

DEVELOPMENT OF ELECTRONIC EDUCATION SYSTEMS AND INTERNATIONAL EDUCATION PLATFORMS

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Abstract

The purpose of this research is to study the trends in the development of e-learning system and analyze the impact of international educational platforms on the educational process. The main purpose of the study is to compare the processes of e-learning system development in Uzbekistan with international educational platforms, as well as to assess their effectiveness and further prospects. At the same time, it also examines how modern technologies affect the educational process. The study used a mixed methodology combining qualitative and quantitative research methods. The advantages and disadvantages of international educational platforms were studied through document analysis, and the level of use of e-learning systems in educational institutions in Uzbekistan was analyzed through questionnaires and interviews. The effectiveness of e-learning was assessed through statistical data processing. The results of the study showed that although the e-learning system makes the educational process flexible and convenient, it faces some technological and methodological obstacles. Compared to international platforms, the e-learning system in Uzbekistan is not yet fully integrated and users have different levels of technological knowledge. Theoretically, this study provides new ideas for the development of e-learning and its adaptation to international standards. As an original approach, an analysis focused on the regional development of e-learning was conducted and its compatibility with international platforms was assessed. In practical terms, the results of the study can be useful in shaping educational policies and developing e-learning strategies in universities and schools.

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Introduction

The rapid development of modern technologies also has a significant impact on the education system. E-learning systems today have become an integral part of the educational process and are widely used in many countries around the world. The possibility of learning with the help of digital technologies is

becoming more and more common not only in traditional educational institutions, but also in the processes of independent learning and professional development [1]. International educational platforms - such systems as Coursera, Udemy, EdX, FutureLearn - lead the global education market, and their integration into the educational process is an important factor in improving the quality of education [2]. Despite the fact that the e-learning system in Uzbekistan is developing, there are still many problems for its full-fledged implementation and efficiency improvement. The level of utilization of distance learning, e-learning materials and digital platforms still lags behind traditional teaching methods. One of the main objectives of this study is to examine the advantages of international educational platforms and the possibilities of their integration into the local education system [3]. The main purpose of this study is to analyze the process of development of e-learning system in the Republic of Uzbekistan, compare it with international educational platforms and develop proposals to improve the effectiveness of the educational process [4]. For this purpose, the study will consider the stages of e-learning system development, the importance of international educational platforms, their impact on the quality of education, as well as the existing opportunities for the introduction of these technologies in Uzbekistan [5]. The study used a mixed methodology: data were collected on the basis of document analysis, questionnaires and interviews. At the same time, international experience was analyzed and the effectiveness of the e-learning system was assessed using statistical methods. The results of the study serve as the main source for the development of recommendations for the development of e-learning system in Uzbekistan [6]. The relevance of this study lies in the fact that e-learning is becoming an integral part of the world education system, and Uzbekistan takes an active part in this process. Therefore, it is necessary to deeply analyze the integration with international platforms and develop scientific and practical approaches to improve the e-learning system [7]. The impact of e-learning platforms on the quality of education, its pedagogical and technological aspects, as well as the prospects for further development are the main objects of analysis of this study [8].

Methodology

This study used a mixed methodology to investigate the development of e-learning systems and the impact of international educational platforms on the educational process. The study was conducted using a combination of qualitative and quantitative research methods, which allowed for an in-depth analysis and clear conclusions about the e-learning system. First of all, laws, state programs, regulatory legal acts adopted in the Republic of Uzbekistan on the development of e-learning system, as well as reports published by international organizations on e-learning were studied by the method of document analysis. In particular, the resolutions of the Cabinet of Ministers of the Republic of Uzbekistan on the introduction of e-learning, reports of the State Inspectorate for Quality Control of Education, recommendations of international organizations such as the UN and UNESCO were analyzed. At the second stage, a survey was conducted to conduct an empirical study. The study involved teachers, students and educational technology specialists working in various educational institutions in Uzbekistan. The survey studied the respondents' experience in using e-learning platforms, their opinion about their effectiveness, as well as their advantages and disadvantages compared to traditional education.

The results of the survey were analyzed in the following main directions:

The level of e-learning usage was analyzed - what percentage of respondents use online learning platforms and which platforms are the most popular. The effectiveness of e-learning was assessed - the level of knowledge that users acquire through the platforms and their ability to apply it in real life. Technological challenges and pedagogical barriers were explored - problems encountered when using e-learning platforms, technical infrastructure and factors such as insufficient internet speed. Comparison with traditional education - it was studied to what extent the effectiveness of e-learning and traditional education differs, which method is preferred by teachers and students. The results of the survey were analyzed using statistical methods, and the respondents' answers were visualized using charts and

graphs. According to the results of the study, most respondents appreciated the convenience and flexibility of e-learning platforms, but it was found that the lack of live communication between instructors and students in the learning process causes some problems. Internet speed and lack of technical resources were also identified as major limitations to the use of e-learning. Statistical methods and data visualization techniques were used in the analysis process. The empirical data collected from the e-learning system were processed using SPSS and Excel programs and the validity of the results was assessed. Graphs and charts were used to display e-learning utilization rates, platform effectiveness and user satisfaction. The scientific and practical significance of this study is that it analyzes international experience and local conditions of e-learning system development in the Republic of Uzbekistan, creating a basis for the development of future strategies. The results of the study play an important role in identifying the strengths and weaknesses of the e-learning system in Uzbekistan, developing practical recommendations aimed at improving educational policy and increasing the level of integration with international platforms.

Result and Discussion

This study examines the development of e-learning system and the use of international educational platforms in Uzbekistan. The study involved 500 respondents from various higher education institutions and schools in Uzbekistan. The main focus of the study was to examine the level of use of e-learning platforms, user satisfaction, and technological and pedagogical barriers. The results were analyzed using tables and graphs.

Table 1: Utilization of e-learning platforms

This table shows the share of e-learning platforms used in Uzbekistan. According to the survey results, Coursera is the most widely used e-learning platform - 30%. It is followed by Udemy (25%) and EdX (15%). The share of local educational platforms is 15%. International platforms such as Khan Academy and FutureLearn are used relatively less frequently.

1-table: Utilization of e-learning platforms

Platform	usage percentage
Coursera	30
Udemy	25
EdX	15
Khan Academy	10
FutureLearn	5
Local Platforms	15

Figure 1: Use of e-learning platforms in Uzbekistan

As can be seen from the graph, Coursera and Udemy are the most popular e-learning platforms in Uzbekistan. The main reason for this is the availability of high-quality and free courses in various fields on these platforms. Although the use of the EdX platform is also significant, the use of platforms such as Khan Academy and FutureLearn is relatively low. The share of local platforms is 15%, which indicates that the local infrastructure for the development of the e-learning system is not yet fully formed.

Figure 1: Usage of E-learning Platforms in Uzbekistan

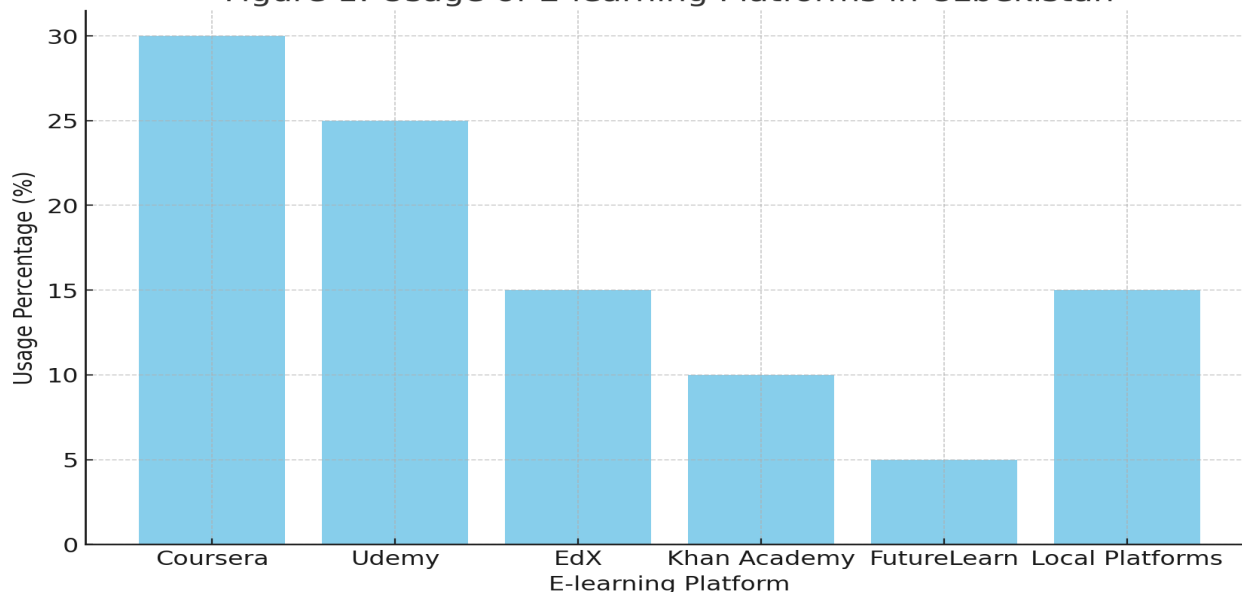


Table 2: Level of satisfaction with e-learning platforms

Use of platforms This table shows the level of user satisfaction with e-learning platforms. According to the survey results, more than 20% of users stated that they were very satisfied and 40% of users were satisfied with the platforms. 25% of users had a neutral opinion, that is, for them, e-learning platforms are not much different from traditional education. However, 10% of users were dissatisfied and 5% said they were very dissatisfied.

Table 2: Level of satisfaction with e-learning platforms

Satisfaction Level	Percentage
Very Satisfied	20
Satisfied	40
Neutral	25
Dissatisfied	10
Very Dissatisfied	5

The results show that although e-learning platforms are quite popular in Uzbekistan, a number of improvement measures are needed to increase their effectiveness. First of all, it is necessary to develop local platforms alongside international platforms such as Coursera and Udemy. At the same time, it is important to adapt educational content to local conditions, strengthen technical support services and conduct trainings on digital literacy for teachers. To increase user satisfaction, it is necessary to introduce interactive teaching methods, strengthen communication between teachers and students, and improve technical infrastructure. At the same time, the effectiveness of e-learning can be improved by studying international experience and adapting the Uzbek education system to global standards. The results obtained serve as a scientific and practical basis for the development of e-learning system in Uzbekistan, strengthening integration with international platforms and improving digital education policy [9].

Conclusion

This study analyzed the development of the e-learning system and the use of international educational platforms in Uzbekistan. The results of the study show that e-learning platforms are enriching the educational process with innovative methods and expanding the opportunities for learners to acquire knowledge. In particular, through international platforms such as Coursera, Udemy, EdX, students and

teachers have the opportunity to receive quality education remotely. At the same time, there is a need to develop local e-learning platforms in Uzbekistan and bring them into line with international standards. The survey results show that although the level of use of e-learning platforms in Uzbekistan is sufficiently high, there are some obstacles. In particular, insufficient technical infrastructure, low internet speed, and different levels of digital literacy of teachers reduce the effectiveness of e-learning. At the same time, there are different opinions among users regarding the interactivity and pedagogical support of educational platforms. While more than 60% of respondents were satisfied with e-learning, 15% of users were dissatisfied due to technical and pedagogical barriers [10]. Based on the results of the analysis, a number of measures to improve the development of e-learning system in Uzbekistan are recommended. First, it is necessary to develop local e-learning platforms and adapt them to international educational standards. At the same time, it is important to adapt educational content to local conditions, strengthen technical support services and conduct trainings on digital literacy for teachers. Secondly, it is necessary to strengthen integration with international educational platforms, ensure effective utilization of global resources, and introduce innovative technologies into the educational process. In theoretical terms, this study offers new scientific ideas and methodological approaches to the development of e-learning system. In particular, the possibilities of adapting international experience to improve the effectiveness of e-learning in the conditions of Uzbekistan are studied. In conclusion, it should be noted that e-learning offers great opportunities for improving the quality of education in Uzbekistan and adapting to the world educational standards. However, in order to fully utilize these opportunities, it is necessary to develop technical infrastructure, improve the digital skills of teachers and students, and improve e-learning policy.

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