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# ELECTRONIC INFORMATION EDUCATIONAL ENVIRONMENT TUIS (BASED ON MOODLE SYSTEM) AS A TEACHING TOOL

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## *Abstract*

Since the beginning of 1990s specialists with a command of foreign languages have been in demand. This is conditioned by many factors: the changes in the educational system (owing to fact that Russia joined the Bologna Agreement), the integration of the Russian Federation in the global economy, the rapid development of information and communication technologies (ICT) and its incorporation in all areas of activities, etc. The main questions of the present research are the advantages and disadvantages of TUIS platform usage, as well as TUIS platform usage impact on students' involvement in educational process. The main goal of this study is to identify and define the usability problems of the present Moodle-based TUIS platform at RUDN University. Despite the widespread usage of LMSs, some disadvantages are still encountered. From our point of view, one of the main disadvantages of most EERs is their commitment to only one type of interaction. While interacting in correspondence provides perfect student-content interaction and satisfactory student-teacher one, it, however, gives no student-student interaction. As for the conditions of distance learning, videoconferencing may help to solve problems with student-student interaction, but they are frequently misused. This type of interaction my easily be adjusted to TUIS with the help of, say, the Lecture tool. However, some researches find Moodle interface difficult to use and understand and point out such difficulties as certain problems with its functionality.

## 1. Introduction

Since the beginning of 1990s specialists with a command of foreign languages have been in demand. This is conditioned by many factors: the changes in the educational system (owing to fact that Russia joined the Bologna Agreement), the integration of the Russian Federation in the global economy, the rapid development of information and communication technologies (ICT) and its incorporation in all areas of activities, etc. The modern education paradigm is also strongly influenced by ICT. According to the Russian Education Modernization Concept for the period until 2020, not only every student should have access to education in modern environment, but special conditions are also to be created so as to ensure that at least 50 percent of working-age citizens receive continuous education annually. That said, the Education Development State Program of the Russian Federation envisaged the transition of students to individual curricula, a significant place in which is occupied by independent student work involving electronic educational resources (EER).

Despite the fact that the EER as educational materials in electronic format (audio and video materials, presentations, electronic books, etc) cannot be fully attributed to innovations, we find it interesting to investigate the pedagogical potential of integrated EER. In terms of world pandemic, it is of high importance to use all media of ICT in education and to be able to realize their potential. In this regard, we turn to Learning Management Systems (LMSs) which both provides student with EERs and improves traditional face-to-face education. One of the most widely used open-source LMS in education is the MOODLE platform. It in its framework that we observe the usage of Moodle-based EER (Belozubov & Nikolev, 2007).

## 2. Problem Statement

Effective electronic course is characterized by its interactivity. According to Moore (1989), interactivity is understood as the interaction of a student with content, teachers and other students, which are results in:

- independent formation of knowledge based on the understanding and interpretation of educational material;
- new virtual learning community that serves as a social context for the verification of new knowledge;
- multichannel feedback as a factor in maintaining sustainable learning motivation with asynchronous and synchronous forms of learning;
- psychological comfort in conditions of physical disunity of the participants in the educational process (Moore, 1989).

From our point of view, one of the main disadvantages of most EERs is their commitment to only one type of interaction. While interacting in correspondence provides perfect student-content interaction and satisfactory student-teacher one, it, however, allows for no student-student interaction. As for the conditions of distance learning, videoconferencing may help to solve problems with student-student interaction, but they are frequently misused for teacher presentations. This type of interaction my easily be

converted in TUIS with the help of, say, the Lecture tool. However, some researches find Moodle interface difficult to use and understand and point out such difficulties as certain problems with its functionality (Jakshylykov & Nurmatov, 2016).

## 3. Research Questions

The main questions of the present research are the advantages and disadvantages of TUIS platform usage, as well as TUIS platform usage impact on students' involvement in educational process.

## 4. Purpose of the Study

The main goal of this study is to identify and define the usability problems of the present Moodle-based TUIS platform at RUDN University. Despite widespread usage of LMSs, some disadvantages are still encountered, e.g. Chua & Dyson pointed out their low performance and poor usability of online tools. From our point of view, problems with system usability may prevent students from concentrating on course content as long as the system does not provide intuitive and natural interactions (Chua & Dyson, 2004).

## 5. Research Methods

The problem of the introduction of information and communication technologies (ICT) remains relevant in recent years. Publication of new scientific articles is a proof of this (Avetisyan, D. D., Boldova T. A., Varenna L. P., Zakotnova P. V., Zimina E. I., Kolesova T. V., Kondakov N. N., Kuvshinov S. V., Plekhanova M. V., Pigareva, E. P., Usakina L. N., Rebikov V. B., Khakimov A. A.). Researchers (Milrud, 2016 and others) show that ICT tools are set to allow for new qualitative changes in the education system, including training skills of speech foreign language activities. In this regard, it is important to understand how and what means of ICT can be integrated into the educational process for the formation and improvement of skills of speech foreign language activities (Galchuk, 2018).

The empirical base of the study is meant to be the learning results and the results of the questionnaire for the third year students majoring in Applied Mathematics at Engineering Academy and in linguistics at Institute of Foreign Languages at RUDN University with the use of the e-learning course and without it. Table 01 contains demographics of the participants. The study was conducted in the first term of the academic year 2019-2020.

**Table 01.** TUIS usability

| Gender | Female | 47% |
|---|---|---|
| | Male | 53% |
| Department | Engineering Academy | 63% |
| | Institute of Foreign Languages | 37% |
| Current use frequency of TUIS | Everyday | 6,3% |
| | 2-3 times a week | 2,1% |
| | Once a week | 43,2% |
| | 2-3 times a month | 12,6% |
| | 2-3 times a term | 35,8% |

## 6. Findings

The Moodle system provides a platform with a wide range of tools for creating and conducting distance learning courses. Generally, Moodle-based courses include the following tools and resources:

- by resources we mean those materials that can be used as information to study. The teacher can post various pieces of theoretical information in various course modules. These resources can be either in the form of files, or in the form of external links. Moodle distance learning system enables using various formats of electronic documents;

- active elements are generally not included in the framework of the training course. By active elements we mean organized communication between students and teachers when using this distance course (forum, chat, exchange messaging, etc.);

- tasks are an element created for testing knowledge. Answers to tasks must be executed as files;

- a database is used to create and store various information, for example, articles, books, hyperlinks; to show various photographs, posters created by students;

- a seminar is a type of extracurricular activities. Students are able to evaluate each other's performance in the course, and they can also interact with the teacher;

- a lesson is a type of activity where educational material is issued in parts. Students can ask the teacher questions after this type of classes, and the teacher decides which parts of the lesson should be emphasized in intramural classes;

- tests are the main means of knowledge control in any LMS. They provide students with the opportunity to test their knowledge, and the teacher to control the results.

The results of the questionnaire are based on statistical analysis. Participants responded to five questions about the learnability of TUIS platform which can be seen in Table 02. The majority of participants thought that the website navigation was difficult and learning to navigate was a problem for them. On the other hand, participants were generally neutral about the learnability issues of the system. Also, the minority of the participants thought using the website for the first time was easy and the website navigation was user-friendly. In addition, 91 % of the participants also thought the site needed more introductory explanations.

**Table 02.** Learnability

| Statements | Agree | Neutral | Disagree |
|---|---|---|---|
| The website navigation is difficult | 85,6% | 1,2% | 13,2% |
| This website needs more introductory explanations | 91,7% | 5,2% | 3,1% |
| This website navigation is a problem for me | 82,4% | 2,1% | 15,5% |
| Using this website for the first time is easy | 1,6% | 4,2% | 94,2% |
| This website navigation is easy to understand | 7,4% | 3,3% | 89,3% |

Participants were generally negative about the efficiency of the system. 92 % of the participants mentioned that they could not access tests and seminar types of activities easily and upload homework easily. Some of the participants mentioned problems connected with finishing tests. 37 % of them felt themselves inefficient while using the system. Only 18 % of the participants thought the website was fast. The details can be seen in Table 03.

**Table 03.** Efficiency

| Statements | Agree | Neutral | Disagree |
|---|---|---|---|
| This website is too slow | 88,3% | 1,6% | 10,1% |
| I can access tests easily | 5,5% | 2,1% | 92,3% |
| I can upload homework easily | 38,5% | 4,9% | 56,6% |
| I can access online exams easily | 40,4% | 5,7% | 53,9% |
| I feel efficient when I'm using this website | 54,2% | 8,2% | 37,6% |

## 7. Conclusion

The Moodle distance learning system is a free learning management system focused primarily on organizing the interaction between the teacher and students. It is also suitable for organizing traditional distance learning courses and supporting learning. Usage of the e-learning environment Moodle allows expanding the possibilities of the educational process both in terms of students' independent work and various forms of education. Advantages of labor division in teaching are now seen with the fast development of telecommunications in educational process. It should be noted that the three types of interaction must be taken into consideration when applying principles of teaching activity specialization. Courses and programs should be developed to provide maximum effectiveness of every interaction type, and ensure they are focused on collaborative learning technologies.

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