easy-to-use mobile chat application, many students use it on a regular basis in their private lives so they feel quite comfortable with it, and the university provides free Wi-Fi. In addition, WhatsApp gives opportunities to collaborate (work together) with other students. It can be used for reading and writing texts, as well as for practicing listening and speaking skills in English. Thus, we required all members of the experimental groups to have the WhatsApp app. Then we created a WhatsApp group, gave it a name, and added the names of the participants. At the beginning or at the

end of the lesson, students received a task from the administrator of the group (teacher). Depending on the teaching goals of the lesson, we integrated M-learning tasks that focused on different skills.

For example:

- A student records a word/short sentence; others listen to it and type it on WhatsApp
- a student takes or downloads an image/photo, etc. on the topic being studied and others comment on it
- A student creates a short audio/video telling about his studying habits, daily routine, etc. and makes a question about what has been said. Other participants listen or watch and answer the question
- Students receive a short text where they have to fill in some missing words or change a given word to a word that fits in the blank space
- A teacher sends each student a short video clip without sound on the topic being studied. The task is to write a description of what you watched in a few sentences

A predetermined point system was used for the peer evaluation of the students' work; all students checked the answers of their peers and corrected any mistakes. The teacher awarded extra points for the best comments. If the feedback response was wrong, the teacher corrected it and explained the reasons. An important aspect of M-learning is that student can review the information at any time, even at home, and can study the material if he/she was absent when the lesson was given.

At the end of the experiment, the students were asked if mobile learning is worthwhile. The answers were:

- Yes, it is fine (25%)
- It could be useful to a certain extent (60%)
- No (15%)

The findings show that mobile phones are not just for fun, communication and entertainment purposes; they can also be used as a tool for learning. They especially complement creative activities in foreign language classes. In general, students have a positive attitude towards mobile learning and they favor participation in conversations with their peers and teacher for academic purposes. In addition, students noted that they liked interaction and collaboration in performing the tasks, exchange of opinions, and practice in English while doing tasks on WhatsApp. The results of final exams on the subject showed that students from the experimental groups received better grades than the control groups. Thus, the creative use of mobile learning provided opportunities to use the target language, contributed to more effective learning, improved academic achievement, collaboration and communication in the learning process.

3. Conclusion

Mobile learning is a huge and important step forward in the development of the educational system worldwide. It offers anytime-anywhere learning on the go, fosters engagement and learning flexibility, encourages collaborative learning, and diversifies and supports learning. Mobile learning expands the opportunities for learning and works best as a complement to traditional methods. It increases students' excitement by doing something novel and new, aids student progress, encourages students to be active learners, contributes to the students' engagement with the content and builds a thirst for knowledge.

In mobile learning students are not tied to a specific time and place; they have access to educational material at any time. Mobile technologies provide opportunities to independently investigate and learn about things that pique students' curiosity. It makes the learning process comprehensive and motivates learners to pursue lifelong learning.

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