


# Chapter 2

# AI–Augmented Creative Assessment: From Static Tests to Dynamic Insight Generation

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## **ABSTRACT**

*This research examines the conceptual and technological evolution of creativity assessment in educational contexts using artificial intelligence. Emphasizing the transition from static tests to the generation of dynamic insights, the role of AI in analyzing cognitive processes, providing adaptive feedback, and personalizing assessments is explained. Ethical challenges, algorithmic transparency, and the risk of reducing creativity to quantitative values are also analyzed. The research shows that artificial intelligence can transform assessment from a purely measurement tool to a factor for fostering creativity and learner self-regulation.*

## **1. INTRODUCTION**

In recent decades, the concept of assessment in education has faced fundamental challenges, the most important of which is the inability of traditional tests to measure complex and high-level cognitive skills such as creativity. Although standardized assessments have been widely used to measure rote knowledge and analytical skills, such assessments are largely limited to predetermined responses and cannot accurately reveal the creative capacities of learners. In a world that is rapidly moving towards a knowledge-based economy and an innovative society,

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ignoring the element of creativity in educational assessment systems is tantamount to ignoring one of the most important indicators of individual and social success (Chen, Brandimarte, & Susarla, 2024).

Contrary to popular belief, creativity is not an innate and mysterious phenomenon that occurs only in certain minds, but rather a cognitive and nurtured process that finds meaning in interaction with the environment, experience, and feedback. However, assessing this process requires tools that go beyond linear questions and answers. This is where AI, as a transformative technology, can provide new opportunities to rethink assessment systems (Eager & Brunton, 2023).

AI in education has not only been used to personalize content or analyze performance, but has also gradually become an important tool in creating more dynamic, interactive, and intelligent assessments. The use of natural language processing algorithms to analyze written responses, deep learning models to recognize creative patterns in artwork, and adaptive systems to suggest creative activities based on the cognitive style of the learner are just some of the capabilities of AI in this area (Nozari, Tavakkoli-Moghaddam, Rohaninejad, & Hanzalek, 2023). What distinguishes these applications from traditional assessment is not only their high processing power, but also the ability to generate deep insights into the learning process, not just its output.

Artificial intelligence-enhanced creative assessment is an answer to the fundamental question of how to measure creativity in educational settings in a way that motivates further learning and new discoveries. Unlike traditional tests that are limited to final results and correct answers, dynamic creativity assessment using AI focuses on the process of idea generation, problem-solving paths, and divergent thinking patterns (Ou, Thajchayapong, & Joyner, 2024). By engaging learners in open-ended and multifaceted activities, this approach not only provides a better understanding of their mental capacities, but can also serve as a tool for developing creativity.

Also, the shift from static assessment to dynamic analysis provides opportunities for creating meaningful learning environments. When AI can analyze learner interactions in real time and provide intelligent and personalized feedback, assessment becomes a tool for empowerment rather than just measurement (Nozari, Szmelter-Jarosz, & Ghahremani-Nahr, 2021). This transformation is moving the education system from a surveillance space to a creative, self-regulating learning environment, where learners gain a better understanding of their own development by analyzing their own data.

However, this approach also comes with challenges. These include concerns about the transparency of algorithms, data-driven biases, misinterpretations of creativity in different cultural contexts, and the risk of turning creativity into a quantitative, scoreable category without regard to its depth and context (Koon, 2025). Therefore,

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