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DOI https://doi.org/10.30525/978-9934-26-277-7-234

ON THE POSSIBILITIES OF USING ARTIFICIAL INTELLIGENCE IN HIGHER EDUCATION

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Artificial intelligence is rapidly transforming the world, changing our daily lives, from the way we communicate to the way businesses operate. AI is revolutionizing all areas of society, including higher education, and the question of whether AI will affect learning is no longer on the table: it is about how, when and to what extent.

Artificial intelligence is fundamentally changing people's attitude to information, AI is an attempt to create machines that can learn, process information and behave like people. While AI has been around for decades,

it has only recently become affordable enough to be useful to businesses and consumers.

Speaking about the use of AI in higher education, one should proceed from the tasks facing the HE of the republic, namely, improving the quality, preparing specialists that meet the demand of employers and the international labor market as a whole.

With an increasing number of young people in today's world choosing to communicate with digital media rather than with real people, the use of information technology, including AI, by higher education institutions to change the learning experience of students and increase their involvement in the educational process is essential to maintain their reputation in the conditions of high competition among domestic and especially international universities, which are increasingly penetrating the sphere of higher education of the republic. The market dictates its own rules, and higher education managers must look for different ways to improve their ability to serve students.

In this article, using the example of how artificial intelligence is already transforming higher education, we will analyze the impact of this process on teachers, students, organizations and future learning models. We will try to consider the technologies and applications of AI currently used, as well as the potential of AI in higher education of the future.

Research in the field of AI in science, education and management is aimed at teaching computers to learn at the human level, using the same inputs and outputs that the human brain uses, and train it to make adequate decisions.

Some AI applications help with administrative tasks, such as tracking student enrollment, acceptance and dropouts, and other applications are used in the development of handbooks and tutorials. A growing number of universities are using AI to optimize their online learning platforms, allowing students to interact with educational content in a way that is convenient for them. AI is also being used for data analysis, such as identifying courses that are most popular with students. With the newly introduced credit system in higher education, AI can potentially change the way students interact with the university. For example, with the help of AI, a university can help students select the most suitable courses / teachers and create their own study schedule, that is, in building their individual trajectory on the way to obtaining a qualification. AI can also help students track their progress and understand key concepts needed to continue their studies.

Today, three main types of AI are used in education: Ensembles of algorithms responsible for the implementation of training plans and the analysis of lesson plans, A pre-trained neural network designed to solve a specific problem and requires large amounts of data for training and Neural networks related to the field of shadow learning are used to solve narrower problems.

An example of a pretrained neural network is GPT-3. GPT-3 (Generative Pre-trained Transformer 3) is one of the largest and most advanced language models presented by OpenAI. Transformer generative networks can predict which words appear in a text based on the initial text entered, are excellent at remembering complex relationships between words, and extracting the most important words from context. In other words, GPT-3 is a neural network that, based on the initial data text entered into it, can continue it, up to writing a full, detailed essay. This technique can also be applied to student assessment.

Retrained neural networks generate tasks to test language literacy and text comprehension, which was impossible with simple algorithms. This solution can be used in higher educational institutions to create a unified system for providing students with materials and assignments in the direction of study and maintaining their rating. One such example is Duolingo AI, which aims to provide a tutorial on learning various foreign languages. Duolingo uses both Algorithm Ensembles and pre-trained neural networks.

While personalization of learning is a great application of AI, Querium goes the other way. This virtual learning program analyzes the steps students are taking when solving a STEM problem and provides immediate feedback on what students are doing right or wrong. This prevents students from learning the wrong answer to the problem and saves teachers from a huge amount of coursework that needs to be corrected [1].

Alta, a new product from the higher education brand Knewton, uses adaptive learning to identify gaps in learner knowledge and then fill them in using high-quality learning materials selected from its own databases [2].

There are many benefits of using artificial intelligence in education. For example, AI can be used to train teaching assistants by helping them master certain skills and automatically generate a consistent set of training data, reducing the need for human managers and researchers. AI can be used to personalize each student's learning, providing a more personalized experience by adjusting the pace of the course based on the student's skill level. AI can help eliminate bias in student assessment by eliminating the human factor in the assessment process

The increasing use of AI in online education is inspiring. The more educators can experiment with the technology, the newer and innovative

ways they will find to put it to use. To recap, we're seeing 4 types of AI currently in use in higher education [2].

– **Natural language processing.** Used in language learning, but also with major accessibility applications. Tends to be faulty around children or people who are multilingual.

– **E-learning personalization**. Adjusting course material based on learner use and preferences.

– **Virtual tutoring**. Grading assistance to identify and correct learners errors.

– **Adaptive learning**. Proactively identifying and resolving gaps in learner knowledge.

Despite the undeniable advantages, artificial intelligence can create problems for teachers and students. For example, AI is great at automating repetitive tasks, but struggles when it comes to making creative decisions. In addition, AI only operates on the information that is provided to it, and if the data used to train the AI system is imperfect or inaccurate, then the ability of AI to make decisions can be limited. The capabilities of AI in solving complex problems, such as unraveling complex equations or exploring large amounts of data, are also limited so far. Emotional-intellectual relationships with people can also create problems for AI systems.

The use of AI in higher education is still in its infancy, with most institutions still exploring its applications or conducting pilot projects. However, as implementation costs decrease and accessibility increases, the benefits of using AI will become clear. AI has the potential to revolutionize education by providing a personalized, engaging experience for students. Of course, any technology needs to be tested and verified [3]. In education, the work of AI is monitored by methodologists, teachers, departments for supervision of the quality of education. The greatest potential for AI will emerge when AI is used in conjunction with human-centric design, which focuses on how AI systems interact with humans.

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