

Chapter 8

Regulatory Frameworks for the Use of Generative Artificial Intelligence – Challenges for Higher Education

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Artificial Intelligence (AI) is one of the most critical challenges shaping today's reality. The use of AI by students and academics is a reality. The survey – “Technology through the eyes of the student” – conducted by *Digital Care* indicates that 68% of students plan to use generative AI tools during their studies, mainly for language translation, organising their work, creating presentations, and writing their final and dissertation papers. More than 60% of students relate to the use of AI positively or strongly positively, and only 10% negatively (Reszczyński, 2023). An analysis of the regulations and guidelines for Polish students and academics on the use of generative AI tools revealed a research gap in this area. Higher education institutions are currently in the early stages of implementing recommendations and guidelines. This chapter may be an important voice in the discussion on this topic. The aim of the article is to analysis of regulations concerning the use of generative AI in education and teaching at selected Polish universities and to identify recommendations for the use of AI in the higher education system, with particular reference to European Union regulations.

The chapter's content is divided into the following parts: section 8.1 reviews the regulatory frameworks for using AI tools in higher education at the EU and national levels and analyses the existing guidelines and recommendations in 9 higher

education institutions in Poland; section 8.2 discusses the importance of AI from the perspectives of students, academic staff, and university administration; section 8.3 includes recommendations directed at the academic community and emphasises the need for creation of good practices at the ministerial level concerning the use of AI in higher education.

8.1. Review of Regulations, Guidelines and Recommendations Regarding the Usage of Artificial Intelligence in Higher Education

AI poses a significant challenge for the educational field in the coming years. A study carried out in a report by the PARP (*Polish Agency for Enterprise Development*) analysed the frequency of occurrence of the words “sztuczna inteligencja”¹ and “artificial intelligence” in a Google search in connection with the word “edukacja”² or “in education”. It turned out that these associations occur far more frequently than associations of the words “artificial intelligence” with other words, e.g. in logistics, medicine, etc. (PARP, 2023, p. 3). In addition, it was pointed out that interest in this topic is strongly growing.

Therefore, regulating AI in an economic environment has become a necessity. The European Parliament, as part of its digital transformation strategy, wanted to regulate AI, ensuring better conditions for its development and use since many benefits (better medical care, ‘green’ transport, more efficient production) have been noted. In 2021, the European Commission developed the first EU legislative framework for AI. They also highlighted the risks. The framework analyses and classifies AI systems according to risk levels. The level of risk determines the number of obligations associated with the use of AI. Unacceptable risk systems are identified, e.g. cognitive-behavioural manipulation of humans – posing a real risk to humans. Interestingly – education and vocational training were placed in a high-risk area, along with the management and operation of critical infrastructure or law enforcement.

In March 2024, the European Parliament adopted the Artificial Intelligence Act after negotiations with the Member States. It mainly aims to protect fundamental rights, democracy, the rule of law and the environment from high-risk AI systems. At the same time, the regulation supports innovation while mainly focusing on potential risks (*Artificial Intelligence Act*, 2024).

AI is a broader term than content-generating AI (GenAI). The following chapter addresses issues mainly related to content generators, e.g. ChatGPT, YouChat or Wordtune, which are widely used in education. Text generators are so-called language models that use machine learning in their operation. Text creation is based on a command (prompt) the user imposes. The more specific the command, the faster the generator can write high-quality content. The European Parliament points to

¹ ‘Artificial intelligence’ in Polish language.

² ‘Education’ in Polish language.

transparency in the use of these tools – revealing that the content is generated by AI and ensuring that it does not contain illegal content.

A review and analysis of existing regulations, guidelines and recommendations for the use of AI by students and academics testifies to the preliminary stage of this process. One may risk stating that the regulatory frameworks for the potential use of AI in Polish higher education institutions do not fully meet the needs of its users.

In order to confirm the above hypothesis, the guidelines and recommendations for the use of AI at universities in Poland were reviewed³. The vast majority of universities in Poland do not have any regulations in this regard. Table 8.1 presents the guidelines and recommendations from 9 higher education institutions.

Table 8.1. Guidelines and recommendations for the use of AI in selected universities in Poland

Provision to GenAI usage	Reference to final assignments bachelor's thesis master's thesis	Guidelines and recommendations	Length
1	2	3	4
University of Warsaw			
YES	YES	<ul style="list-style-type: none"> ■ providing regular training and discussions on the use of AI ■ raising awareness of data protection and copyright protection 	4 pages
Warsaw School of Economics			
NO, there is no explicit provision for this, although the text may indicate it.	NO, but it is stated that the guidelines apply to written work.	<ul style="list-style-type: none"> ■ There are no literal recommendations, but there are guidelines in the following scheme: PERMITTED, NOT PERMITTED, broken down into 10 areas: ideation, knowledge acquisition and literature review, writing, text operations, graphics creation, programming, data analysis, economic and mathematical modelling, AI as a research subject, reporting on the use of AI 	5 pages
Kozminski University			
YES	NO, refers to the education process in general	<ul style="list-style-type: none"> ■ promoting openness with critical thinking ■ indicating the importance of transparency in the technologies used ■ promoting diversity of sources ■ emphasising the necessity of increased awareness about AI errors ■ indicating the need for content detectors and random checking of papers for AI use ■ emphasising students' independence in the thesis writing process 	1 page

³ The review took place in February 2024.

Table 8.1, cont.

1	2	3	4
Poznań University of Economics and Business			
YES	NO	<ul style="list-style-type: none"> ■ addressing the openness to the use of digital technology ■ indicating the need for increased awareness of potential risks ■ emphasising the subject of sensitive data and copyright 	1 page
University of Lodz			
YES	NO	<ul style="list-style-type: none"> ■ recommending the use of a variety of sources ■ highlighting the possibility of AI making mistakes ■ emphasising the issues of legality, protection of personal data, right to privacy ■ indicating the importance of transparency, i.e. marking content sourced through content generators, ■ indicating the need for using content detectors, ■ highlighting personal responsibility for the content generated 	3 pages
University of Gdansk			
YES	NO	<ul style="list-style-type: none"> ■ emphasising openness and a critical approach ■ indicating the importance of transparency in the use of AI ■ promoting respect for ethical principles and copyright, ■ indicating personal responsibility for the content generated, ■ disclosing when the content generated is not authored by the student/researcher ■ verifying the content by random use of content detectors ■ recommending continuous improvement of skills in AI and promoting content about AI 	1.5 pages
Adam Mickiewicz University Poznań			
YES	NO	<ul style="list-style-type: none"> ■ indicating the transparency importance by disclosing the content generators used, e.g. in the introduction of the work ■ emphasising independent writing in accordance with the requirements of the Act: Higher Education and Science Law of 20 July 2018 ■ enabling verifiability of AI usage by applying content detectors ■ emphasising the autonomy of the lecturer, who can determine his/her own rules for the use of AI 	3 pages

1	2	3	4
University of Szczecin			
YES	NO	<ul style="list-style-type: none"> ■ identifying areas of opportunity for the use of AI, such as the creation of teaching materials, content translators, automation of repetitive tasks, and support for scientific research ■ identifying the risks of using AI, such as bias, privacy, data security, manipulation ■ emphasising the autonomy of the lecturer, who may not allow students to use AI. 	2 pages
Wroclaw University of Economics and Business			
YES	2 separate regulations – for theses and didactics	<ul style="list-style-type: none"> ■ emphasising openness, responsibility and critical thinking ■ highlighting ethics and transparency ■ stressing the lecturer's autonomy 	1 page

Source: own elaboration based on documents of individual universities.

After summarising the above guidelines and recommendations, two approaches can be distinguished:

- a more restrictive and critical approach towards the use of AI tools (mainly Warsaw centres),
- a more liberal approach – treating AI tools as new sources of knowledge (economic universities).

The critical approach points out explicitly what is allowed or not allowed and emphasises the importance of verification with content detectors and random checking of papers. The liberal approach emphasises openness and critical thinking on the part of the students and relies on the autonomy of the lecturer. Most positions jointly sensitise data security, privacy and student autonomy. Transparency and ethics in the use of AI tools are emphasised. Most universities also promote awareness of the existing threats related to the use of AI tools, such as AI hallucinations, biases, and errors.

Other countries are similarly attempting to regulate the use of AI in higher education. In the UK, unlike in Poland, where each university develops its own guidelines – an association of 24 universities has developed common guidelines on the use of AI in education (including Oxford, Cambridge, Bristol, and Durham). These are relatively general guidelines where the universities declare that they will:

- support students and staff in acquiring AI skills,
- adapt teaching and assessment to the use of AI,
- seek different access to AI tools,
- share good practices as technology evolves and is applied to education.

The association of these universities believes that it is better to teach the ethical and responsible use of AI than to apply prohibitions of various kinds. Students and teachers must continuously improve their skills in using AI, not least to be aware of its errors, inaccuracies, distortions or biases (Cimerman, 2023).

8.2. The Importance of Artificial Intelligence in Education

AI should enhance the learning process. Its importance can be considered on several levels. AI can be an opportunity to make teaching and learning more effective.

From the perspective of students, the main effect of implementing AI for learners is an increase in their motivation and engagement in the learning process (Xia et al., 2022). Students can use AI tools in the educational process, and its potential to personalise learning (now so often emerging in educational trends) should be highlighted. Tailoring learning to individual needs is difficult with the traditional form of teaching. The current system is rather oriented towards standardising the learning process. AI can increase the intensity of testing it deems to need improvement or reduce the number of tasks in areas less critical to the individual student's needs. Another advantage is effective feedback, which is not always possible in a traditional group. AI can effectively identify knowledge and skill deficits. Based on collected historical data, it can produce personalised feedback. This assumes that such information is objective and honest. Unfortunately, we must all be aware of the imperfections of AI or even its incorrect programming, which can lead to discriminatory or biased information.

From the perspective of academic staff, AI can assist them in assessing student work, making this process fully or partially automated. For the time being, this is relatively easy at the test level. Qualitative assessment is much more complicated. Entering final grades or filling in various reports can also help. AI can also help prepare teaching materials (e.g. presentations) or tests. Lecturers can use AI to simulate practical tasks, such as using virtual reality (VR), augmented reality (AR) or educational games. Supporting university teachers can also apply to their research, but this is not the subject of the following article.

From the perspective of university administration, AI algorithms can be used to evaluate the work of lecturers or administrative staff, predict trends or risks, and reduce the bureaucratic work of university staff.

AI will bring about lasting change at every level of education. This should not be overlooked, and we should continue to teach as if this technology did not exist. Additionally, research conducted in this area clearly indicates that the use of AI influences interest in learning and improves teaching competence by providing inspiration and promoting self-reflection (Aldeman et al., 2021; Lin and Chang, 2020). Research indicates that most students and teachers use AI tools and believe that ChatGPT, among others, will be indispensable for success in studies and work.

At Swedish universities, results from a survey of 6,000 students confirm positive attitudes towards AI, with students pointing to chatbots as a source of knowledge and inspiration, calling them tutors, mentors or teachers. The vast majority of respondents used ChatGPT to summarise their lectures or texts they were reading. Translation tools, speech-to-text transcriptions, writing support tools, and text enhancement tools are also very popular. Interestingly, most students could not answer whether there were any rules or guidelines governing the use of AI at their universities (Newseria, 2023; Walton Family Foundation, 2023; Welding, 2023;).

8.3. Conclusions

The use of AI tools in universities has become a reality. It is a technology that is highly trusted, especially among young people. Poles studying at Europe's top universities (University of Warwick, London School of Economics, Universitet van Amsterdam, Warsaw School of Economics) are not afraid of the challenges of AI and are optimistic about the future in terms of using AI tools. Almost six out of ten students cannot imagine everyday life without using AI (Rzeczpospolita, 2023).

Additionally, it is intriguing that students are unaware of any guidelines or rules regarding AI use. A survey conducted in February 2024 found that students did not seek or know anything about regulations or guidelines to govern the use of generative AI at their university.

Universities face a significant challenge in raising awareness of the risks that AI can generate. On the other hand, students and lecturers need to be supported in the use of these tools. Systematic training is needed for teaching staff, who should emphasise and accentuate critical thinking on the part of the student, combined with openness to new technologies.

To summarise the considerations, one can refer to the recommendations developed by the team of researchers from the Silesian Centre for Engineering Technology Law and Digital Competence CYBER SCIENCE. These are general recommendations that could be a starting point for universities in Poland. The most important of these are (Uniwersytet Śląski w Katowicach, 2023):

- openness to new technologies, but critical;
- verification (error awareness, content detectors, random checking of papers);
- transparency (indication of source of technology used, diversity of sources);
- upskilling (promoting knowledge, countering abuse).

The last point seems critical since raising awareness may bring many benefits. It would also be good to create so-called good practices, perhaps at the ministerial level. This would be a good reference point for creating other guidelines in individual universities. Good practices should stress student independence and critical thinking and point out areas where AI can be helpful – e.g. for brainstorming, identifying

research streams, gaps, and research methods. AI can provide a service similar to a library's scientific information department, enriching the creative process but never replacing it. Students' responsibility for their work should be addressed so they are sensitised to the possibility of intellectual property and copyright infringements.

Proper focus on AI challenges, emphasising ethics and legal issues, will increase awareness and popularise the use of AI tools - as a method to support learning and teaching.

While this chapter concentrates on teaching, scientists using generative AI in their research may encounter problems similar to those faced by didactic staff and students.

To conclude, it should be highlighted that education faces numerous challenges when using AI tools. These are, first and foremost:

- **creating appropriate regulations, guidelines, and recommendations** for using AI tools by students, lecturers, and the university's administrative environment;
- **emphasising the role of ethics and the issue of data protection** – establishing an appropriate ethical and legal framework is essential, as the widespread use of AI tools can affect human relations, emotional development and interactions in education;
- **developing technical knowledge of users regarding the AI tools and how they can be used** – teaching staff should especially be trained extensively on how to use AI in their classes and research;
- **ensuring continuous human control** so that the benefits of using AI outweigh potential limitations and risks;
- **adapting curricula to the new reality**, where AI tools are being used, to increase the competitiveness of Polish higher education in a domestic and international market.
- **working with developers, who should adapt AI tools to real educational needs** to create more attractive and functional applications for students; lecturers should work closely with developers as they are familiar with higher education and teaching specifics and should influence the creation of these apps; students should also be included in the process so that they could clarify their needs and capabilities.

The research carried out had research limitations – mainly geographical. The research concerned Polish universities, which should be taken into account when generalising the conclusions.

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