ART FOR INNOVATION: DEVELOPING ACTIVITIES TO PROMOTE 21ST-CENTURY SKILLS IN PRIMARY STUDENTS

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Abstract - This study aimed to develop and evaluate an art-based activity package designed to enhance innovation skills in primary school students through pedagogical methods aligned with 21st-century competencies. A research and development (R&D) methodology was adopted, involving 30 Grade 6 students selected via purposive sampling. The package integrated design thinking and storytelling across four structured art activities, promoting creativity, problem-solving, and collaboration. Quantitative and qualitative data were collected using innovation skills assessments, student satisfaction questionnaires, and interviews. Results showed a statistically significant improvement in innovation skills and high student satisfaction. The findings highlight the effectiveness of integrating innovative educational strategies into art education to foster essential 21st-century skills.

Keywords - Art-Based Learning, Innovation Skills, 21st-Century Competencies, Primary Education

I. BACKGROUND, MOTIVATION, AND OBJECTIVE

The dynamic demands of the 21st century emphasize the necessity for educational systems to nurture innovative and creative thinkers. In response to global transformations in technology, economy, and society, developing competencies such as creativity, collaboration, and critical thinking has become a central focus in curriculum design. Art education, with its inherent openness to imagination, interpretation, and hands-on practice, provides an optimal platform for fostering innovation from an early age (Eisner, 2002).

Despite its potential, art education is often undervalued in primary settings, especially in connection with innovation-oriented pedagogies. This study was motivated by the need to bridge this gap by creating a structured, art-based learning experience that integrates design thinking and storytelling—two effective strategies for cultivating 21st-century skills (Razzouk & Shute, 2012).

Objectives

1. To develop an art-based activity package to enhance innovation skills in primary school students.
2. To investigate the innovation skills of Grade 6 students through the use of the developed package.
3. To examine the satisfaction of Grade 6 students toward the developed art-based activity package.

II. STATEMENT OF CONTRIBUTION / METHODS

This study employed a research and development (R&D) design, consisting of three main phases:
Development Phase: The activity package was constructed through literature review, expert consultation, and content validation. Each activity was designed to align with innovation skills such as questioning, prototyping, and presenting.

Implementation Phase: Thirty Grade 6 students participated in the implementation. Over a defined period, students engaged in four art-based activities focusing on designing souvenirs that tell stories through visual and digital media (e.g., QR codes).

Evaluation Phase: A pre-test and post-test innovation skills rubric, along with a satisfaction questionnaire and interviews, were used to measure the impact of the package.
Data Analysis: Quantitative data were analyzed using descriptive statistics and paired-sample t-tests. Qualitative data from student interviews were analyzed thematically to supplement quantitative findings.

III. RESULTS, DISCUSSIONS, AND CONCLUSIONS

3.1 Development Results: Experts assessed the package using an Index of Item-Objective Congruence (IOC), resulting in values between 0.67 and 1.00, indicating high content validity.

3.2 Innovation Skills Outcomes: Paired t-tests revealed significant gains in innovation skills ($p < .01$), with mean scores increasing from 66.93 (pre-test) to 129.80 (post-test).

3.3 Student Satisfaction: Although the overall satisfaction was moderate ($M = 3.41$), the top-rated dimensions included increased understanding ($M = 4.47$), real-world applicability ($M = 4.40$), and innovation skill practice ($M = 4.40$).

IV.CONCLUSION AND RECOMMENDATIONS

This research developed and validated an art-based activity package that effectively promotes innovation skills among primary students. Through creative expression and strategic pedagogical design, students improved their 21st-century competencies, particularly in creativity, collaboration, and problem-solving.

RECOMMENDATIONS

- Educators should integrate such activity packages into curricula to provide engaging, skill-oriented learning.
- Administrators should invest in teacher training to support innovative teaching methods.
- Future research should include broader and more diverse samples, as well as long-term evaluations of innovation skill retention and transfer.

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