USE OF MOBILE TECHNOLOGIES IN CORPORATE E-LEARNING SYSTEMS

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Annotation: *The article is devoted to the analysis of the possibilities of using mobile technologies in corporate e-learning systems. The advantages of mobile applications, the prospects that mobile devices open for obtaining new knowledge and strategic development of companies as an innovative process are considered. A separate emphasis is placed on practical examples and problems associated with their application.*

Keywords: *mobile learning, innovations, information and communication technologies, mobile technologies, corporate e-learning.*

Introduction

Most companies consider the training and advanced training of personnel to be strategic areas of development. The role of human capital as one of the components of the competitive potential of an enterprise is especially growing in today's tough conditions of increased competition due, on the one hand, to limited access to financial resources due to permanent turbulence in the global economic space, and on the other hand, to the process of integrating economic systems into the international economic complex [5]. There is an urgent need to create conditions for professional and personal growth, develop the necessary competencies in order to effectively use each employee of the company. Face-to-face training during working hours is a thing of the past. More and more organizations are moving to e-learning using mobile technologies. This allows you to organize training and advanced training at a time and place convenient for employees (in the evening, in public transport, on weekends in the country, etc.).

Problems of personnel training and education

The changes that are taking place today in many areas of modern life have shifted the focus in matters of professional development of personnel from the state level to the intracompany level. Today, an organization (firm, company) is considered successful if it is able to learn independently [4]. "The concept of a "learning organization" is based on the following thesis: like a person, organizational systems of an open type are capable of learning, thinking, and forming intellectual potential. Like people, open organizational systems are able to adapt to changes in the external environment, resorting to the use of feedback mechanisms. Organizations are able to learn from their own experience, carrying out a thought process, perceiving the surrounding reality, interpreting it and making the necessary decisions on this basis" [7].

The majority of entrepreneurs (73% of the companies that participated in the research) realize that it is much more profitable to train their employees within the company by creating their own internal corporate training systems, because they contain the specifics of each particular organization [8]. But there are organizations that do not want to spend effort and money on staff training, but immediately hire employees with existing competencies and work experience, even inviting specialists from competing companies. According to our research, there are no more than 9% of

such firms. The rest of the companies do not have a coherent strategy and personnel issues are resolved depending on the current situation. They are not always able to organize education and training on their own, but regularly send them to courses on taxation and accounting, labor protection and ecology. The rest of the staff often decides for themselves whether they need to learn, when and what, without a systemic basis and the needs of the organization itself.

In connection with the widespread use of information and communication technologies for training, the issue of creating an appropriate innovative structure of the company, which would systematically cover and coordinate all types of corporate training, is being updated. Mobile learning (M-learning) is of particular relevance in modern companies due to the limited time and busyness of working specialists, which allows them to acquire new knowledge and improve their skills on the job using small, unpredictable in time and space intervals of learning activities.

However, despite the increased attention to these problems, they require detailed study due to the dynamic development of personnel and the company as a whole in modern conditions, which determines the relevance of the chosen research topic. The process of creating and implementing mobile technologies in corporate training systems is innovative in terms of significance and results. It enables enterprises to quickly, efficiently and at minimal cost organize the process of training and advanced training of employees. At the same time, high motivation and interest of the staff is ensured, which is realized in individual learning trajectories and the acquisition of those competencies that students do not have.

The problems associated with the formation and development of corporate training have been studied by many domestic and foreign scientists, among them: M. Bezlepkina, A. Grishnova, A. Golishenkova, M. Kozak, A. Pechnikov, V. Savchenko, A. Kharchishina, I. Urusova, D. Artyushkin, K. Wheeler, L. Densford, D. Kirkpatrick, K. Cameron, R. Quinn, S. Todd and others.

The problems of using mobile information and communication technologies in education were studied by: D. Abernathy, E. Wagner, G. Vetter, T. Georgiev, J. Ettewell, A. Zhukov, A. Kay, D. Keegan, S. Kuvshinov, V. Kuklev , A. Kukulska-Hulme, E. Mikhalkina, J. Pasco.

"Today, not all domestic companies pay sufficient attention to the problem of increasing the competitiveness of their personnel. The current situation is related to the lack of understanding among the management of organizations of the importance of investing forces and resources in the processes of creating, preserving, qualitatively transforming and using corporate knowledge, their impact on the current activities of the company and the prospects for its development" [3].

Since 2002, a number of international scientific conferences have been held to discuss the technologies of mobile educational resources, among them: the International Conference on Mobile Learning Mobile Learning (mlearning-conf.org), the International Conference MLearnCon (Elearningguild.com) and others. At these events, there is a constant process of improving the use of mobile technologies in e-learning systems, as well as an effective exchange of experience.

Most of the ongoing research concerns organizational and economic relations. In the context of pedagogical innovations, the problems of in-house training require special attention and thorough research. The goal of creating an effective system for training

the company's personnel, from an ordinary employee to a top manager, which will ensure effective training of personnel, will contribute to the achievement of the main goal of the company.

The use of mobile technologies in corporate training systems

The relevance of research on the possibilities of using modern mobile technologies in corporate e-learning systems, analyzing the features and principles of their use, identifying the advantages and problems of implementation is justified and paramount in the present conditions.

The term "mobile learning" (mobile learning, M-learning) refers to the use of mobile and portable IT devices, in particular, PDAs, mobile phones, laptops and tablet PCs in the educational process [6].

Thus, the company Bersin & Associates, which is engaged in research and consulting activities in the field of communication services, claims in its publications that M-learning is becoming the main type of education in business today. The main reason is user convenience. According to Josh Bersini, CEO and President of Bersin & Associates, "mobile learning is the beginning of a new era of unprecedented speed, flexibility and achievement that can provide employees with key knowledge and skills just when they need it" [1].

M-learning researchers reveal the following possibilities of mobile devices for learning [2]:

1. Voice guidance. This technology can be used for learning foreign languages, practicing oratory skills, listening to literature, and the like.

2. SMS messages. SMS can be used at the stages of quick support in the form of counseling, monitoring the learning process. An example is innovative role-playing games based on the use of SMS notifications for remote participants.

3. Graphic and video illustrations. These tools provide the greatest advantages through multimedia accompaniment of training, when graphic material provides an illustration of text messages, algorithms and methods of activity.

4. Boot programs. Sufficient storage space allows you to download and install programs that create a new learning space.

5. Mobile Internet browsers with built-in technical means that use 3G or GPRS-connection to increase the network of received data.

As a clear practical example of the successful use of mobile technologies in corporate training, you can use the experience of CorporationGifttra de LTD, which trades clothing and footwear worldwide and has its own corporate university.

To date, the following mobile learning technologies are built into the corporate e-learning system of the company:

- MobileELDIT platform - a mobile learning support system developed in Italy to support the process of learning languages (MobileELDIT consists of a dictionary, a set of texts and test items);

- the Mobl21 platform, which is used both by teachers to create educational materials and by students to create lesson notes (Mobl21 allows you to quickly and efficiently design educational materials in the form of multimedia teaching aids; company employees can access the materials at a convenient time for them and anywhere, as well as view the material at their own pace; the teacher can manage the content and users of the system to support learning);

- podcasts - a sequence of episodes published on one resource with the possibility of subscription. The technological basis of podcasting is the RSS format with a specific "attachment" element that shows the attached media file (document, video or audio file). Using podcasts, a company gets a way to assess the needs of its employees and its capabilities, clarify which part of the content is suitable for mobile learning, without transformation and adaptation, and collect relevant statistics, and based on this, draw conclusions about ways for further development.

Considering M-learning in corporate e-learning systems, let's pay attention to the existing shortcomings of this technology and problems:

- limited functionality for storing data on mobile phones and tablets;

- not all smartphones and tablets are able to support the full functionality of the corporate training system;

- the small size of mobile screens of smartphones and tablets limits the possibility of presenting educational content by type and type;

Not all company employees use smartphones and tablets.

In addition, when introducing mobile learning technologies in corporate networks, there are certain difficulties associated with the age of the trainees, we are talking about employees over 50 years old, namely:

- it is difficult to convince them to change the mobile devices they already use. It is unlikely that for training purposes an employee will get a second mobile device or give up the usual one;

- older employees already have well-established scenarios for using mobile devices. For example: in the morning on the way to work, checking the news in audio format - if driving, or reading from the screen - if a person uses public transport. These scenarios are dictated by the lifestyle and the educational process should be individually adapted to them;

- the usual software configurations. If a particular student uses an e-book reader to obtain information, then he will prefer to receive educational information using the same program in the appropriate format.

If the student prefers to watch videos, then it is advisable to submit educational materials in a format compatible with the usual video player.

As part of the research, the optimal functional composition of a mobile application for organizing a corporate e-learning system was developed:

1. Individual employee profile:

A. Training calendar:

i. a list of training events required to attend (integration with Outlook and GOOGLE calendar). b. Individual development trajectory:

i. the initial profile of the employee after passing the probationary period;

ii. current employee profile;

iii. options for further development of the employee;

iv. monitoring personal progress;

v. rating and a set of achievements.

c. List of key knowledge, abilities, skills (KUN):

i. assessment of key ZUN by colleagues;

ii. the employee himself.

2. Catalog of competencies:

a. Thematic rubricator of competencies (for example):

i. product management;

ii. testing;

iii. development;

iv. implementation;

v. sales;

vi. technical support;

vii. etc.

b. Competence sets of employee positions (for example):

i. product manager;

ii. System Administrator;

iii. Sales Manager;

iv. technical support specialist;

v. accountant;

vi. etc.

c. Competency sets of employee roles (for example):

i. mentor;

ii. organizer of corporate events;

iii. component manager;

iv. speaker at events;

v. etc.

3. Subsystem for tracking the results of employee training:

a. Module for monitoring the implementation of individual plans:

i. development speed;

ii. regularity of training;

iii. the current level of mastering the material.

b. Module for recording visits to regular trainings:

i. fixing the questions asked;

ii. and etc.

4. Subsystem for the formation of learning trajectories:

a. Formation of several types of training trajectory blocks:

i. individual study of theoretical material;

ii. performance of a test task;

iii. implementation of a practical task and its verification by an expert;

iv. planning a personal meeting and passing the test to the teacher;

v. group work with the initial distribution of roles;

vi. pair work with another participant in the training;

vii. coaching;

viii. participation in trainings.

ix. and etc.

b. Drawing up an individual educational trajectory:

i. selection of target competencies available to the employee, correlating them with the necessary set of training blocks of the required types;

ii. drawing up an individual learning trajectory and planning calendar events.

c. Periodic review of individual employee trajectories for correction.

d. Planning for regular employee training.

5. Subsystem of communication with teachers and other participants of training.

a. personal and group chats;

b. news feed;

c. webinars;

d. and etc.

6. Knowledge management system:

a. storage and provision of knowledge;

b. formation of training courses on the basis of the materials placed in it.

c. and etc.

The most promising and in demand is the use of open online courses that take into account the specifics and characteristics of each enterprise and are based on corporate knowledge bases. They are best implemented by means of mobile learning.

Conclusion

Thus, the following conclusions can be drawn:

1. Personnel training within the framework of a corporate electronic system using mobile technologies is one of the most promising, affordable and effective types of business education, which is innovative in essence, results and value. Its important advantage is the ability to train the entire team at a convenient time for the staff, which saves time and money to achieve the necessary progress in training and verify its effectiveness.

2. It is important for companies to constantly train and improve the skills of their personnel. This work should be carried out on the basis of a deep analysis of the competencies that employees have and the allocation of those knowledge, skills and abilities that they lack for effective activity in the interests of the enterprise. Based on these data, individual educational trajectories are formed, which can be fully or partially implemented through mobile e-learning technologies.

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