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USING MOODLE LEARNING MANAGEMENT SYSTEM IN UNIVERSITY'S EDUCATIONAL PROCESS: TEACHING EXPERIENCE

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Abstract

The article describes the teachers' experience of using Moodle learning management system in the university educational process. For this, the relevance of using the Moodle system is justified, the degree of its introduction in the world and in Russia is defined, this system didactic capabilities for managing the educational process are described. The article presents the results of a practical study of the Moodle system implementation at Nizhny Novgorod State Pedagogical University (Minin University). The purpose of the study is to describe the experience of using the Moodle system in the university educational process, as well as to identify problems and prospects for the further this system development. As a result, the degree of Moodle ease of use, the frequency of its use, the most frequently used tools were identified, the effectiveness was assessed, the level of teachers' competence, their main difficulties, prospects and the desire to use Moodle to improve the educational process were assessed. Conclusions are drawn about the teachers awareness of the Moodle learning management system's abilities to reduce time costs, control the educational process, replicate content, provide feedback, implement group interaction; lack of teachers' competence in the development and use of e-courses in the Moodle system, etc. The general conclusion of the work is the confirmation of the need to develop a set of organizational and pedagogical conditions that will increase motivation and strengthen the teachers training to use Moodle.

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1. Introduction

Nowadays, there is information technologies used in education excrecence (Jones, Scanlon, & Clough, 2013; Osman, Duffy, Chang, & Lee, 2011). E-learning as a way to organize an educational process using information technologies, technical means, information and telecommunication networks, as well as information contained in data bases, is becoming to be one of the world's leading educational technologies (Gunawardena & McIsaac, 2004; Jang, Reeve, & Deci, 2010; Bulaeva, Vaganova, Koldina, Lapshova, & Khizhnyi, 2018).

Among the main trends in the educational development are the increasing scale and degree of online learning development, the intensification of the various open databases and Internet resources use, the spread own mobile gadgets, including in the classroom, the rapid development of cloud and communication technologies used in educational process (Akhmetzhanova & Yuryev, 2018; Nagaeva, 2016). Attention to the content quality is increasing, the teacher's role in the educational process is transforming, the non-formal education positions are strengthening (Lyashenko & Frolova, 2013; Vaganova et al., 2018).

Hence, researches related to the use of electronic learning management systems become relevant. The information systems fast development in education, as well as of any other innovation, is accompanied by the need to analyze and evaluate the emerging experience (Aniskin, Gorbатов, Dobudko, & Dobudko, 2016). This will allow to realizing its positive and negative manifestations, to comprehend the possibilities and limits of the application of this technology in practice and to improve the educational process in future.

One of the most widespread learning management systems in the world is the Moodle system – a modular object-oriented dynamic learning environment. According to the designer's official website, today, 97,257 sites are used on this platform in 230 countries of the world, 2,588 sites among them are used by Russian organizations.

Moodle provides extensive educational opportunities to manage the educational process, including:

- relevant content ingestion and external resources effective use;
- teacher and students joint activities organization;
- providing communication and counseling of all participants in the educational process;
- various ways of the educational process organizing, including the “inverted lesson” format;
- student's individual abilities maximum consideration, regarding the time and method of training,

etc. (Mineeva, Prokhorova, Borschevskaya, & Terekhina, 2018; Gladkova, Abramova, & Kutepov, 2017; Prionugin & Lapygin, 2017).

2. Problem Statement

Intensive educational informatization has led to the number of contradictions emergence associated with the active mastering of Moodle's capabilities by users.

First, this is a contradiction between the need for educational practice in a developed electronic educational environment and the insufficient number of electronic resources that allow fully accessing the quality education (Gruzdeva, Prokhorova, Chanchina, Chelnokova, & Khanzhina, 2018; Kamenez et al., 2018).

Thus, the number of Russian universities that are currently fully using e-learning systems is still insignificant. On the average, universities annually develop about 20 online courses (Krasnova, Nukhuly, & Teslenko, 2017). On the one hand, this is due to the high availability and steady growth in the share of Internet users, on the other hand, the complexity of developing electronic resources.

Secondly, this is a contradiction between the high users' demands on the electronic educational resources educational content and the teachers' competence involved in their development. The full e-courses use in the Moodle system implies the possession of teachers with special competencies related to the organization of training in the electronic educational environment, various forms and methods of presenting information use, and the assessment of students' activity (Samerkhanova & Imzharova, 2017). Therefore, the implementing e-learning practice requires the study and understanding of implementing e-learning practice by university teachers. This is the problem of this research.

3. Research Questions

Among the questions, raised during this study, it is necessary to specify the following:

1. Do teachers at Russian universities consider e-learning to be effective, does Moodle facilitate pedagogical activities?
2. What are the positive aspects of the Moodle system?
3. What are the most commonly used Moodle elements during teachers work?
4. What difficulties do teachers face when developing e-courses?
5. What conditions need to be created to increase the effectiveness of e-learning using Moodle?

4. Purpose of the Study

The purpose of this study is to describe the experience of using Moodle in the university educational process, as well as to identify problems and prospects for the further development of this system.

5. Research Methods

The study was conducted in the 2018/2019 academic year in the Nizhny Novgorod State Pedagogical University (Minin University). Teachers from university various departments and faculties participated in it. Participation in the survey was voluntary and anonymous in compliance with all ethical aspects of scientific research (Veselkova, 2002). The study used theoretical and empirical methods of cognition: theoretical methods (selection and analysis of literature on the research topic, the study of e-learning implementation practices based on information provided on the official websites of Russian universities); empirical methods (questioning); statistical methods (processing the results of the survey).

The study was conducted using standard Google-forms tools for receiving and processing the results. The questionnaire included 13 questions, both closed and open. Questions in the survey reflected the basic theoretical propositions of the "technology adoption model" such as: utility, lightness, conditions of use, and relevance to the professional community (Technology Acceptance Model - TAM) (Venkatesh & Davis, 2000). The questionnaire was offered to colleagues to fill in the electronic format and distributed via email.

6. Findings

During the study, the following results were obtained.

The survey involved 22 Minin University lecturers. The number of respondents aged 20-30 years was 5 people (22.7%), 30-40 years old - 3 people (13.6%), 40-50 years old - 11 people (50%), over 50 years old - 3 people (13.6%). 4 of them were teachers (18.2%), 6 senior teachers (27.3%), 12 assistant professors (54.5%).

Answering the question “What type of training do you think is the most effective?”, The dominant majority of participants – 19 people (86.4%) – recognized a mixed type of training as the most effective, and only 3 people (13.6%) preferred the traditional class-lesson system.

Further, survey participants rated on 5-point scale the degree of Moodle use ease as one of the possible means of organizing blended learning in organizing the educational process at a higher educational institution (Figure 01).

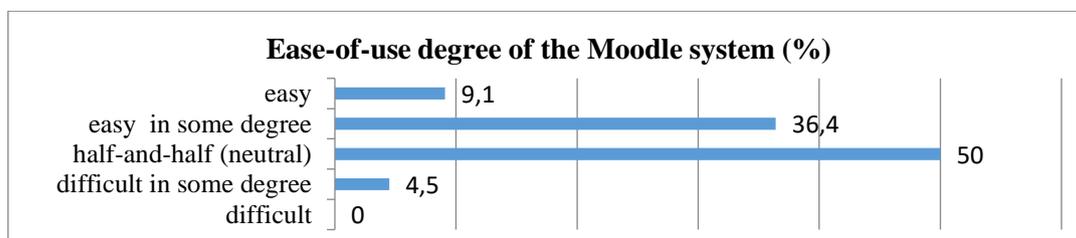


Figure 01. Ease-to-use degree of the Moodle system

As it can be seen from Figure 01, the majority of respondents do not find Moodle very difficult to use. None of the respondents chose the answer “difficult”, 1 survey participant (4.5%) considers Moodle partly difficult to use. 9.1% of respondents have no difficulty using Moodle at all. 36.4% consider the work in the system easy in some degree. The most frequent answer (50%) was the answer “both yes and no (neutral)”, which makes it possible to conclude that difficulties with the system use sometimes arise. So we tried to identify what kind of difficulties teachers have while developing the electronic teaching materials (ETMM) in Moodle. Respondents could choose several answers to the question “What difficulties do you encounter while developing an ETMM?” 8 participants (36.4%) noted technical difficulties, 19 people (86.4%) – lack of time and effort, 8 people (36.4%) – lack of knowledge and practical skills in Moodle.

The respondents rated the level of their information competence as follows: 11 participants (50%) confirmed that they possess a sufficient level of information competence to use Moodle's opportunities in their professional activities; 5 participants (22.7%) acknowledged that their level of information competence is not high enough to use Moodle for organizing the educational process; 6 people (27.3%) found it difficult to answer this question.

The next set of questions was aimed at identifying the frequency and effectiveness of using Moodle in the educational process organization.

First, we learned what Moodle tools teachers use in their e-learning complexes for organizing educational activities, joint students group activities and organizing students' reflexive activities aimed at self-knowledge, identifying learning problems (Figures 02-04).

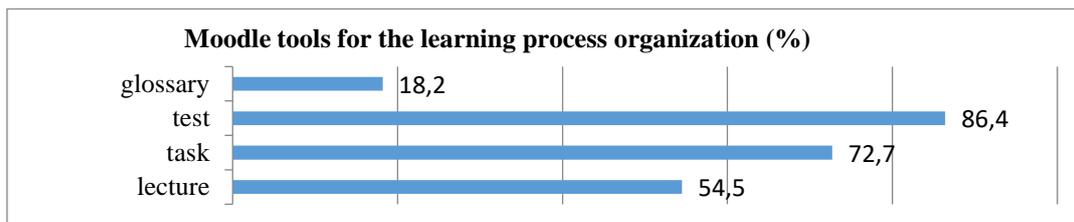


Figure 02. Moodle tools for the learning process organization

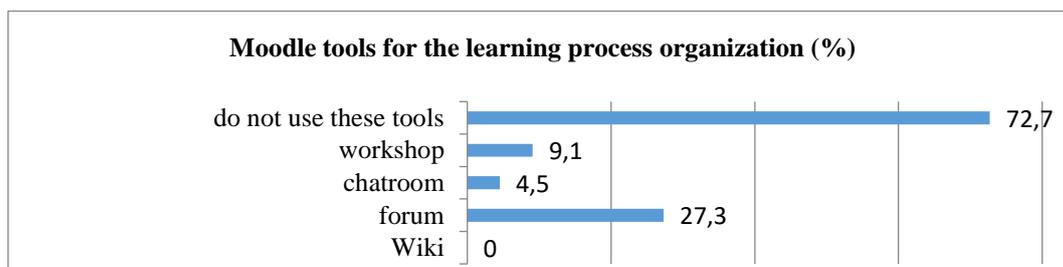


Figure 03. Moodle tools used for student group collaboration

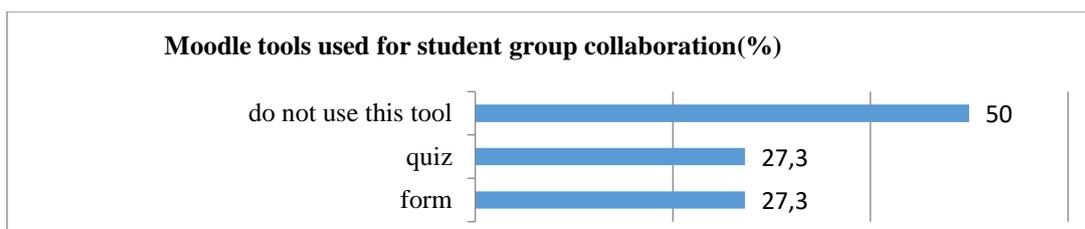


Figure 04. Moodle tools used to organize student reflective activity

The research results demonstrate that teachers prefer to use in e-courses mainly tools related to the educational material and testing setting. Resources that allow communication, feedback, and collaboration are much less popular.

Then, survey participants were asked to rate Moodle’s utility in organizing the educational process at a university on a five-point scale. The answers to the question were as follows (Figure 05).

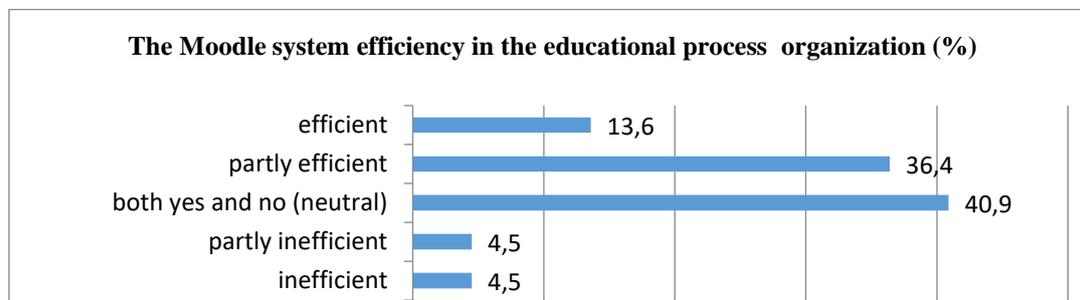


Figure 05. The Moodle system efficiency in university educational process organization

As presented in Figure 05, in general, Moodle was rated as an effective means of organizing the educational process at the university, as evidenced by a significant number of positive answers: 3 respondents (13.6%) chose the answer “efficient”, 8 participants (36.4%) - “partly efficient”. A small

number of respondents did not consider the Moodle use useful: 1 participant (4.5%) gave the answer “inefficient” and also 1 participant (4.5%) - “partly inefficient”. 9 participants (40.9%) chose a neutral answer “both yes and no”.

Considering following question from the questionnaire, we tried to identify how Moodle helps teachers in their professional activities. The majority of survey participants 15 people (68.2%) admit that they use the Moodle system to optimize the learning process. 9 participants (40.9%) for organizing individual support for student learning activities, 9 participants (40.9%) to save time and effort on controlling students’ work, 5 respondents (22.7%) - to increase the level of student motivation for the subject study. 9 participants (40.9%) actively interact with the participants of the educational process through the Moodle system (Figure 06).

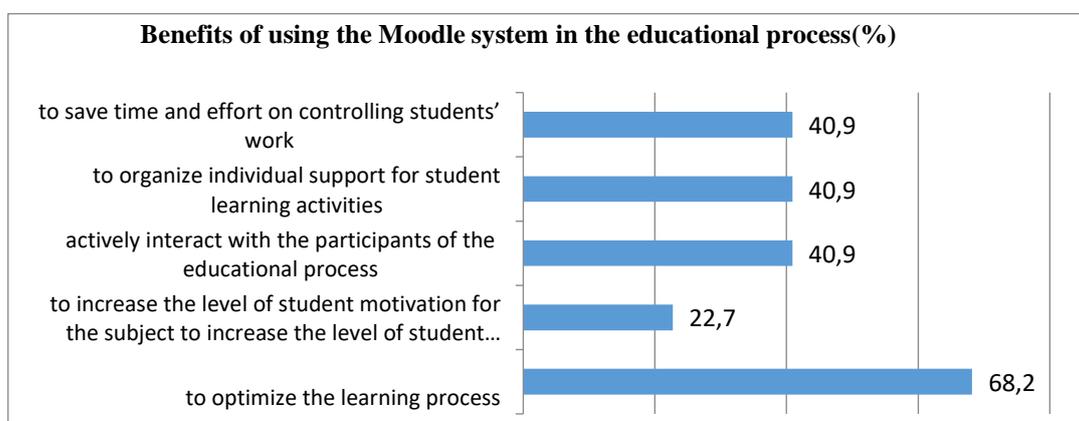


Figure 06. Benefits of using the Moodle system in the educational process

The last part of the questionnaire contains the following question: “Do you use or plan to use Moodle on an ongoing basis to organize the educational process?”. The most popular was the answer “yes, this is necessary and convenient technology”, it was chosen by 9 respondents (40.9%). However, a significant number of participants (7 people (31.8%)) chose the answer “no, it takes a lot of time and effort.” 5 participants (22.7%) chose the answer “I do not know, I would like, but I have not enough time” and 1 participant (4.5%) chose the answer “other”, indicating in the comment the answer “on an ongoing basis – never, partially – yes, in future”.

The last question of the questionnaire “What positive or negative points can you identify in the Moodle implementation in the educational process?” Respondents answered in a free form. We illustrate the results with response fragments. Among the positive points, the following were noted: “the use of courses in Moodle optimizes the learning process, allows students who have missed classes to keep up with the group”, “remote work of students, it is convenient to control students’ works”, “you can organize students independent individual work”, “There are statistics on each student progress”, “access to the system allows working from anywhere.” Among the negative points: “content development takes a lot of time and effort”, “development of an electronic resource takes a lot of time, requires technical knowledge, for the improvement of which there is no time”, “labour intensity of tests creating”, “students often just copy others answers”.

7. Conclusion

The results obtained in the course of the study make it possible to summarize and comprehend the practice of using Moodle in the university educational process from the teachers' position.

Firstly, it is undoubted that Moodle system is widely used in university educational process, most teachers have experience in developing e-courses, recognize the wide possibilities of e-learning and indicate its effectiveness in the educational process. Among the Moodle possibilities the possibilities of optimizing learning, enhancing the educational process are indicated. Moodle allows reducing time, controlling the process, replicating content, providing feedback, implementing group interaction in the framework of the educational process. This generally coincides with the trend of informatization and digitalization of education both in Russia and around the world.

Secondly, the problem of teachers' insufficient competence in the electronic courses in the Moodle system development and use is still essential. Almost a quarter of the interviewed teachers recognize their competence level as insufficient, despite the fact that the requirement for advanced training in the field of ICT in education is a educational standards' requirement.

Thirdly, since Moodle has a wide many tool to diversify the educational process, most teachers prefer tools that reproduce traditional forms of education (lectures, practical tasks, tests) and do not use tools for organizing joint group activities and students' reflection. So, in practice, the majority of teachers use Moodle as a means to ensure access to educational materials and control, and its potential as a means of communication, creating an educational environment is practically not used.

Fourth, the main obstacle hindering the growth of the e-courses quantity and quality is the lack of teachers' time and efforts.

Most of Moodle's capabilities orients on greater student autonomy in educational activities; they require restructuring learning and interaction ways in the educational process. Such a rearrangement is possible only gradually.

In general, teachers consider this technology to be useful, accessible and effective in organizing the educational process. Although time costs and efforts, the presence or absence of relevant skills to more actively introduce technology into the learning process are important determinants in the promotion and adoption of technology by the professional teachers' community.

It can be generally concluded that there is the need for organizational and pedagogical conditions complex development that will increase motivation and strengthen the teachers training to use Moodle.

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