PROSPECTS FOR THE USE OF ARTIFICIAL INTELLIGENCE IN RUSSIAN HIGHER EDUCATION

Valentina Gerasimenko, & Maria Ulyanova

Faculty of Economics, Lomonosov Moscow State University (Russia)

Abstract

Scholars extensively discuss the role of artificial intelligence (AI) in higher education during at least last decade. The integration of AI into educational process at the beginning was affordable to limited number of higher education institutions (HEIs), in many cases introduced through the collaboration with world leading IT companies, such as IBM, Google, etc. At the beginning, HEIs implemented AI mainly in distant education, and implication of AI in higher education included following common directions: assessment and evaluation, adaptive content and personalization, tutoring. Therefore, most of scholars studied how the AI could be integrated into educational process from the universities' side. However, now given that many of AI applications becomes more and more affordable to students, universities have to revise the approach to assignments and evaluation. The study systemizes the experience of leading Russian universities during the last few years in integrating AI tools into the activities of students and employees and reveals the prospects for its further use. The AI activities of following universities were analyzed: Lomonosov Moscow State University, Higher School of Economics, ITMO, Bauman Moscow State Technical University, Moscow State Pedagogical University, Moscow Institute of Physics and Technology, and Presidential Academy. Russian HEIs face two challenges associated with AI, firstly, to train teaching staff to use AI, and secondly to regulate the use of chatbots with generative artificial intelligence in student's assignments and thesis. Most of universities motivate students to use generative tools based on AI to collect and analyze data in their thesis, which saves time for creative problem solving as study revealed. At the same time, students are required to double-check information from AI services and supplement it with sources that are more reliable. If students use generative tools in their thesis, they are required to reference it. Universities prohibit plagiarism and cheating, but not AI as such. Although, most of universities use anti-plagiarism software to identify student papers that used AI tools, they have not introduced separate regulations on the use of AI in theses. The further spread of AI tools requires changing approaches to assessing the work of university students.

Keywords: Human resources development, management in education, Artificial Intelligence, thesis regulation.

1. Introduction

The rapid evolution of artificial intelligence (AI) is reshaping higher education, presenting both opportunities and challenges for universities worldwide. Implementation of AI tools customized to special needs of educational process required and still requires substantial investments; therefore, initially it was limited to a few institutions, often through collaborations with leading IT companies such as IBM, Google, etc. At the beginning of this journey, higher education institution (HEIs) was integrating AI mainly in distant education. Implication of AI was focusing on these common directions: assessment and evaluation, adaptive content and personalization, tutoring. Universities, which could afford investing in AI, offered better learning experience to their student and were more competitive. It was also easy to control how students were using all of AI tools. However, the appearance of ChatGPT in November 2022 has disrupted "status quo" of educational process. We witness an explosive dissemination of AI tools. It took only five days for ChatGPT to rich one million user mark (Statista, 2023). Now, AI tools are increasingly accessible to students, prompting a reevaluation of university approaches to assignments and evaluations.

There are two major challenges for universities in connection with AI. The first one comes from the transformation of labor market caused by increasing automation of routine and non-routine tasks. Investments in AI would increase world GDP by 14% which is equivalent to $15,7 trillion according to PWC research (PWC, 2017). The increasing number of jobs connected with AI requires HEIs to prepare students to use AI in their future jobs. The second challenge is the increased digitalization of education,

including distant learning, and increased accessibility of AI for students and for teachers as well. While students adopt new technology very quickly enjoying benefits it may provide teachers and administrators stay behind. The survey conducted among students and staff of two Russian leading universities Higher School of Economics and ITMO revealed that about 60% students use AI for writing thesis, while only 40% of teaching staff uses it for generating syllabus and 20% for composing assignments (YandexEducation, 2024).

The increasing use of AI in higher education generate many concerns amongst academia. Most frequently cited risks of introducing AI include (Lukichyov, Chekmarev, 2024; YandexEducation, 2024):

- Cheating by submitting assignments generated by AI.
- Complete substitution of humans by AI in education process.
- Increased inequality by uneven access to AI technology.
- Ethical considerations, as generative models could learn using dubious information.

To mitigate such risks, universities need to introduce special policies on AI use in education, research and administrative processes. Increased AI's accessibility requires universities also to change their strategies regarding assignments and evaluations.

This study examines how leading Russian universities have integrated regulation of AI use in academic and administrative work, identifies future applications, and addresses the challenges of training staff.

2. Background

In Russian universities, the early stages of AI integration in higher education have focused on enhancing educational processes through automized and personalized assessment feedback tools, creation of adaptive content to individual students, and real-time support tutoring systems. Nowadays more and more Russian universities acknowledge the benefits of AI use in their activities.

Russian universities are receiving substantial support in the implementation of AI from both the government and the business sector. The government has allocated significant funding (around 7,7 bln rubbles) for the development of AI research centers at several leading universities within the framework of federal project "Artificial intelligence". Additionally, business are actively collaborating with universities to integrate AI technologies into various sectors, further enhancing Russia's AI capabilities. For instance, AI Alliance in Russia, established in 2019 by leading tech companies like Yandex, Sberbank, Gazprom Neft, etc. support universities in developing AI education. The Alliance was granted by the Russian Ministry of Higher and Science the right to accredit educational programs to ensure that they meet high standards and align with industry needs. Additionally, the Alliance conducts rankings of universities, based on the quality of AI education. This dual support from government and from business is crucial for advancing AI research and education in Russia.

Universities also receive support on institutional level. Regulation of AI use in education exists at the federal level in Russia. The new Russian standard, (GOST R 71657-2024) outlines the use of AI in education, specifically for creating scientific publications. It allows AI to be used in data collection, analysis of scientific publications, and formulation of publication titles, but prohibits AI from being listed as an author. The standard emphasizes ethical use and requires that AI does not replace human creative research activities. This standard was adopted in 2024 and came into effect on January 1, 2025. Competences in digital literacy are also being included in federal education standards.

All of this support the development of AI by Russian universities.

3. Methods

This study examines approaches to regulate the use of AI by Russian universities using case study approach. Following Russian universities were analyzed in this study: Lomonosov Moscow State University (MSU), Higher School of Economics (HSE), ITMO, Bauman Moscow State Technical University (BMSTU), Moscow State Pedagogical University (MSPU), Moscow Institute of Physics and Technology (MIPT), and Presidential Academy (RANEPA). These universities ranked top by two Russian ratings: "100 Best universities for Artificial Intelligence (AI) in Russia" by EduRank (2025) and "Best Russian Universities for preparing AI specialists" by The AI Alliance Russia (2024).

The analysis in this study was based on the information available on universities' web sites. Information on AI regulation was collected using news, published regulatory documents and information for students. This study was mainly focus on regulation of AI use by students. According to the Federal Law No. 273-FZ of December 29, 2012 "Law on Education in the Russian Federation" all Russian universities are obliged to publish comprehensive information about their activities.

This study focuses mainly on regulatory side of implementation of AI in educational process and does not discuss the usefulness of various AI tools.

4. Results

Russian universities are proactively implementing AI technologies across their operations. This process is unfolding into two key directions: the development and implementation of educational programs in the field of AI to prepare professionals, and the integration of AI tools into educational, research, and administration to enhance overall efficiency. In 2023 almost 45% of all Russian universities has offered various programs in artificial intelligence, covering around 43 thousand students at full-time and 689 thousand students at short-term programs (RBC, 2024). Every 5th student in Russia takes course connected to AI. For example, at Lomonosov Moscow State University every student has to take at least one course on AI during studies. This rule applies to bachelor and masters' students. In this article, we explore issues related to the use of AI in university activities rather than professional training of AI specialists.

4.1. Areas of AI implementation in higher education

Most researches and universities agree on four major areas in which AI could be used in higher education, including (YandexEducation, 2024):
- Assistance to students, which includes help with learning process; personalization of educational content according to special needs of each student; tutoring to help students build their educational tracks, monitor success and remind of important dates.
- Assistance to teaching staff in designing courses' content, task and assignments, evaluating students' works and exams.
- Assistance to researchers in creating research designs, preparing report and trend watching.
- Assistance to administrators in education and admission management, creating analytics and managing documentation.

Russian universities have actively integrated artificial intelligence (AI) into their educational programs. Among the first to make significant steps in this direction are the following HEIs:

MSU: In 2020 MSU AI Institute was established to conduct fundamental and applied research in AI, including interdisciplinary projects using machine learning methods. AI Institute also run vocational educational courses on NLP, computer vision, and generative models. Many departments train professors and administrative staff to use AI in their work.

HSE: In the spring of 2024, HSE allowed the use of the YandexGPT language model for humanities majors when writing thesis papers (YandexEducation, 2024). HSE also has launched training programs and plans to train around 20% of employees (Vedomosti, 2024).

Consortium of leading universities, including HSE, MIPT, ITMO and Innopolis, in cooperation with IT companies Sber and Yandex have launched in 2024 AI360 bachelor program for training AI specialists.

ITMO University: The university actively uses machine learning tools and launched the SMILE cloud service for automating the construction of models of technological and business processes. ITMO also offers courses on data analysis using Python.

MIPT: The university is renowned for its strong programs in computer science and physics. MIPT allows the use of AI technologies in writing thesis, however, no regulation on this exists.

BMSTU: Bauman University since 2021 has launched sixteen AI applications study programs both on bachelor's and master's level, with about 400 students enrolled. BMSTU allows students to use AI "reasonably" in preparing their thesis with obligatory stating they were created using AI. No regulation on AI use in students' works exists (Vedomosti, 2024).

Innopolis University: Established the AI Institute in 2020.

MSPU: Allowed students to use AI-based generative tools for thesis papers, requiring them to verify the information from AI services (Tivyaeva et al., 2024).

RANEPA: In 2024, about 750 students at RANEPA underwent professional retraining in machine learning and AI. RANEPA mainly focuses on detection of AI-generated student work using anti-plagiarism software, rather than stimulating the use of AI in integrative manner (Vedomosti, 2024).

4.2. Barriers to AI implementation in Russian universities

The penetration of AI tools in mentioned above four areas vary within Russian universities. Russian leading universities identify several barriers to implementing AI in their activities:
- Insufficient digital infrastructure. For example, HSE notes a lack of infrastructure, especially in universities that are just beginning to adopt AI (RBC, 2024).

- Lack of financial investment and process restructuring. Innopolis University emphasizes the need for significant financial investments and restructuring of internal processes to integrate AI.
- Shortage of qualified personnel. Expert point out a shortage of specialists with relevant digital competences to develop and support AI systems (Cnews, 2022).
- Ethical and legal issues. HSE and other universities stress the importance of addressing ethical and data protection concerns when implementing AI.

Additionally, there is a notable lack of awareness among university faculty about the available AI tools and the opportunities for their use in the educational process. This gap in knowledge hinders the effective integration of AI technologies into teaching practices and curricular, further complicating the adoption of AI by universities.

Therefore, regulation should be focused on the increasing of AI literacy among students and universities' employees. AI literacy is a part of broader Media and Informational Literacy (Mansoor at al., 2024). AI literacy encompasses several key components that enable individuals to understand, use, and critically evaluate artificial intelligence technologies. These include knowledge and understanding of AI tools, usage and application, creation and evaluation, AI ethics and self-management (Carolus et al., 2023). Many researchers agree that developing AI skills is not considered part of AI literacy for non-programmers, the ability to understand and evaluate AI tools is more important. Additionally, researches specify skills of data handling, which include understanding the nature of data, its collection, processing, and analysis methods. This skill also includes prompting which determines the quality of query and ability to comprehend the logic behind the final result (Forbes, 2024). One of the tools for assessing AI literacy levels is the Meta AI Literacy Scale (MAILS), developed by Carolus et al. (2023), which universities can utilize to evaluate the effectiveness of their AI strategies.

4.3. Regulation of AI use by Russian universities

A content analysis of websites from Russia's leading AI-focused universities revealed that only a small proportion have implemented relevant policies and regulatory frameworks.

The first to introduce AI-policies on university level were MSPU and HSE. In August 2023, MSPU became the first Russian institution to formally permit students to use AI-generated tools for thesis preparation, establishing guidelines to ensure ethical implementation (Tivyaeva et al., 2024). HSE in June 2024 has implemented an ethical and educational policy regarding the use of artificial intelligence (AI) in academic work. This policy provides clear guidelines on when and how AI tools can be utilized in independent assignments. It also specifies situations where students must inform their instructors about the use of AI-generated content.

At Moscow State University no internal MSU regulations are explicitly stated, but the university's participation in the AI Alliance aligns with ethical principles such as data security and AI transparency. Additionally, AI regulation is mainly introduced on department levels. For example, Faculty of Economics in 2024 made changes to the Regulation of student's final thesis. This document allows students to use generative language models, which should be clearly stated in references.

5. Discussion

The academic community agrees that the emergence of accessible AI tools necessitates a reevaluation of the educational process and the role of educators. Universities face the critical challenge of enhancing AI literacy among faculty members and adapting educational materials and assessment tools to integrate AI. This will require universities to invest resources, including efforts to bridge the gap with students who are often more advanced in AI usage than educators.

The role of universities is to teach students how to effectively apply AI in their professional activities, freeing up time for creative tasks rather than routine ones. The application of AI tools should be done in an ethical manner. One of the major ethical concern is the use of AI-generated text in academic submissions. Existing universities' policies allow the AI use with proper citations, however prohibit plagiarism. Modern anti-plagiarism software can identify student papers that most likely used AI tools. At the same time, new better tools appear that allows hiding the use of AI in generated texts. Instead of participating in such chase, universities should think of how to change assignments. For example, professors are more relying on oral answers and presentations than written assignments.

Another ethical implication of using AI covers issues with equal accessibility to AI tools and transparency of information (Liheng, Zhonggen, 2023). Universities that lag in implementing AI in education due to insufficient funding, poor management decisions, and other factors risk widening the gap with leading institutions and exacerbating inequality in AI access. On the other hand, the integration of AI tools in education must adhere to the principle of informational transparency. This means researchers bear the responsibility of verifying AI-generated content. Such accountability also falls under institutional regulations within universities.

6. Conclusion

The study results show that the focus of attention in AI implementation in higher education has shifted over the past few years. While previously the primary emphasis was on developing curricula to train AI specialists, there is now a growing need to educate instructors and students across all disciplines on using AI in their professional fields. The accessibility of AI tools is prompting universities to reassess their assessment practices and the very nature of student independent work. Most surveyed universities acknowledge the importance of AI applications in student research and do not prohibit their use. While AI regulation policies remain in their infancy, we can anticipate that this emerging process will spread to all Russian universities.

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