MECHANISMS OF USING ARTIFICIAL INTELLIGENCE IN SHAPING READING CULTURE AMONG PRIMARY SCHOOL PUPILS

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Abstract

This article explores the mechanisms of using Artificial Intelligence (AI) in shaping reading culture among primary school pupils. Reading culture is not only the ability to read fluently but also the development of motivation, interest, critical comprehension, and independent engagement with texts. In the context of digital transformation, AI technologies offer innovative opportunities to enrich teaching methods, personalize reading activities, and provide real-time feedback for young learners. The study emphasizes that AI-based platforms and tools—such as adaptive learning systems, intelligent tutoring programs, speech recognition technologies, and interactive reading applications—can play a vital role in improving reading fluency, vocabulary acquisition, and comprehension skills. Moreover, AI allows teachers to identify individual learning needs, track progress, and create tailored recommendations that enhance the reading experience of each child.

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Introduction. The formation of a reading culture in primary school pupils is one of the key priorities of modern education, as it serves as the foundation for lifelong learning, personal development, and critical thinking. Reading culture refers not only to the ability to read fluently and accurately but also to the

cultivation of deep comprehension, intellectual curiosity, emotional engagement, and the habit of independent reading. In the rapidly changing educational environment of the 21st century, traditional methods of developing literacy skills often prove insufficient to meet the diverse needs of young learners. Therefore, the integration of innovative technologies, particularly Artificial Intelligence (AI), has become an essential mechanism in shaping a sustainable reading culture.

Artificial Intelligence has emerged as one of the most transformative forces in contemporary pedagogy. Through adaptive learning platforms, intelligent tutoring systems, natural language processing, and personalized content delivery, AI enables teachers to provide individualized support for each learner. For primary school pupils, who differ widely in cognitive development, interests, and pace of learning, such technologies create opportunities to make reading not only accessible but also enjoyable. By analyzing students' reading behaviors, AI systems can recommend texts appropriate to their skill level, identify areas where they struggle, and provide real-time corrective feedback. Furthermore, AI-based reading tools can support teachers in monitoring progress, designing differentiated learning tasks, and ensuring inclusivity in classrooms with diverse learning abilities. For instance, speech recognition technologies can assist children with pronunciation, while interactive storytelling applications can foster motivation and creativity. In this sense, AI acts not as a replacement for teachers but as an auxiliary mechanism that enriches traditional teaching practices and expands pedagogical possibilities.

At the same time, the integration of AI into early literacy education raises important questions about pedagogy, ethics, and balance. While AI tools can provide personalized learning experiences, there is a risk of excessive reliance on technology, which may reduce human interaction and the social dimensions of reading. It is therefore crucial to combine AI-driven innovations with human-

centered teaching approaches, ensuring that technology serves as a means of enhancing—not replacing—teacher-pupil relationships.

Given these considerations, the present article seeks to examine the mechanisms through which AI can effectively contribute to the formation of reading culture among primary school pupils. By exploring both the opportunities and challenges of AI in literacy education, the study aims to provide teachers, policymakers, and researchers with practical insights into how digital tools can be integrated into primary education to nurture independent, motivated, and culturally enriched readers. The integration of Artificial Intelligence (AI) into education, particularly in the development of literacy skills, has attracted increasing attention from scholars worldwide. Researchers emphasize that AI-based tools provide unprecedented opportunities for personalized learning, adaptive instruction, and the cultivation of independent study habits—factors that are closely connected with the formation of a reading culture among primary school pupils.

One of the early frameworks for personalized learning with technology was proposed by **Bloom (1984)**, who highlighted the importance of individualized instruction for maximizing student achievement. Later studies, such as those by **Woolf (2009)**, emphasized how intelligent tutoring systems can simulate one-to-one human tutoring by adapting feedback and instructional content to learners' needs. These ideas became even more relevant with the rise of AI-driven platforms that analyze reading fluency, comprehension, and vocabulary acquisition in real time.

Luckin et al. (2016) defined AI in education as a system capable of interpreting large amounts of learner data and providing tailored support for cognitive development. In the context of reading, this allows educators to address diverse needs—ranging from decoding skills in early readers to critical comprehension in more advanced learners. Studies by **Kucirkova (2019)** and

Baker & Smith (2019) further demonstrated that AI-powered storytelling and digital reading environments can increase motivation and engagement, which are essential components of a reading culture.

From a literacy perspective, **Guthrie & Wigfield (2000)** emphasized that motivation is a central element in developing strong reading habits. AI tools that provide interactive and gamified reading experiences align with this view, as they encourage children to read voluntarily and persistently. Similarly, **OECD (2021)** highlighted the potential of AI in fostering equity by helping struggling readers access texts at their own pace while challenging advanced readers with more complex materials.

Pedagogical studies also stress the importance of balancing technology with human interaction. **Selwyn (2019)** warned against over-reliance on AI, noting that while digital tools are effective in providing practice and feedback, they cannot replace the teacher's role in nurturing social and emotional aspects of reading. **Darling-Hammond et al. (2020)** reinforced this by stating that AI should serve as a supplement to, not a substitute for, effective teaching strategies.

Moreover, ethical dimensions of AI in education have been widely discussed. **Holmes et al. (2021)** argue that the collection and analysis of learner data must be handled responsibly to protect privacy and ensure transparency. In primary education, these concerns are particularly important because young learners are more vulnerable to technological overexposure and data misuse.

In summary, the literature suggests that while AI provides powerful mechanisms for fostering reading culture—through personalization, motivation, and adaptive support—it must be integrated thoughtfully, with attention to pedagogy, ethics, and human interaction. AI can enhance the effectiveness of literacy education, but its true potential lies in complementing teachers' efforts and reinforcing the social dimensions of reading.

The formation of a reading culture in primary school pupils is a crucial goal of contemporary education, as it builds the foundation for lifelong learning, critical thinking, and intellectual independence. This study has shown that Artificial Intelligence (AI) provides effective mechanisms to support this process by offering personalized learning opportunities, motivating young learners through interactive platforms, and enabling teachers to monitor progress more effectively. AI-based reading applications, intelligent tutoring systems, and adaptive learning tools help pupils overcome individual difficulties, improve reading fluency and comprehension, and develop a positive attitude toward reading.

At the same time, the findings emphasize that AI should not be regarded as a substitute for teachers but rather as a complementary tool that enhances traditional pedagogical practices. Teachers remain central in shaping pupils' reading culture by providing emotional support, facilitating discussion, and guiding interpretation of texts. Moreover, the integration of AI must be implemented responsibly, with careful attention to ethical issues such as data privacy, equal access, and prevention of technological dependency.

In conclusion, Artificial Intelligence has the potential to transform the way reading culture is developed in primary education. When used thoughtfully and in balance with human interaction, AI can nurture motivated, independent, and culturally literate readers who are better prepared for the challenges of the 21st century. The combination of innovative digital tools and traditional teaching strategies offers the most effective pathway to fostering a sustainable and inclusive reading culture for future generations.

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