

Information and communication technology is changing and developing now, that is why the higher education should respond to modern trends. According to this trend educational methods and techniques have been appreciated to teach a foreign language. Nowadays mobile and online learning is becoming more popular due to the available access to different personal electronic devices that everyone uses in his everyday life. A mobile phone is considered to be the commonest device, so it is possible and important for any student to improve his self-educational foreign-language activity in a technical higher school.

What does mobile learning mean? According to Helen Crompton mobile learning is learning across social and content interaction, using personal electronic devices. So devices that are referred to the mobile learning are classified by:

- Different personal devices like iPads, smart phones, laptops, MPplayers,
- Software packages (an operating system, applications, a server software)
- Other facilities that transmit data to each other.

It is important to determine a benefit of mobile learning. It is a need in such methods which improves students' English proficiency inside or outside the classroom. This defines the aim of the article to identify possibilities and advantages as well as drawbacks of mobile learning and its integration in teaching curriculum improving students' self-learning activity in the English classroom.

Studying a historical overview of mobile learning introduction to the field of educational technology a necessity of mobile learning, i.e. its positive and negative influence on students' English independent learning was analyzed. The analysis of the historical overview found out several researchers, such as Attewell [1], Geddes [2], Cochrane, Traxler, Sharples, Ogata, Herrington, et al., who engaged in mobile learning. On the one hand, mobile learning in Russia is not new in the field of educational technology in English teaching in higher schools, but handle with care

not paying proper attention, on the other hand, in the West this problem has been developed for years and mobile learning has actively been introduced to teaching curriculum.

Having analyzed researches of aforementioned scientists we underline the following advantages of mobile learning:

- free access to teaching materials both obligatory (within obligatory teaching minimum) and optional, e.g. audio and video, moreover, all teaching materials are available anywhere, at any time;
- possibility of constant interaction and experience exchange with other students and a full time classroom teacher;
- portability, it being the most leading advantage, because all personal electronic devices are compact and light available at hand, they enable students to make notes and enter any data in a device directly;
- personal device work increases students' incentive because they are keen on different gadgets and use them constantly;
- students can approach to the teacher outside the classroom;
- students can work in individual mode and rate. [5]

Mentioning advantages of mobile learning we cannot help noticing some drawbacks, mainly concerning maintenance:

- resolution of a personal device screen;
- impossibility of continuous work due to rapid discharge of the device;
- software not powerful enough to enclose some teaching materials;
- absence or access limitation to the Internet, including restrictions which a provider gives for mobile communication.

There is another drawback: some teachers have disinclination for introducing mobile learning due to improper skills to work with educational facilities. According to such teachers students excel them in technical skills that makes teachers feel nervous [Herrington, A., & Herrington, J. (2007)]. The study

showed that even the teachers who have good skills to work with desktops or laptops can feel nervous using a smart phone [Peters, K. (2005). Learning on the move: Mobile technologies in business and education. Canberra: Commonwealth of Australia.]. Solving this problem is to improve teachers' technical skills and to delegate some technical issues to the students participating in mobile learning who are able to do it. It is technical problems which will be solved because information technology is developing rapidly now.

First, to start the work and arrange working environments by means of mobile learning it is necessary to arrange the desktop of the device in order to click the application common used. Icons can be packed in files or some desktops can be created for solving different tasks.

The amount of applications which can help to organize e-learning can be loaded in the device, but this quantity will depend on the free memory capacity. Many distance learning systems (course management systems) provide special applications for comfortable using portable devices. We consider Moodle Application, as we have used it actively in Siberian Federal University.

Moodle is a modular training system, it is considered to be free software that makes its introducing easier because it is on open access. Due to this application a teacher can place interactive teaching materials including individual files, lectures, audio and video materials, a textbook (a source with many pages divided into chapters), a glossary, assignments, database, etc. [6]. Moreover, Moodle enables a teacher to watch over course execution by students using course settings like "Assessments" and "User's report". To execute current, intermediate and final controls Moodle offers to apply a course unit "Test", which can be set in the definite way having specified a number of attempts and time limit for executing. Types of test tasks vary from "true/false" judgments to questions with multiple choice answers and an essay. Test checkup is done automatically by means of teacher's settings. There is an official mobile application Moodle mobile for smart phones and iPads, it can be loaded from any PlayMarket – AppStore, Googleplay

and WindowsStore. Using Moodle mobile a student can look through all teaching courses he or she enrolls and does tasks offline. A unit “Feedback” enables a teacher to question students about their course executing and make correlations.

Consider a case study of Moodle mobile application for master students who study the program 040401.08 “Petroleum Chemistry and Refining” (Department “Chemistry and Technology of Natural Energy Carriers and Carbon Materials”, School of Petroleum and Natural Gas Engineering, Siberian Federal University), “Linguistic training” program, full-time course study, 1918 grade level. The program consists of 3 terms and includes 9 credits, i.e. 324 hours. 100% of master students who study this program combine work (mainly shift arrangement) with study, that is why mobile learning is of a benefit: if a master student cannot attend a class, he is able to contact with a teacher through ‘Forum’ setting and by personal course messages or using program content enclosed in the course do classroom tasks individually.

Each course module of “Linguistic training” mobile learning lasts a term. The spring term 2018-2019 is defined as Module 2 which includes 15 units according to *Career Paths: Petroleum* textbook, such as Oil sands, Oil shale, Petroleum reserves, Treating petroleum in the field, Picking up oil from storage tank, etc. Moreover, the mobile learning course **does not replace** the classroom but **supplements** with assignments which enable students to master course objectives and develop students’ competency.

Let us consider a sample of class assignments for a four-hour class period in Table 1.

Table 1. Approximate class assignments with mobile learning on the basis of Moodle mobile

Timing	Steps of the lesson	What students do	Patterns of interaction
Up to 10	1. Warm-up.	One or two revision	Teacher – class,

minutes.	Vocabulary/grammar revision.	exercises.	pair work.
Up to 25 minutes.	2. Reading, vocabulary presentation.	Students discuss the topic. Students complete the reading and vocabulary exercises.	Pair work Individually, teacher – student.
Up to 15 minutes.	3. Listening, vocabulary practice, speaking.	Students do the listening tasks and discuss the question set in the task.	Individually, pair work, teacher – pair.
Up to 20 minutes.	4. Listening.	Students listen to the conversation; tick the details they hear, choose the correct answer, fill in the gaps, etc.	Individually, pair work, teacher – student.
Up to 20 minutes + 15 minutes for the presentation.	5. Speaking.	Using the given conversation models, phrases, vocabulary students make up their own conversation and present it.	Pair work. Pair – class.
Up to 30 minutes.	6. Moodle mobile application: practice of the vocabulary and skills.	Students complete the «Lesson» and «Glossary»/ «Assignment»/ «Quiz» activity. Students send their tasks to the teacher.	Individually.

		Teacher looks them through and gives feedback.	
Up to 40 minutes.	7. Scientific work.	Students read the articles which deal with the topic of their dissertation, complete the glossary, do the translation.	Individually, teacher – student.

The aforementioned plan is approximate, however, every class week some time has been paid for Moodle mobile application (item 6 in Table 1). Students do “Lesson” activity, which gives both class material in the succinct format and some additional material with diagrams, graphs omitted in the textbook but which is of importance for detailed understanding. Having read the material a student does one or more tasks “Glossary” or “Assignment” sending them in the form of enclosed files to the teacher. Checking up can be made automatically by means of response patterns entered by the teacher in advance. Moreover, master students can do “Quiz” activity examining their knowledge and skills in one or several units.

Thus, mobile learning implemented on the base of Moodle mobile system meets two main criteria: first, it helps to improve English proficiency, use vocabulary which a master student need in his/her classroom and scientific research; secondly, it gives scaffolding for the master students who have missed classes.

To sum up the necessity of integrating mobile devices in the field of educational technology is obvious. Using mobile learning properly and systematically in the teaching industry is able to upgrade educational technology and increase students’ incentive to foreign language learning and the education

level of the population due to teaching and learning supported electronic media and tools throughout the world.

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