

**POSSIBILITIES AND TASKS OF ARTIFICIAL INTELLIGENCE IN EDUCATION
(TO THE QUESTION OF THE DEVELOPMENT OF HIGHER-ORDER THINKING)**

Higher-order thinking is a cognitive activity that occurs at a higher level and is necessary for learners to solve complex problems; In 2019, the World Organisation for Economic Co-operation and Development released a study that identified the significant potential value of higher-order thinking. Countries such as China, the United States and Singapore have identified higher-order thinking skills as one of the key competencies necessary for learners to learn and adapt to society in the 21st century [1]. Sternberg's theory of successful intelligence classifies the abilities associated with higher-order thinking as analytical, creative and practical intelligence [2]. The rapid rise of artificial intelligence and its large-scale educational applications have led to new features of higher-order thinking such as complexity, uncertainty and self-regulation, as well as a tendency to be more systematic, interdisciplinary and human-computer collaborative [3].

In recent years, Artificial Intelligence in Education has emerged as an important force for digital transformation and development of education, and has combined the results of artificial intelligence with learning science, brain science and other multidisciplinary achievements to provide a huge space for cultivating higher-order thinking in learners. However, there is a growing risk of degradation of learners' thinking skills due to the fragmentation and superficiality of learning, the difficulty of revealing deep learning and cognitive patterns through algorithmic "black boxes", and the "data feeding" of stereotypical thinking. The risk of deterioration in learners' thinking skills is increasing. Against the backdrop of digital transformation of education through new technologies such as artificial intelligence, the opportunities and challenges brought about by AI in education for higher-order thinking have become an important research concern in the current global education reform. This study uses an analytical philosophical approach to summarise the research focus on the cultivation of learners' higher-order thinking supported by AI by combing through relevant studies, in order to provide a reference for the cultivation of learners' higher-order thinking empowered by AI. We argue that, in terms of human-computer synergy, learners can use the computational, perceptual and cognitive capabilities of AI itself to a greater extent to take advantage of human thinking, facilitate knowledge creation and achieve effective solutions to complex problems.

Key words: Higher-order thinking, artificial intelligence, complex problems, education

References:

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