

DIAGNOSING STUDENTS' CREATIVE ABILITIES THROUGH AN INTEGRATIVE APPROACH

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Abstract

The rapid transformation of contemporary education systems necessitates the development of students' creative competencies as a fundamental component of twenty-first-century skills. Higher education institutions are increasingly expected to prepare graduates capable of innovative thinking, problem-solving, and interdisciplinary collaboration. This study examines the effectiveness of an integrative educational approach in assessing and fostering creative competencies among university students. The research is based on the premise that creativity cannot be adequately measured through traditional cognitive assessments alone and requires a multidimensional diagnostic framework. A comprehensive model integrating psychological, pedagogical, interdisciplinary, and digital assessment tools was employed. The study utilized Torrance Tests of Creative Thinking, motivational questionnaires, expert evaluations, reflective journals, and electronic portfolio assessment. The findings indicate that students participating in integrative diagnostic and learning activities demonstrated significantly higher levels of creative development, originality, flexibility, and problem-solving skills than those assessed through conventional approaches. Furthermore, the results reveal that integrative diagnostics not only serve as an assessment mechanism but also contribute directly to the enhancement of students' creative potential.

Keywords: Creative competence, creativity assessment, integrative education, higher education, interdisciplinary learning, educational innovation, formative assessment, portfolio assessment, digital learning environment, creative thinking.

Introduction

Аннотация

Стремительная трансформация современных образовательных систем обуславливает необходимость развития творческих компетенций студентов как одного из ключевых компонентов навыков XXI века. От учреждений высшего образования всё в большей степени ожидается подготовка выпускников, способных к инновационному мышлению, эффективному решению проблем и междисциплинарному взаимодействию. В данном исследовании рассматривается эффективность интегративного образовательного подхода в оценке и развитии творческих компетенций студентов высших учебных заведений. Исследование основывается на предположении о том, что креативность не может быть в полной мере измерена исключительно традиционными когнитивными методами оценки и требует

применения многомерной диагностической модели. В работе использована комплексная система диагностики, объединяющая

In the era of globalization, digitalization, and knowledge-based economies, creativity has emerged as one of the most essential competencies required for personal, academic, and professional success. International educational organizations and contemporary educational policies increasingly emphasize the importance of developing learners who can generate innovative ideas, adapt to changing environments, and solve complex problems. Consequently, creativity has become a strategic objective of modern higher education systems worldwide.

Traditional educational assessment practices have predominantly focused on evaluating students' cognitive achievements through standardized examinations and knowledge-based testing. Although such methods effectively measure academic performance and factual knowledge acquisition, they often fail to capture students' creative potential, innovative thinking, and capacity for generating original solutions. As a result, educational researchers and practitioners have sought alternative approaches capable of providing a more comprehensive understanding of students' creative abilities.

Theoretical contributions by Guilford, Torrance, Amabile, and Sternberg have established creativity as a multidimensional construct involving cognitive, motivational, emotional, and environmental factors. Contemporary educational research further suggests that creativity develops most effectively within interdisciplinary and learner-centered environments that encourage exploration, reflection, and collaborative problem-solving.

Despite the growing recognition of creativity as a key educational outcome, significant challenges remain regarding its assessment and development. Existing diagnostic tools frequently evaluate isolated aspects of creativity without considering the complex interactions among cognitive, affective, and behavioral dimensions. Therefore, there is a need for integrative assessment models that provide a holistic evaluation of creative competence.

The purpose of this study is to investigate the effectiveness of an integrative educational approach in diagnosing and developing creative competencies among university students and to identify practical strategies for implementing such approaches in higher education institutions.

Methodology

This study employed a mixed-methods research design combining quantitative and qualitative approaches to examine the effectiveness of integrative creativity diagnostics.

Participants The study involved 120 second-year university students enrolled in higher education programs. Participants were divided into two groups:

Experimental Group (n = 60)

- Control Group (n = 60)

Research Instruments

To ensure comprehensive assessment of creative competencies, multiple diagnostic tools were utilized:

Torrance Tests of Creative Thinking (TTCT) to measure fluency, flexibility, originality, and elaboration. Motivation Assessment Questionnaire to evaluate students' intrinsic and extrinsic learning motivation.

Expert Evaluation Method (Delphi Technique) for assessing creative projects and coursework. Reflective Journals to analyze students' metacognitive and emotional responses during learning activities.

Electronic Portfolio (E-Portfolio) Assessment to monitor creative development over time. The research was conducted in three stages. During the initial stage, both groups completed traditional creativity assessments. In the second stage, the experimental group participated in integrative learning activities involving interdisciplinary projects, collaborative tasks, portfolio development, and reflective practices. The control group continued with conventional instructional and assessment methods. During the final stage, comprehensive evaluations were conducted to compare learning outcomes and creativity indicators across both groups.

Data Analysis

Quantitative data were analyzed using descriptive statistics, percentage analysis, and comparative evaluation methods. Qualitative data obtained from reflective journals and portfolio assessments were examined through thematic content analysis.

Results and Discussion

The initial assessment revealed comparable levels of creativity among participants in both groups. Approximately 15% of students demonstrated high levels of creativity, 55% displayed moderate levels, and 30% were categorized as having low creativity levels.

However, classroom observations and project evaluations revealed discrepancies between traditional test results and actual creative performance. Several students who achieved relatively low scores on standardized creativity tests demonstrated strong innovative thinking, leadership abilities, and problem-solving skills during practical learning activities.

Following the implementation of the integrative educational approach, substantial improvements were observed within the experimental group. The proportion of students demonstrating high levels of creativity increased to 42%, while the percentage of students classified within the low creativity category decreased to 10%. In contrast, the control group exhibited only marginal improvement.

The findings suggest that integrative assessment approaches are more effective in identifying and nurturing creative potential than traditional testing methods. Portfolio-based assessment enabled educators to evaluate students' developmental progress rather than isolated performance outcomes. Reflective journals provided insights into students' metacognitive awareness and creative self-regulation, while interdisciplinary projects encouraged the application of knowledge across multiple domains. An additional finding concerns the role of

formative assessment. Continuous feedback and reflective practices enhanced students' motivation, confidence, and willingness to experiment with innovative ideas. These results support previous studies emphasizing the importance of supportive learning environments in fostering creativity.

Furthermore, digital technologies contributed significantly to the assessment process by facilitating portfolio management, project documentation, and ongoing monitoring of student progress. Nevertheless, the study confirms that technological tools should complement rather than replace expert judgment and human-centered evaluation.

Overall, the results demonstrate that integrative educational approaches not only improve creativity assessment but also contribute directly to the development of students' creative competencies.

Conclusion

The findings of this study demonstrate that integrative educational approaches provide an effective framework for assessing and developing creative competencies in higher education. Traditional assessment methods, while valuable for measuring cognitive achievement, are insufficient for capturing the multidimensional nature of creativity.

The proposed integrative diagnostic model combines cognitive, motivational, emotional, and practical dimensions of learning, thereby providing a more comprehensive understanding of students' creative potential. The results indicate that interdisciplinary learning activities, portfolio assessment, reflective practices, and formative feedback significantly contribute to creativity development.

The study also highlights the growing importance of digital technologies in supporting creativity assessment and educational innovation. However, technological tools should be integrated thoughtfully and complemented by professional pedagogical expertise.

From a practical perspective, higher education institutions should consider implementing integrative assessment systems that encourage innovation, collaboration, and reflective learning. Such approaches can help prepare graduates capable of addressing complex challenges in rapidly changing social and professional environments.

Future research should explore the application of artificial intelligence, learning analytics, and neuropsychological assessment methods to further enhance creativity diagnostics and support evidence-based educational practices.

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