
For Primary and Secondary Education

RECOMMENDATIONS REGARDING THE USE OF GENERATIVE ARTIFICIAL INTELLIGENCE Perspective from Primary and Secondary Schools

Artificial intelligence (AI) has great potential to improve the education and learning of students and the pedagogical work of teachers. AI systems can help teachers identify specific educational needs, make better decisions, and use educational resources more effectively.

With AI, we can achieve more in a better and more efficient manner with respect to school and extracurricular education. With AI, we can, for example, devote ourselves to more profound studies and research on other topics or identify the causes of our students' failure more quickly. Our common goal should be to increase the quality of teachers' pedagogical work with AI and to support students' interest in real and valuable life education. However, this requires teachers to have a basic understanding of AI in order to engage critically, judiciously, and ethically in the process of using this technology in a meaningful way and to be able to discover the potential of AI for the educational and learning needs of students. In addition, there needs to be consensus on the rules for how to use the AI "assistant" in schools during studies, when students learn, and in the pedagogical activities of teachers.

Similar to other parts of the world, students and teachers in the Czech Republic are using AI systems more and more without even realizing it in some cases. Teachers will learn about the potential of AI for education, including the possibilities of AI in processing big data in education (e.g. trace data for learning analysis), which brings with it specific challenges (e.g. ethical standards, data protection regulations, and legal regulations).

Many of the concerns with the use of AI in education or the lack of interest in addressing the role of AI in school education arise from certain misconceptions about AI (AI is a "black box"; AI is not "inclusive"; AI systems cannot be trusted; AI will reduce or even replace the work of teachers, etc.).

General Recommendations

- Incorporate the principles for the functioning and use of AI into education, into schools as part of the digital competence of all participants in the educational process (not only students, but also their teachers).
- Include in a natural manner the principles for the functioning of AI as a topic not only in IT courses, but also in other subject areas across all levels of education (acquiring sufficient knowledge and understanding the principles for the functioning of data-intensive technologies, etc.).
- Create an environment of trust in schools, an environment to support the development of students' interests in learning (even outside of school, above and beyond the requirements of school education) and in finding answers to their questions using various methods and technologies (including AI), i.e. not only ordinary school-type problems.
- Harness the potential of AI to ensure quality education, and at the same time, be aware of the risks and impact related to the use of AI.
- Reevaluate what tasks are given to students to solve and how the assessment of learning outcomes is approached. In connection with AI, focus on other knowledge and skills (being able to ask questions, being able to look for errors, verifying sources, thinking critically, etc.) and on other learning techniques, including the skills to use AI responsibly and creatively.
- Provide teachers with the necessary information so that, for example, they know how specific algorithms for evaluation or for personalization work function in AI systems, etc.
- Encourage the active involvement of teachers in the discussion about AI in education. (Teachers' interest in this issue should be promoted. You should be interested in their approaches and attitudes to AI in education, so that teachers can orientate themselves with respect to what AI can offer them for their pedagogical work). Addressing the opinions and experiences of teachers who work with AI in schools; their statements and examples can contribute to forming the foundations of modern general didactics and updating the educational content.

Recommendations for Teachers

- Support students' experimentation (research) with AI and sharing the acquired experience not only with classmates and friends, but also with you, the teachers. (Many teachers learned as students using other methods. The students' shared experiences will help you learn how to work with AI and how to use these experiences in your pedagogical work with students.)
- Discover what can be done with AI, how you could use AI in your work as a teacher. Share your good and bad experiences with AI with your colleagues at school; share with them not only the good, but also your findings about the limits and risks of using AI in the work of a teacher and in the learning of students. Share your experience with colleagues in associations, with educators of teachers, but also with IT specialists who work on the development of applications with AI.
- Be interested in current results in AI development. Don't be afraid to ask. Only then will you find a way to meaningfully apply AI in education.
- Don't be afraid to use AI with your students at school. Don't be afraid to change the way you check and verify your students' learning outcomes. Encourage students to talk openly about how they have used AI in their work. Help your students realize that the author, not AI, is responsible for the result.
- AI will significantly affect the labour market, and we will be able to let robots and automated systems take on many jobs. However, this does not mean that human work and skills will not be needed. Exactly the opposite. You will need to focus on developing your students' analytical and creative thinking and on their flexibility in order to support their curiosity, their ability and motivation to learn throughout life, to be able to express empathy, etc. (<https://revize.edu.cz/?les/deset-dovednosti.jpg>)

Recommendations for Students

- Advocate for quality education. This requires tenacity, diligence, interest, desire to get to the bottom of things, and curiosity. It requires you to be critical, to doubt, and to be honest in your knowledge, above all to yourself.
- Don't only have a desire to know, but also to understand.
- Think about why it is important to learn.
- Be interested in the original sources. Take care of the cultural and knowledge wealth that civilizations before us have achieved, and strive to contribute to this wealth.
- Use technologies including AI for your learning, knowledge, and creativity. It's just technology. Don't procrastinate on tasks and problem solving. You, not the AI, are responsible for solving tasks and the results.

Sources:

- EC (2022) Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for Educators. Luxembourg, 2022.
- Reese, B. () Čtvrtý věk. Inteligentní roboti, myslící počítače a budoucnost lidstva. Zoner Press : Brno, 2018.

Annexes:

- [Materials for the students of the Smíchov Secondary Technical School](#)

[RECOMMENDATIONS FOR PRIMARY AND SECONDARY SCHOOLS \(.pdf\)](#)