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ANALYSIS AND COMPARISON OF SERVICES FOR CREATING TESTS USING ARTIFICIAL INTELLIGENCE

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Abstracts

In this article, the authors explore modern digital resources for creating tests using artificial intelligence. The authors compare the capabilities of several test generators: EduEase, Fyrexbox, Fillout, Quizalize, and ClassPoint. They evaluate their efficiency and usability.

The authors prove that the main advantage of using AI test generators is the automation of the test creation process, which significantly saves teachers' time. All of the analyzed generators allow teachers to edit questions. The addition of multimedia elements (videos, images, audio) contributes to better learning. All the services under review support online testing. Teachers and students can work with tests on both mobile devices and computers. The support for different languages makes these services available to students from all over the world, which facilitates international cooperation and knowledge sharing. The ability to set time limits and mix questions helps teachers control the testing process and reduces the risk of cheating. In the article, the authors prove that the use of test generators involving artificial intelligence has a significant impact on the modern educational process.

Keywords: *test control, artificial intelligence, EduEase, Fyrexbox, Fillout, Quizalize, ClassPoint.*

INTRODUCTION

Modern digital resources used in everyday life pose new challenges to the education system as it moves into the digital age[1]. Digital technologies provide educational institutions with previously unavailable tools, such as online learning and interactive forms of education. These forms of learning are supported by information and computer technologies that are widely used in educational processes [2]. Researchers [3] argue that the use of digital tools has significantly changed the learning process. These technologies have had a significant impact on education, and the use of digital technologies has improved the interaction between students and teachers. The authors argue that the use of digital technologies provides students with more opportunities for learning. It allows for a variety of teaching methods, better control over their education, and more opportunities in the process of gaining knowledge. The problem of controlling the academic achievements of pupils and students has always been, is, and will be relevant. The use of tests makes it possible to assess the level of compliance of the knowledge, skills, and abilities of higher education students.

Testing is one of the most effective and widespread methods of assessing students' learning achievements in higher education institutions. Carefully designed tests, which include practical tasks and cover all sections and topics of the discipline, serve not only as an excellent way to control the learning of the material, but also as an effective learning tool during the independent work of students [4]. Testing is becoming increasingly common in universities. Almost every teacher uses short tests to check students' knowledge in every class. This allows them to cover the entire study group and quickly assess the level of learning of each student. This form of control encourages students to prepare for each lesson and work systematically, which increases the efficiency and strength of their knowledge. Testing helps to identify gaps in knowledge, which is

important for students' self-education. In addition, tests allow you to determine the degree of mastery of each issue and make the necessary changes to the learning process. The authors of [5] believe that by practicing in several classes, students widely use self-testing to prepare for a responsible exam.

THE PURPOSE OF THE STUDY

Research on artificial intelligence services that can be used to create tests for university students and compare their capabilities.

DISCUSSION OF THE RESEARCH PROBLEM

Thus, testing is an important way to evaluate pedagogical activity, with the help of which the results of the educational process can be sufficiently objectively, reliably measured, processed, interpreted and used in pedagogical activity.

The authors of [6] believe that in order to improve the effectiveness of the educational process, it is important that the teacher regularly uses objective information about the progress and results of students' learning. This information is obtained by the teacher in the process of students' performance of test tasks. Researchers [7] believe that the use of Google Forms has a positive effect on students' learning. It was found that Google Forms is a practical, effective and simple tool for conducting intermediate and final tests in various disciplines. Many teachers create tests in Moodle. The researcher [8] believes that knowledge control carried out with the help of Moodle is an effective and optimal means of checking the quality of knowledge of future specialists. The introduction of Moodle-based testing allows us to move from a subjective assessment of students' progress to objective information about their academic achievements. Indeed, most teachers create tests in services: Google Forms, Online Test Pad, Moodle.

But recently, more and more scientists have been exploring the possibilities of artificial intelligence [9; 10]. Artificial intelligence is rapidly entering the field of teaching and education. It improves educational opportunities. It provides teachers with practical learning tools. Thanks to the use of artificial intelligence, educational systems have the opportunity to change curricula and materials according to the needs of students. Researchers [11] believe that artificial intelligence and machine learning are one of the most important tools in educational technology today. The use of artificial intelligence in education is growing as more and more platforms and integrated AI-based solutions emerge to support and improve the quality of learning. They believe that artificial intelligence is changing the future of education.

The authors argue that artificial intelligence continues to actively influence educational processes. They emphasize the need for responsible implementation of artificial intelligence in the educational system to ensure sustainable development in this area. The authors of [12] believe that artificial intelligence can transform education by improving teaching and learning outcomes. At the same time, they suggest that additional empirical research on the impact of artificial intelligence in education is needed. They emphasize the importance of preparing students for a future in which the use of artificial intelligence will play a leading role. Scientists [13] argue that translation based on neural network technology has made a major breakthrough and is gaining more and more recognition and widespread use not only among ordinary users but also among translators. And researchers [14] have investigated the use of artificial intelligence to create foreign language tests. The results showed that the use of artificial intelligence provided participants with several opportunities and challenges. The analysis of the comments revealed three key advantages of artificial intelligence: practicality, individualization, and efficiency. The researchers emphasized the challenges: reliability, lack of data for other languages, and ownership issues. However, they explored the creation of AI-powered questions using ChatGPT 3.0. They did not explore the possibilities of services for creating tests.

RESULTS OF THE STUDY

In this study, we will look at the capabilities and compare several test generators: EduEase, Fyrebox, Fillout, Quizalize, and ClassPoint.

The EduEase test generator is a tool designed to automate the process of creating test tasks. It can be used by teachers of educational institutions to create tests of various formats, which greatly simplifies the process of assessing students' knowledge. Let's take a look at the main features of this service. EduEase automatically creates tests. All you need to do is upload a lecture in *.pdf format. After uploading, this service analyzes the content of the training materials and suggests questions. The publisher can edit the questions. He can delete questions that he considers unnecessary and add his own. The positive thing is that using this service, a teacher can create tests in different languages. In addition, the teacher can determine how long a student can complete a given test. Testing must be done online. Teachers and students need to register on the EduEase service. Tests can be taken using a mobile application or a computer.

Fyrebox is a platform for creating interactive tests and quizzes. This tool allows you to quickly create interactive tests with different question formats, which helps to engage the audience and improve the learning and assessment process. The test builder does not require any special programming knowledge.

The service offers different types of questions, including multiple choice, open-ended, and picture questions. Teachers can customize the design of tests by changing colors, fonts, and images. The service supports integration with platforms such as Zapier and Google Sheets. This integration allows you to automate the collection and analysis of results. Teachers can create tests in different languages. In addition, Fyrebox allows you to set a time limit for completing a test, which helps you control how much time students spend on testing. Using the service requires registration for teachers and students. Tests can be taken on both mobile devices and computer.

Fillout is a tool for creating various forms and surveys to collect data and assess knowledge. Teachers can quickly create tests thanks to the simple and user-friendly interface of the builder. The service offers different types of questions, including multiple choice, open-ended, and questionnaires. Users can create forms and tests without the need for special technical knowledge. Fillout supports integration with platforms such as Google Forms and Zapier. As with the previous service, this allows you to automate the process of collecting and analyzing results. Teachers can use tests in different languages, making the service accessible to a wide audience. Fillout features include the ability to personalize forms with limited design settings. Users can add their own questions and customize the order in which they appear. The service also offers the ability to shuffle questions to prevent cheating. Registration on the platform is not mandatory, but it is recommended for saving and analyzing results. Tests can be taken on mobile devices and computers.

Quizalize is an interactive platform for creating tests and quizzes that helps teachers assess students' knowledge in an interesting and unusual way. The service greatly simplifies the knowledge assessment process. Using this service allows you to increase motivation to learn. Teachers can quickly create tests thanks to the intuitive interface. Quizalize supports various types of questions, including multiple choice, open-ended, and true/false. Teachers can customize the content to suit their needs by adding videos, images, and audio to enhance the learning experience. The service integrates with platforms such as Google Classroom and Microsoft Teams. This allows you to automate the exchange of test results. As with the previous sevis, Quizalize supports a multilingual interface. This feature makes it accessible to students from different countries. In addition, the service allows you to set a time limit for completing the test. Using Quizalize requires registration for teachers and students. Tests can be taken on both mobile devices and computers, making the service convenient to use in any environment.

ClassPoint is a powerful and convenient tool for creating and conducting interactive tests and quizzes. This service is integrated into Microsoft PowerPoint. This test generator allows you to integrate tests and quizzes directly into PowerPoint presentations. This feature facilitates interactive lessons and real-time assessment of students' knowledge. Teachers can quickly create tests using the familiar PowerPoint interface. Class Point supports a variety of question types, including multiple

choice, open-ended, questionnaires, and image insertion. Questions are added directly to the presentation slides. This feature makes the process of creating tests as easy as possible. The service integrates with platforms such as Google Classroom, which allows you to automate the exchange of test results. ClassPoint supports a multilingual interface. As with previous test creation platforms, it is possible to set time limits for test completion. The teacher can control the time spent by students on the test. The service also allows you to shuffle questions to prevent cheating. Using ClassPoint also requires registration for teachers and students. Tests can be taken on both mobile devices and computers, making the service convenient for use in any environment. Table 1 briefly describes the functions provided by these services.

Table 1

Function/Service	EduEase	Fyrebox	Fillout	Quizalize	ClassPoint
Types of questions	Multiple choice, open-ended, true/false, questionnaires	Multiple choice, open-ended, true/false, questionnaires	Multiple choice, open-ended, true/false, questionnaires	Multiple choice, open-ended, true/false, questionnaires	Multiple choice, open-ended, true/false, questionnaires
Interface	Intuitive, simple	Intuitive, simple	Intuitive, simple	Intuitive, simple	Intuitive, simple
Integrations	Google Classroom, Moodle	Google Classroom, Moodle	Google Classroom, Moodle	Google Classroom, Moodle	Google Classroom, Moodle
Mobile support	Yes	Yes	Yes	Yes	Yes
Multimedia	Video, images	Video, images	Video, images	Video, images	Video, images
Підтримка мов	Support for languages	Support for languages	Support for languages	Support for languages	Support for languages
Limited in time constraints	Yes	Yes	Yes	Yes	Yes
Mixing up the questions	Yes	Yes	Yes	Yes	Yes
Personalization	Themes, customize the look and feel	Themes, customize the look and feel	Themes, customize the look and feel	Themes, customize the look and feel	Themes, customize the look and feel
Cost	Free, there are paid plans	Free, there are paid plans	Free, there are paid plans	Free, there are paid plans	Paid plans

CONCLUSIONS

The study found that the involvement of artificial intelligence in the process of creating and administering tests significantly increases the efficiency of the educational process. The use of artificial intelligence generators such as EduEase, Fyrebox, Fillout, Quizalize, and ClassPoint allows teachers to save time and create more personalized and interactive tasks. It is substantiated that the use of test generators using artificial intelligence provides an objective and prompt assessment of students' knowledge. The use of such tools in the educational process helps to improve the quality of education and motivate students to learn, which is an important factor for successful academic development. At the same time, the issue of creating and using tests in the educational process requires further research. Only five test generators have been studied, although there are many more. In addition, scientists are constantly working to improve services.

We believe it is necessary to continue studying artificial intelligence services for creating tests, as knowledge control is an important way to evaluate pedagogical activities. With the help of

knowledge control, the results of the educational process can be objective, reliable, processed, interpreted, and used in pedagogical activities.

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