# THE STUDY OF PEDAGOGICAL PRACTICE OF MOBILE LEARNING IN RUSSIA

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**Abstract**

The analysis of Russian and international experience of mobile learning is given in the article, the components of mobile learning (mobile devices, net technologies, pedagogical technologies) are revealed, pedagogical conditions of introduction of mobile learning in practice of Russian school are formulated.

The special attention is paid to importance of the use of mobile learning under conditions of transfer to the new educational standards, because the use of mobile devices at the lessons develops in pupils the ability to work with information, interact with a teacher and other pupils in net. It is demonstrated, that mobile learning is oriented on the attainment of meta-subject educational results, favors the formation of ability to study during the whole life.

The existing practice of mobile learning (inverted lesson, park lesson, distant courses and so on) are analyzed. The importance of pedagogical technologies, oriented on the wide independent work of the pupils is proved.

The prospects of further studies on this problem are described, the necessity of specialized training of teachers to the use of mobile learning at school is proved, the list of topics for the study in the system of qualification improvement of the teachers and forms of the work with them is given: webinars, qualification improvement courses and also informal improvement of qualification in net communities (blogs).

**Keywords:** mobile technologies, mobile learning, mobile devices, pedagogical practices of mobile learning, pedagogical technologies, pedagogical conditions of mobile learning.

## 1. Introduction

Mobile learning is associated, first of all, with mobile information technologies that is technologies, based on the use of mobile devices and modern net technologies. The tablet computers, smartphones, navigators, readers and other ones that provide the work with information can be named among the mobile devices. Mobile technologies changed the ideology of work with computer programs in many aspects, made it more comfortable and fast. The advantage of mobile devices is that they always accompany the modern human, have a small size and can be connected to internet in practically any place of the world and in any moment. The advantage of net technologies is that the user can connect to the program and program products in any place, at the same time the joint work in net, when several persons work on creation of documents, is possible. From this point of view it can be considered, that the mobile learning it is any learning activity that mainly or exceptionally involves the mobile devices and net technologies instead of ordinary desktop computers with set software.

Today in Russian learning takes place a contradiction between the needs of pupils, who are ready to use mobile technologies in learning and unreadiness of teachers to use the existent practice of mobile learning.

## 2. Analysis of the literature and statement of the problem

The analysis of international experience in this field is presented in "UNESKO recommendations on the policy of mobile learning" [1], prepared by UNESKO institute according to information technologies in education (ITE UNESKO). The manual gives rather comprehensive definition of the very term – mobile learning (m-learning): "M-learning provides the use of mobile technology both separately and together with other informational and communicational technologies (ICT), for organization of learning process not depending on place and time. The learning can take the different forms: using mobile devices pupils can gain an access to educational resources, connect with other users, create content at class and beyond it. M-learning includes the arrangements, necessary for attaining the aims of the learning, for example, effective management of school systems, improvement of interaction between educational institutions and pupils' families" [2]. The main advantages of m-learning are reasonably presented in materials of Recommendations and in analytic note. The main among them are: the widening of possibilities and guaranteeing of equal access to education, individualization of learning, instant feedback and possibility of operative evaluation of the results of learning, possibility of involvement of pupils with limited health abilities in learning.

The term "m-learning" is relatively new and rather debatable for Russian education. The first studies of the problem are related to 2008. Kuklev V. A. in his work underlines that the necessity of introduction of m-learning is caused by the features of development of informational society, psychological features of growing generation, oriented on the wide use of computer in both routine life and study [3]. Since 2008 the necessity of m-learning introduction increased because of wide use of mobile devices and broadening of their technical possibilities, appearance of new mobile devices with special applications, oriented on the learning.

Generalizing the practical experience of introduction of the model "1 pupil – 1 computer" in Russian and foreign education, Yarmakhov B. B. analyzes the main notions, connected with m-learning: mobile educational environment, e-textbook, e-mark book, e-copybook, e-portfolio [4]. Methodological manual, prepared by the author, played very important role in understanding of the essence of m-learning but today it is necessary to rethink many author positions because of the change of possibilities of mobile devices, essential development of net informational technologies and also transfer to realization of federal educational standards of new generation (FES) and professional standards of a teacher.

In Russian studies on the problem is underlined that the term "m-learning" can be interpreted rather widely. In educational process the mobile can be [5]:

– devices, used at learning (any mobile devices and net technologies);

– pupils (at learning they can be at classroom or beyond it, to move round the class or round the school, to work in different teams (of equal or different age) and so on);

– the learning process itself (the different types of lessons: traditional (at classroom, according to the schedule), "park", "museum", "theatrical" ones become real; the teacher is not only educator that conducts lesson, but also the virtual teacher (for example, the teacher in internet from other region, other school); e-textbooks and different i-resources are widely used in learning).

Despite such wide possibilities of m-learning introduction there are a lot of problems and risks of m-learning use at Russian schools. Shyshlovskaya Y. V. [6] names the following:

– it is not always possible to organize the equal access of pupils to mobile devices and high-quality high-speed internet;

– the school infrastructure must change, not the prohibition to use mobile devices at school must be actual, but their wide use for the solution of different problems and that needs the change of school accommodations, appearance of free internet access zones;

– the questions of health protection and establishing of substantiated norms and rules of e-devices use are urgent.

From the point of view of the author of this article, the solution of the following questions is no less important:

– the change of pedagogical worldview of all participants of educational process: leaders of educational organizations, teachers, parents is needed (from the presentation of ready knowledge to the different forms and ways of information receiving, processing and mastering);

– the risks, connected with informational safety that sometimes deny the attempts of mobile devices use at educational institutions, need the special attention.

The training of all categories of educators (leaders, teachers, tutors) to the m-learning use in professional pedagogical activity is very urgent today [7].

### 3. Aim and tasks of research

The following aim was set in the research: to study the experience of m-learning use at Russian and world educational system.

For attaining the set aim the following tasks were formulated:

1. To study the existent pedagogical practices of m-learning.

2. To determine pedagogical conditions of m-learning use at Russian school.

3. To reveal the directions and ways of teachers training to m-learning use in professional pedagogical activity.

### 4. Materials of research

The ascertaining experiment demonstrates that today the experience of m-learning organization in Russian education is not wide but there is a series of interesting pedagogical practices, realized by Russian teachers:

– "inverted lessons" (new material is studied at home and the task of lesson – systematization of received knowledge and its active mastering);

– out-school lessons: "park" lesson, "museum" lesson, "theatrical" lesson (it is especially suitable for the lessons of history, geography, literature, biology and so on), when mobile devices are used for video recording, photos preparation, working process fixation and other aims;

– the widening of possibilities of organization of project and research activity of pupils, integration of class and out-class work by the inclusion of m-learning elements;

– the use of inforgraphics means on mobile devices for teaching of pupils to use the methods of information structurization, its folding and unfolding (very interesting infographics was elaborated by TV channel Culture, it can be actively used at studying history, literature, geography and other subjects).

Let's note that there are many interesting technological solutions for m-learning realization such as the use of:

– e-forms of textbooks, elaborated by all publishing houses together with paper learning literature [8];

– specialized mobile learning environments, for example, "Mobile e-school" [9], this project is realized by the team of specialists under the guidance of Kondakov A. M. within FSES realization;

– the possibility to use of Russian platforms of opened e-education Universarium [10] and Stepik [11], and also Intuit, center "Specialist", ABBYY, Netology and many other;

– the systems of video-lessons on the main subjects of school program: infourok [12], interneturok [13];

– interactive constructors of net didactic and methodical materials (tasks [14], crosswords [15], online tests [16]);

– instrumental environment for creation of learning applications for tablets by Apple "Explications" [17].

The components of m-learning were determined at the research:

– m-devices (tablets, smartphones, navigators, readers and other devices);

– net (crowd) technologies and their means: general ones, for example, Google applications: disk, sites, blogs, maps and specialized pedagogical ones, mentioned above;

– pedagogical technologies, oriented on active independent work of the pupils and creation of educational products at learning.

Professional complications of the teachers of schools of Leningrad region were also studied. The ascertaining experiment demonstrated that the conditions for the use of such learning are absent in most educational institutions for today, so the necessary organizational-pedagogical conditions were determined:

1. Creation of technical base (determination of the methods of m-devices use: their purchase by educational institution or BOYD (Bring your own device method – when pupils bring to the lessons their own devices)).

2. Creation of special "spaces" of free access to internet at school, it may be not only learning classes but also the special zones in corridors, library, assembly hall and other school accommodations.

3. The choice of adequate pedagogical technologies (project, technology of critical thinking development, case-technology and other) that must be oriented on active independent work of the pupils, formation of universal learning actions, and reflection must play the important role in them.

4. Creation of special resources for presentation of the course and results of m-learning – from the large-scale mobile educational environments to the small target sites or blogs. It is very comfortable to use the portfolio (web-portfolio) technology at learning process, when pupils during the whole study collect and systematize the ready tasks, review the works of their mates, receive recalls on their works and present all materials as paper of e-portfolio.

5. Solution of organizational problems (possibility of class division in subgroups at activities with m-devices, conduct of certain activities by two teachers, training of pupils-assistants of the teacher, involvement of parents in certain types of activities).

6. Purposeful training of pedagogical staff (corporative, if possible) to the use of this form of learning, active exchange of experience, net presentation of schools working experience on sites and blogs.

7. The solution of normative-legal questions, connected with guaranteeing of information safety under conditions of open educational environment.

**5. Interpretation and approbation of the results**

During the research it was established, that for inclusion of the elements of m-learning in educational activity of the school the special expenditures are needed, but they can be compensated by the advantages of m-learning:

– distinct orientation on the attainment of meta-subject educational results: the use of mobile devices helps in formation of all types of universal learning actions (cognitive, regulative, communicative);

– the possibility to realize the new approaches to the assessment (involvement of pupils in the process of assessment, increase of the role of reflexive instruments of assessment (questionnaires, mark books of learning activity and other), the use of computer instruments of assessment (tests, interactive tasks);

– orientation on the increase the share of pupils' independent work, moreover the independent work can be organized in interesting form, taking into account the mentality of modern children, oriented on the wide use of computers in life and study;

– the support of widening of the spectrum of informational resources, used at learning (e-textbooks, e-educational resources, crowd instruments and services).

Today the educators (leaders of pedagogical organization and teachers) are trained to the gradual introduction of m-learning in the practice of schools of Leningrad region. For this aim:

1. Informational materials with the review of essence and pedagogical practices of m-learning are presented on educational portal HOR [18]. These materials are freely accessible to the teachers of Leningrad region.

2. The blog for discussion of experience of introduction of m-learning practices in school work is created [19].

3. Webinars, discovering the essence of m-learning and presenting the existent pedagogical practices, are conducted.

4. The program of qualification improvement of teachers in the fields of m-learning is prepared. For the present time such program includes 18 and 36 hours of training and the following sections: essence of m-learning, pedagogical practices of m-learning, organizational-pedagogical conditions of m-learning use, limitations and risks of m-learning.

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## 6. Conclusions

Today the change of Russian school mission takes place; it is transformed into multi-functional center of the local community with orientation on joint activity of pupils, teachers, pupils' families in the context of personal development and "education through the whole life". In the solution of such problem the consolidation of resources of all participants of educational process is necessary, at the same time the different types of resources are considered – from intellectual to technical ones.

At the first stage of research the set tasks were solved:

– the existent pedagogical practices of m-learning, their revelation and analysis must be continued;

– pedagogical conditions of m-learning use at Russian school were determined;

– the directions and methods of the teachers' training to m-learning use in professional pedagogical activity were revealed, it was recognized, that the educators' training must be both formal (courses of qualification improvement) and informal.

The attitude to m-devices of all subjects of educational process as to distracting from educational activity must be changed. We must learn to understand them as essential help in realization of individual learning trajectories, attainment of personal, meta-subject and subject educational results, involvement of the learning person in creation of learning environment.

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