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School in the Age of Artificial Intelligence: How to Prepare Czech Education for a New Reality

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Summary

Artificial intelligence is changing the way children learn, educators work, and schools assess knowledge. The Czech education system is therefore faced with the question of how to meaningfully integrate these tools without weakening basic skills or independent thinking. Finding a balance between technological change and preserving the essence of education will be one of the key tasks of education policy in the coming years.

Key points

- Artificial intelligence is already part of school reality. It is not a distant future, but a tool that is already being used by students and teachers today. In the Czech Republic, 46% of teachers have used AI in their work.
- The Czech education system is responding to this change, but so far rather unsystematically. There is a lack of clearer rules, methodological support and greater certainty on how to incorporate AI into teaching and assessment.
- The key question is not whether artificial intelligence belongs in schools, but how to use it in a way that supports the quality of education and does not weaken basic skills.

School has never been an unchanging institution. By its very nature, it cannot be. The education system is based on responding to societal changes and developments. Just a few decades ago, the main goal of school was basic literacy and practical skills; in subsequent periods, education became a tool of ideological education. For the generations growing up after 1989, a typical school was based on an emphasis on knowledge, its reproduction, and standardized testing.

However, the current change is in many ways more fundamental than the previous ones. It is not just about adjusting the content of the curriculum or introducing new subjects, which in the current situation could be described as cosmetic changes. Here we are talking about a transformation of the very environment in which children learn. Today's students are growing up in a world where information is not a scarce resource, but on the contrary, something that is available at any time and immediately. The Internet and digital technologies have started this change, and artificial intelligence has significantly advanced, accelerated and deepened it.

The fundamental change concerns not only the amount of information available, but also the way people work with it. While the traditional model of education was based on the transfer of knowledge from teacher to student, today's reality is characterized by the ability to search for, verify, interpret, and use information in new contexts. In other words, school is no longer and cannot be the main source of knowledge. This fact fundamentally changes its role.

Artificial intelligence enters the described context as a tool that can generate texts, explain the curriculum, suggest solutions or simulate dialogue. For students, it represents a quick and always available "assistant", and for teachers, a tool that can make preparation and teaching more efficient. This is an ideal scenario. On the other hand, AI disrupts some of the basic assumptions on which previous practice was based. For example, the idea that the submitted text reflects the individual work of the student, or that knowledge can be reliably verified by traditional forms of testing.

International debate in recent years shows that this is not a marginal phenomenon, but a systemic change to which educational policies must respond. Organizations such as OECD or UNESCO point out that the development of artificial intelligence brings not only new opportunities, but also the need to redefine the goals of education, the role of the teacher, and the way in which key competences for life in a digital society are developed in schools (OECD, 2025; OECD, 2026).

This is the situation that the Czech education system also has to deal with: how is a school supposed to function in a world where a tool can generate answers to many traditional school tasks in a matter of seconds? It is not a simple choice between a “traditional” and a “modern” approach. The real challenge is to find a balance between using new technologies and preserving those functions of education that no technology can replace. In particular, the development of understanding, critical thinking, concentration, and the ability to make independent judgments.

What artificial intelligence is really changing in education

The debate about artificial intelligence in schools is often oversimplified. It is usually defined by two extremes: either AI is presented as a revolutionary tool that will fundamentally improve education, or on the contrary, as a threat that will lead to the decline of thinking, copying, and the loss of basic skills. However, neither of these positions alone captures the true nature of the change that AI brings to education.

Artificial intelligence is not only changing the tools that students and teachers use to learn and work with. It is also changing the value of individual educational activities, how knowledge is assessed, what is considered independent work, and what skills will be truly important in the future. This is why AI cannot be seen as just “another technology for schools,” but as a factor that challenges some of the current assumptions of the education system.

AI as a new tool for students and teachers

For students, artificial intelligence is an extremely accessible and flexible tool. Compared to a classic search engine or encyclopedic resource, it offers something extra: it answers in natural language, adapts the style of the answer, can reformulate the material, summarize, explain it "easier" or help with a specific task. This makes it a tool that is intuitive and attractive for children and adolescents. In practice, students can use AI very widely. It can be used for explaining a mathematical procedure to summarizing a historical chapter to helping with text formulation, translation or preparing a presentation. This versatility is in demand in the educational environment. It is not specialized software designed only for school, but a commonly available tool that enters the daily lives of students regardless of whether the school expects it.

At the same time, it is important to emphasize that the benefit of artificial intelligence for the student is not automatic. Just because it provides an answer does not mean that the child has truly understood the problem, acquired the skills, or learned to work with information. In many cases, AI can facilitate access to the material and overcome barriers, but in other cases it can lead to a shortcut, where the result is all too easy and achieved without work. This is a fundamental difference that educational policy and school practice must reflect.

In addition to students, teachers are also increasingly using artificial intelligence. In their case, it is more of a work tool that can make a number of routine activities easier. Typically, this involves preparing worksheets, creating assignments, generating task variants, providing inspiration for interpretation or adapting materials to the age and level of students. Educators have long faced a high administrative and preparatory burden, and any tool that saves them time can be really beneficial. If AI allows them to devote less energy to mechanical preparation and more to the pedagogical work itself, its integration can mean a qualitative shift.

At the same time, however, technology should not be confused with professional decision-making. AI can offer suggestions, inspiration, or structure, but it is not responsible for what happens in the classroom and why. It is solely the teacher’s job to decide what is appropriate, meaningful, and beneficial for a particular group of students.

AI and the transformation of ratings

One of the most significant changes is the disruption of traditional forms of assessment. Until now, teachers assumed that the work that a student submits (paper, essay, homework) reflects the student's own understanding and is the result of a certain amount of effort. However, this assumption is no longer self-evident.

Generative tools can create text, summaries, arguments, and structured answers to most common school assignments in a few seconds. Of course, this does not mean that schools are losing the ability to assess students, only that some of the existing forms of assessment are losing their informative

value. In other words: not every "handing in an assignment" today automatically means that the material has been learned.

This shift will not be solved by bans or detection tools alone. It is necessary to think carefully about what schools should actually assess. If the goal of education is to develop understanding, the ability to reason, independent work and the transfer of knowledge to new situations, then the tools with which schools pursue these goals will also have to change. Greater emphasis will therefore probably have to be placed on classroom work, oral verification, process assessment, and tasks where it is clear how the student arrived at the result.

Transformation of learning itself

But AI is not just changing school assignments or teachers' work habits. It is reframing the very concept of learning. The traditional system was historically built on a situation where information had to be learned and retained because it was not immediately available. Today's world fundamentally changes this logic: a large part of information is accessible within seconds, and AI can also structure, explain, and convert this information into a usable form.

It might therefore seem that in such a world, the acquisition of knowledge loses its meaning and that education should only move towards “working with tools”. However, let’s not be hasty. The ability to work effectively and, above all, critically with AI outputs itself presupposes a certain level of knowledge, orientation, and judgment. Without a basic understanding, a person cannot know whether an answer is accurate, misleading or completely wrong. The more easily the answers are available, the more important the ability to distinguish whether they are correct, relevant, and meaningful.

In this sense, AI does not diminish the importance of knowledge, but changes its function. It is not just “content to be memorized”, but knowledge becomes a support for judgment, orientation and independent thinking. This is essential from the point of view of the educational structure.

Risks: Why technological optimism is not enough

The debate about artificial intelligence in education is often conducted in a spirit of technological optimism. Its potential to make teaching more efficient, to make the curriculum accessible to wider groups of students, or to support the individualization of work is emphasized. Without a doubt, these benefits cannot be underestimated. At the same time, it is true that every technological change also brings side effects that can be problematic from a system perspective. In the case of artificial intelligence, it is therefore necessary to systematically name, in addition to the opportunities, the risks that accompany its expansion into the school environment.

One of the most frequently mentioned risks is the independent thinking of students. Artificial intelligence offers quick and well-formulated answers that seem convincing and complete. However, this “ready-made” output can lead to students ceasing to develop their own arguments or formulate ideas in their own words. And this is not just a hypothetical problem. Research and practical experience show that inappropriate use of AI can lead to so-called cognitive outsourcing, like transferring intellectual work to a tool (OECD, 2025). If AI becomes the primary source of answers without subsequent reflection, this can weaken the ability to think independently, analyze and evaluate information in the long term.

Another risk closely related to this is the illusion of understanding. Texts created by artificial intelligence may be stylistically high-quality, logically structured and convincing at first glance.

However, this does not mean that the student actually understands the content presented to him. This disrupts one of the fundamental relationships between performance and knowledge. If it is possible to submit high-quality work without deeper understanding, the school loses one of its key signals, the ability to distinguish between real mastery of the material and its mere simulation. As UNESCO points out, the risk associated with AI in education is precisely the "blurring of the boundary between generated and understood content", which can lead to superficial learning (UNESCO, 2023). As a result, education can shift from deeper acquisition of knowledge to its formal reproduction without real understanding.

From an educational policy perspective, there is one more, perhaps the most serious risk: inaction. If schools and the education system do not respond to the advent of artificial intelligence, this does not mean that AI will disappear from the educational environment. It only means that its use takes place outside the institutional framework, without rules, without guidance, and without reflection. In such a situation, students learn to work with artificial intelligence on their own, often by trial and error, without critical guidance and without understanding the wider context. The school thus loses the opportunity to shape the way these tools are used, and at the same time loses the opportunity to develop the competencies that are key to working with AI.

Ethical issues and data protection

The expansion of artificial intelligence into schools also raises a number of ethical and legal questions. One of them is the protection of students' personal data. The use of commercial tools often means that data (including texts, queries or teaching materials) is processed by external platforms, the functioning of which is not always transparent. Another issue (and perhaps much more serious) is the reliability and trustworthiness of the outputs. Generative AI can produce inaccurate or completely wrong information without any warning. If students do not have sufficient competence and knowledge to verify information, this can lead to the spread of inaccuracies and a weakening of trust in knowledge as such.

International organizations therefore emphasize the need to establish clear rules, including data protection, transparency, and accountability for decision-making (UNESCO, 2023). Without these rules, there is a risk that schools will use tools whose impacts are not sufficiently reflected.

Czech context: Between innovation and improvisation

In the Czech environment, in recent years, there has been a growing interest in the topic of AI in education from the state, professional institutions and schools themselves. The Ministry of Education, Youth and Sports, together with the National Pedagogical Institute, are gradually expanding the range of methodological materials, educational programs and support for teachers who want to incorporate AI into their teaching. For example, in 2025, a more extensive program was launched focused on the development of digital and AI competencies of teachers, which reflects the growing importance of these topics in school practice (MŠMT, 2025; NPI ČR, 2025).

This professional initiative shows that the Czech education system is aware of the importance of artificial intelligence and is gradually responding to it. At the same time, however, it is more likely to be in the early adaptation phase than in systematic transformation. There are inspiring projects, active schools, and individual teachers who are experimenting with AI and looking for new approaches to teaching. So far these are isolated efforts that are not yet connected or anchored in a unified framework that would be understandable and usable for the entire system.

One of the main problems is the absence of clear and shared methodological guidance. Schools and teachers often face questions to which there is no clear answer: How is it appropriate to use AI in teaching? Where are the boundaries between supporting learning and unacceptable replacement of student work? How should schools approach assessment in a situation where part of the outputs can be generated by tools? Today, these questions are addressed individually, often at the level of individual schools or even individual teachers. The result is a situation that can be characterized as a combination of innovation and improvisation. On the one hand, new approaches are emerging that show the potential of AI for teaching, but on the other hand, there is a lack of systemic guidance that would transfer and develop these experiences on a wider scale.

The unevenness with which AI is reaching Czech schools is particularly problematic. Some have the technical background, active leadership, and teachers willing to innovate. In these cases, AI can be meaningfully integrated into teaching and become a natural part of the process. However, other schools face a lack of capacity, support, or clear direction and remain rather passive.

Teacher readiness is also an important aspect. Available data shows that Czech teachers are not closed to the use of artificial intelligence in teaching, on the contrary, in international comparison they show a relatively high rate of its use. According to the OECD TALIS 2024 survey, 46% of teachers in the Czech Republic reported that they had used AI in their work in the last 12 months, which is above the OECD average. At the same time, a large proportion of those who have not yet used AI cite a lack of knowledge and skills as the main obstacle, which indicates a persistent deficit of systematic support and methodological guidance (TALIS, 2025). This creates a paradoxical situation: there is motivation to innovate, but there is no system that would support and direct this motivation in the long term.

What must remain in education

The development and irreversible use of artificial intelligence raises the question of what should continue to be considered essential in schools. If technology can write text, translate content, or explain curriculum in a matter of seconds, it may seem that some traditional skills are losing their relevance. But that would be a wrong conclusion.

The purpose of education is not just to convey information or find the “right answers”. Schools should develop the ability to understand the world, evaluate information, form judgments and act responsibly. In the age of AI, these goals are not weakened, but rather strengthened. If schools are to survive in the modern era, they must not give up on developing basic skills. These include reading literacy, the ability to write, think logically, and concentrate. It is precisely these competencies that allow a person to distinguish between understanding and simply accepting a ready-made answer. In particular, the ability to work with longer text, formulate one’s own thoughts, and maintain attention when solving a more complex problem will be increasingly valuable in an environment of fast and automated answers. It is not enough to be able to obtain information, you also need to be able to verify, compare, and put it into context. The outputs of generative AI can be convincing even when they are inaccurate or misleading. Critical thinking must therefore not be seen as an add-on, but as a fundamental competence for life in a digital society.

Schools should continue to develop what technology will have difficulty replacing: independence, responsibility, and a relationship with one's own work. If students get used to a tool automatically solving problems for them, it can weaken their willingness to think and take responsibility for the result. This is why education in the age of AI should not only be about technology, but also about the ability to decide when it is appropriate to use tools and when. It is necessary to rely on one's own judgment.

The basic task of school remains unchanged: it is to help people grow up who will be able to think, understand, and make decisions even in a world where smart tools will become increasingly accessible.

What does this mean for Czech education?

The rise of artificial intelligence cannot be reflected only in individual initiatives or partial methodologies. A more understandable and long-term framework is needed that will specifically help schools and teachers to use AI as a tool for better education, not as a source of further uncertainty. It is necessary to define the boundaries: where the use of AI is beneficial, where it is problematic, and how to work with it in accordance with educational goals. The current situation, where the rules are mainly set by institutions themselves, is unsustainable in the long term. The second priority is the development of the skills of students and teachers. This is not just about the technical use of tools, but also about the ability to understand their functioning, limits and risks. AI literacy should therefore be part of broader information, media and civic literacy, not an isolated topic.

It is equally important to rethink the way students are assessed. If schools rely on tasks that can be easily generated, they weaken their own ability to test real understanding. Greater emphasis will need to be placed on independent argumentation, class work, and the flow of thought rather than just the finished output.

At the same time, the answer to AI cannot be just technological adaptation. Czech education should not give up on what forms its foundation: reading literacy, the ability to write, think logically, concentrate, and take responsibility for one's own work. These are the skills that will become increasingly important in the world of intelligent technologies. The future of school does not depend on choosing between traditional education and new technologies. It depends on the ability to connect both. The main task of education policy in the coming years will not only be to respond to technological change, but to maintain a clear idea of what schools should protect and develop even in a changing world.

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