

The Negative Impact of Artificial Intelligence on Students' Independent Thinking Skills

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Аннотация

Бұл мақала жасанды интеллекттің (AI) студенттердің өз бетінше ойлау қабілетіне тигізетін теріс әсерін қарастырады. Қазіргі уақытта чат-боттар, автоматтандырылған жазу құралдары және түрлі есеп шығару бағдарламалары сияқты AI технологиялары білім беру саласына кеңінен енгізілуде. Бұл құралдар оқу процесін жеңілдетіп, ақпаратқа қолжетімділікті арттырғанымен, студенттердің сыни ойлау, талдау және өз бетімен шешім қабылдау дағдыларының төмендеуіне әкелуі мүмкін. Мақалада жасанды интеллектке шамадан тыс тәуелділіктің ойлау, шығармашылық және шешім қабылдау сияқты маңызды когнитивтік қабілеттерді әлсірететіні көрсетілген. Сонымен қатар, студенттердің дайын жауаптарға сүйенуі олардың белсенді оқуын төмендетіп, академиялық адалдық мәселелерін туындатуы мүмкін екені атап өтіледі. Қорытындысында, AI-дың білім берудегі артықшылықтарын сақтай отырып, оны тиімді және шектеулі қолдану қажеттілігі айтылады. Оқытушылар студенттердің өз бетінше ойлауын дамыту үшін сыни ойлауға бағытталған тапсырмалар мен белсенді оқу әдістерін қолдануы тиіс.

Аннотация

Данная статья рассматривает негативное влияние искусственного интеллекта (AI) на навыки самостоятельного мышления студентов. В условиях активного внедрения таких технологий, как чат-боты, автоматические системы написания текстов и программы для

решения задач, студенты все чаще используют AI для выполнения учебных заданий. Несмотря на то, что эти инструменты повышают эффективность обучения и доступ к информации, они могут снижать уровень критического мышления, анализа и способности к самостоятельному принятию решений. В статье подчеркивается, что чрезмерная зависимость от AI ослабляет важные когнитивные навыки, включая логическое мышление, креативность и способность к решению проблем. Студенты могут становиться пассивными участниками учебного процесса, полагаясь на готовые ответы. Также рассматривается проблема академической нечестности и снижения интеллектуальной ответственности. В заключении отмечается, что, несмотря на преимущества AI в образовании, его использование должно быть сбалансированным. Преподавателям рекомендуется развивать у студентов критическое мышление и стимулировать самостоятельную работу.

Annotation

This article examines the negative impact of artificial intelligence (AI) on students' independent thinking skills. With the rapid integration of AI tools such as chatbots, automated writing assistants, and problem-solving applications into education, students increasingly rely on technology to complete academic tasks. While these tools can improve efficiency and access to information, they may also reduce students' motivation to think critically, analyze problems, and develop original ideas. The study highlights how excessive dependence on AI can weaken essential cognitive skills, including reasoning, creativity, and decision-making. Students may become passive learners, relying on ready-made answers instead of engaging deeply with learning materials. Furthermore, the article discusses the risk of academic dishonesty and the decline of intellectual responsibility. The paper concludes that although AI offers significant educational benefits, it is crucial to use it in a balanced and controlled manner. Educators should encourage critical thinking, promote active learning strategies, and design tasks that require independent analysis to ensure that students maintain and develop their thinking skills in the age of artificial intelligence.

Introduction

In recent years, artificial intelligence (AI) has become an integral part of modern education.

From 2023 to 2026, the use of AI-based tools such as ChatGPT, Grammarly, QuillBot, and other automated learning systems among students worldwide has grown rapidly. These technologies allow for quick access to information, help with writing assignments, and solve complex academic problems in a matter of seconds. As a result, they have become attractive tools for students who want to save time and increase efficiency in their studies.

However, despite these advantages, the growing reliance on artificial intelligence is causing serious concern among educators and researchers. One of the most significant issues is the negative impact AI has on students' critical thinking skills. Independent thinking is a

fundamental goal of education because it allows students to analyze information, evaluate different perspectives, and make decisions based on their own reasoning. Moreover, it fosters creativity, problem-solving skills, and intellectual independence.

Traditional education systems encouraged students to think critically, solve problems independently, and engage deeply with learning materials. However, the increasing accessibility of artificial intelligence tools has begun to change this dynamic. Instead of actively participating in the learning process, many students now rely on artificial intelligence to perform tasks that require cognitive effort.

This shift from active learning to passive information intake could have long-term consequences for students' intellectual development. This article aims to explore the negative impact of artificial intelligence on students' independent thinking skills.

It addresses issues such as the offloading of cognitive load, the decline in critical thinking, reduced creativity, problems with academic integrity, and the overall impact on students' cognitive and psychological development.

Main Section

One of the most important issues associated with the use of artificial intelligence in education is the externalization of cognitive load.

This phenomenon occurs when students typically rely on external tools, such as artificial intelligence systems, to perform cognitive tasks that would normally require their own thinking. Instead of analyzing information, solving problems, or generating ideas, students often turn to artificial intelligence for quick answers. This approach may increase efficiency, but it reduces mental engagement and limits the development of cognitive skills.

As students increasingly turn to AI to complete their assignments, they may gradually lose their ability to think independently. For example, instead of reading and understanding a text, students might ask AI to summarize it. Instead of solving mathematical problems step-by-step, they might request ready-made solutions. Over time, this behavior leads to a reduction in intellectual effort and a weakening of the ability to process information deeply.

Another significant issue is the decline in critical thinking skills. Critical thinking involves evaluating information, questioning assumptions, identifying distortions, and drawing logical conclusions. However, AI tools often provide answers that students accept without questioning. Many students are inclined to trust the content generated by AI systems without verifying its accuracy, even though AI systems are not always reliable. They can provide incorrect, incomplete, or distorted information.

The lack of critical evaluation can have serious consequences. Students may develop only a superficial understanding of subjects and lose the ability to analyze complex problems. Instead

of thoughtful reasoning, they rely on the answers provided by artificial intelligence, which diminishes their ability to think independently and make informed decisions.

Artificial intelligence also impacts creativity and individuality. Creativity is a fundamental component of independent thinking, as it involves generating new ideas and expressing unique perspectives. However, content generated by artificial intelligence is often standardized and lacks originality. When students use AI tools to write essays or complete assignments, they rely on the system's suggested ideas and structures instead of developing their own thoughts.

This can lead to a decline in creative thinking. Students may become accustomed to regurgitating information instead of generating it. Over time, their ability to think innovatively and express themselves independently may diminish. This is particularly concerning in fields that require creativity, such as writing, design, and problem-solving. Another significant issue is academic integrity. The widespread availability of AI tools has made it easier for students to complete assignments without putting in genuine effort. Many students use artificial intelligence to write essays, solve problems, and even answer exam questions. In some cases, they submit AI-generated work as their own, raising ethical issues around plagiarism and integrity.

Such behavior negates the purpose of education. Learning is not just about completing assignments, but about developing knowledge and skills. If students rely on artificial intelligence to do their work, they miss out on the opportunity for learning and intellectual growth. Furthermore, this practice diminishes students' sense of responsibility and accountability for their own learning.

The psychological and behavioral effects of using artificial intelligence are also significant. The constant availability of instant answers can reduce students' concentration and patience. Instead of deep thinking, students may opt for quick and easy solutions. This can lead to a decline in the motivation and curiosity essential for effective learning. Furthermore, artificial intelligence may influence how students acquire knowledge. They may view learning not as an active process of exploration and understanding, but as a simple means of obtaining information from technology. This shift in perception could negatively impact their long-term intellectual development.

Another significant concern is the loss of problem-solving skills. Problem-solving requires practice, perseverance, and critical thinking. However, AI tools often provide direct answers, eliminating the need for students to go through the problem-solving process. As a result, students may face difficulties solving problems on their own, especially in real-life situations where AI assistance is unavailable. Despite these challenges, it is important to note that artificial intelligence is not inherently harmful.

The negative impact stems from its excessive and improper use. When used correctly, artificial intelligence can support learning and enrich the educational experience. However,

without proper guidance, it can replace independent thinking rather than supporting it.

Conclusion

In conclusion, the rapid development of artificial intelligence between 2023 and 2026 has significantly transformed the field of education.

While AI tools offer many advantages, such as increasing efficiency and expanding access to information, their overuse can negatively impact students' independent thinking skills. Reliance on artificial intelligence reduces cognitive load, diminishes critical thinking, limits creativity, and raises concerns about academic integrity. Furthermore, it affects students' motivation, attention span, and receptiveness to learning. As a result, students may become passive learners dependent on technology instead of actively thinking. To address these issues, it is important to promote the responsible use of artificial intelligence in education. Educators should encourage students to think critically, solve problems independently, and engage deeply with learning materials. Tasks should be designed to require analysis, creativity, and personal contribution.

Ultimately, artificial intelligence should be used as a tool to support learning, not to replace it. By maintaining a balance between technology and independent thought, the benefits of artificial intelligence can be utilized while preserving the cognitive skills essential for students' intellectual development.

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