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SCAMPER STRATEGY TO ENHANCE FLAT AND THREE-DIMENSIONAL ARTISTIC EXPRESSION AMONG ART EDUCATION STUDENTS AT KING FAISAL UNIVERSITY

Yasser Mohamed Fadl Ebrahim^{1*}, Samah Mohamed Abd El Naser Abouzeid²

^{1*}*Art Education Department, College of Education, King Faisal University, Saudi Arabia.*

Email: ybrahim@kfu.edu.sa

²*Art Education Department, College of Education, King Faisal University, Saudi Arabia.*

Email: smabouzeid@kfu.edu.sa

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Corresponding author: Yasser Mohamed Fadl Ebrahim

(ybrahim@kfu.edu.sa)

ABSTRACT

This study aims to investigate the effectiveness of the SCAMPER strategy in enhancing flat and three-dimensional artistic expression among students of the Art Education Department at King Faisal University, specifically in painting and ceramics. The researchers employed a quasi-experimental design with a single group pretest-post test. The study sample consisted of 40 seventh-level students. Painting and ceramics courses were taught using the SCAMPER strategy, and its impact on developing flat and three-dimensional artistic expression was measured. An artistic expression test and an evaluation rubric were used, with artworks assessed by art education specialists. Results indicated statistically significant differences at the 0.05 level in favor of the posttest, confirming the effectiveness of the SCAMPER strategy in enhancing students' experimentation, generating innovative artistic solutions, and developing aesthetic sense and personal expression in both flat and three-dimensional works.

KEYWORDS: SCAMPER Strategy, Artistic Expression, Flat Expression, Three-Dimensional Expression, Painting and Ceramics, Art Education.

1. INTRODUCTION

Mental and creative abilities are among the most important human traits, forming the foundation for learning, thinking, and artistic production. Educational literature emphasizes that developing these abilities, especially in the artistic field, requires deliberate instructional strategies that allow learners to think, experiment, and innovate rather than merely imitating or following instructions (Fisher, 2021). Jean Piaget emphasized that the main goal of education is to prepare individuals capable of generating new ideas rather than merely repeating what previous generations have done, highlighting the importance of strategies that cultivate creativity and innovation among learners (Fisher, 2021, p.31). Art education plays a pivotal role in enabling students to express ideas and emotions through line, color, mass, space, and material. Effective art instruction engages students in practical artistic activities based on experimentation and reconstruction, requiring creative thinking strategies such as SCAMPER (Eberle, 2017; Ghanem, 2014). Students need opportunities for practical experimentation with various artistic materials, including painting and ceramics, to explore alternatives, experiment, and reconstruct their works—essential skills for developing creative artistic expression.

1.1. Problem Statement

artistic expression was observed among some students, particularly in painting and ceramics. Many instructional practices focus on technical skills at the expense of fostering artistic expression and innovation. This is largely due to limited use of organized creative thinking strategies that help students generate, develop, and transform ideas into art with expressive and aesthetic value.

1.2. Main Research Question

What is the impact of the SCAMPER strategy on enhancing flat and three-dimensional artistic expression among Art Education students at King Faisal University?

1.3. Research Objectives

1. Examine the effect of the SCAMPER strategy on developing flat and three-dimensional artistic expression among Art Education students in painting and ceramics.
2. Develop students' experimentation and artistic creativity skills using the SCAMPER strategy.

1.4. Research Hypotheses

1. There are statistically significant differences at the 0.05 level between pretest and posttest mean scores in flat and three-dimensional artistic expression in favor of the posttest.

2. The SCAMPER strategy significantly improves students' artistic expression in painting and ceramics.

1.5. Importance of research

1.5.1. Theoretical Significance

- 1- Contributes to enriching scientific literature on creative thinking strategies, particularly the SCAMPER strategy, and its role in developing both flat and three-dimensional artistic expression among art education students.
- 2- Provides a conceptual and methodological framework to examine the relationship between creative thinking and artistic expression, adding a knowledge-based dimension to art curricula and teaching methods.

1.5.2. Practical Significance

- 1- Offers a practical guide for teachers on how to use the SCAMPER strategy to enhance students' experimentation and creativity skills in painting and ceramics.
- 2- Contributes to the development of training programs and course curricula in art education, enhancing students' ability to produce innovative artworks with aesthetic and expressive value.
- 3 Provides a foundation for applying the SCAMPER strategy in other artistic fields, promoting innovation and experimentation in university and school art education.

2. RESEARCH METHODOLOGY

2.1. Design

The study employed a quasi-experimental design using a single group pretest-posttest. Students' artistic expression levels were measured before and after applying the SCAMPER strategy to determine its impact.

2.2. Research Sample

The sample consisted of 40 seventh-level Art Education students at King Faisal University. The SCAMPER-based training program was applied to the single group.

2.3. Research Instruments

Artistic Expression Evaluation Rubric

The researchers developed a rubric to assess painting and ceramic works, including:

- Originality and idea innovation.
- Experimentation and material use.
- Organization of visual elements in flat works.
- Handling mass and space in three-dimensional works.
- Achieving aesthetic and expressive values.

The rubric was reviewed by specialists to ensure face validity, and inter-rater reliability showed high consistency.

2.4. Observation Record

An observation record was used to monitor student performance during SCAMPER application, noting participation, interaction, and experimentation level.

2.5. Operational Definitions

2.5.1. Strategy

Refers generally to "a set of procedures used to accomplish one or more tasks to achieve a specific goal" (Cyr & Germain, 2018, p.35). A teaching strategy can be defined as "a set of procedures used for learning, executed in sequential steps, where each step becomes partial tactics applied purposefully to achieve goals effectively with a clear degree of flexibility" (Kawthar Kojak, 2016, p.302).

2.5.2. SCAMPER

The term SCAMPER means "to move quickly or run" (Eberle, 2017, p.63). It is used to activate thinking through guided questions about a topic or phenomenon. These questions serve as inputs for reasoning, deduction, and organization, generating ideas for an integrated knowledge system and representing creative thinking (Ghanem, 2014, p.322).

2.5.3. Artistic Expression

Defined as "a language through which individuals convey feelings to others, enhancing social positivity and a sense of belonging; expressing social and historical topics deepens social awareness and national education" (Al-Ghamdi, 2023, p.41). Operationally, it is the act of producing artwork (painting or ceramics) that embodies creativity and innovation, showing expressive forms beyond physical reality and reflecting emotional and cognitive interactions with the materials.

3. LITERATURE REVIEW

3.1. Types of Artistic Expression

Artistic expression in education has two main forms: flat (painting) and three-dimensional (ceramics), both closely linked to visual arts and craft (Al-Ghamdi, 2023).

3.1.1. Flat Artistic Expression

Executed on two-dimensional surfaces, relying on line, color, space, and texture to achieve aesthetic and expressive value, with painting being the primary medium (Al-Meligi, 2024).

3.1.2. Three-Dimensional Artistic Expression

Executed in three dimensions (length, width, depth), focusing on mass, space, volume, and texture, with ceramics being a primary medium (Abdel Halim & Ali, 2018). Relationship between Flat and Three-Dimensional Expression: Both forms are complementary, enhancing the artistic experience. SCAMPER helps students link compositional

solutions across painting and ceramics, transferring ideas between flat surfaces and three-dimensional forms (Westberg, 2016).

3.2. Artistic Skills Developed

- Experimentation: Encourages freedom and repeated attempts to refine ideas without literal imitation (Abdel Halim & Ali, 2018).
- Creativity: The ability to produce new models or solutions, varying by individual differences and environment (Ahmed & Monofi, 2018).

SCAMPER Strategy Objectives:

- Foster positive attitudes toward creative thinking and art.
- Develop imaginative thinking.
- Enhance general and creative thinking skills.
- Prepare students for creative production.
- Promote group spirit and experimentation.
- Stimulate artistic expression and innovation.

3.3. Procedures for Applying SCAMPER

The field procedures followed an organized sequence consistent with the quasi-experimental design.

3.4. Pretest

- Students completed artworks in painting and ceramics on specific topics.
- Works were evaluated using the artistic expression rubric.
- Specialists assessed the works to determine the pretest level.

3.4.1. SCAMPER Training Program

- Designed considering students' characteristics and course materials.
- Included practical activities covering all seven SCAMPER processes, sequenced from simple to complex.

3.4.2. Application in Painting (Flat Expression)

- Substitute: Replace traditional visual elements with unusual ones.
- Combine: Merge multiple ideas in one composition.
- Adapt: Modify familiar topics to fit contemporary visions.
- Modify: Change size, color, or texture for innovative expression.
- Put to Other Uses: Employ materials unconventionally.
- Eliminate: Remove elements to highlight expressive values.
- Rearrange/Reverse: Rearrange or invert compositional relationships.

3.4.3. Application in Ceramics (Three-Dimensional Expression)

- Replace traditional forms with innovative shapes.
- Combine multiple forms or techniques.

- Adapt forms to new functions or meanings.
- Modify mass, size, and texture.
- Explore alternative uses beyond traditional functions.
- Eliminate parts for expressive balance.
- Rearrange or invert spatial relationships.

3.4.4. Role of Researchers and Students

- Researchers provided guidance and SCAMPER questions without giving solutions.
- Students freely experimented and expressed themselves individually and in groups.

3.4.5. Posttest

- Same evaluation tools applied to new works.

Pretest and posttest scores were compared statistically.

3.4.6. Measurement Instrument

The researchers used a unified instrument to measure artistic expression performance among the study sample. An achievement-based performance test was developed to assess artistic expression based on the core processes of the SCAMPER strategy: direct analogy, personal analogy, symbolic analogy,

fantasy analogy, substitution, combination, adaptation, modification, put to other uses, elimination, and reversal.

This test evaluated students' ability to employ these processes in producing artistic works, measuring creative abilities including: fluency, flexibility, originality, and modification/addition in both painting and ceramics.

3.4.7. Statistical Treatment

Data were analyzed using SPSS. Descriptive statistics (means and standard deviations) were calculated. Differences between pretest and posttest performances were examined using paired-samples t-tests at a significance level of 0.05.

4. RESULTS OF STATISTICAL ANALYSIS

Table (1) presents the results of the study sample in the artistic expression performance test, showing the differences between pretest and posttest scores across the creative abilities under investigation.

Table 1: Results of the Study Sample in the Pretest and Posttest of Artistic Expression Performance

Significance Level	t-value	Pretest		Posttest		Creative Ability
		Mean	Std. Deviation	Mean	Std. Deviation	
Statistically significant at (0.05)	6.13	63.37	3.56	68.11	3.66	Fluency
Statistically significant at (0.05)	5.54	63.37	3.55	66.51	3.47	Flexibility
Not statistically significant	1.21	8.59	0.67	8.77	0.51	Originality
Statistically significant at (0.05)	5.77	63.47	3.88	68.72	3.74	Modification and Addition

4.1. Interpretation of Results

The results indicate statistically significant improvements at the 0.05 level for fluency, flexibility, and modification/addition, favoring the posttest. This demonstrates the effectiveness of SCAMPER in developing these creative abilities. No significant difference was found in originality, likely because originality requires extended time and cumulative practice to develop fully. However, no statistically significant difference was found in originality, which may be attributed to the fact that originality is a complex creative ability that requires extended time and cumulative practice to develop fully, compared to other abilities that respond more rapidly to instructional strategies based on experimentation and variation.

4.2. Results

- Statistically significant improvements at the 0.05 level in flat expression (painting) and three-dimensional expression (ceramics).
- Students demonstrated enhanced ability to generate innovative ideas and apply SCAMPER processes.

5. DISCUSSION

The SCAMPER strategy, based on stimulating thinking through organized questions, opens multiple horizons for experimentation and reconstruction. In painting, students moved beyond conventional solutions, constructing innovative still-life compositions based on unconventional chromatic and linear relationships, which were transformed into expressive human figures (Figures 1–10).



Figures 1–10: Flat Artistic Expression (Painting) Examples Demonstrating Innovative Compositions.

In ceramics, the strategy enhanced students' ability to handle mass and space with greater flexibility and employ red and white clay colors as expressive elements. This is evident in the ceramic works

presented in Figure 6, where aesthetic and expressive values are clearly reflected in innovative visual formulations.



Figure 6: Three-dimensional Artistic Expression (Ceramics) Demonstrating Expressive Mass, Space, and Color Application.

Recommendations

1. Implement SCAMPER in art education courses, especially painting and ceramics.
2. Train faculty in applying creative thinking strategies.
3. Conduct future studies on SCAMPER in other

artistic domains.

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