KMAN PUBLISHING INSTITUTE
Journal Website

Article history:
Received 30 June 2024
Revised 29 August 2024
Accepted 07 September 2024
Published online 10 October 2024

Journal of Adolescent and Youth Psychological Studies

Volume 5, Issue 10, pp 82-90

E-ISSN: 2981-2526

Identification of Dimensions and Components for Developing Creative Skills

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A r t i c l e I n f o

Article type:
Original Research

How to cite this article:
Ali Moshanah, H., Mosavi, F., Rashid Almamori, K. A. & Karimi, F. (2024). Identification of Dimensions and Components for Developing Creative Skills. *Journal of Adolescent and Youth Psychological Studies*, *5*(10), 82-90.
http://dx.doi.org/10.61838/kman.jayps.5.10.10

A B S T R A C T

Objective: This study aims to identify the dimensions and components of developing creative skills.

Methods and Materials: It is an applied-developmental research in terms of purpose and a non-experimental (descriptive) research from the data collection perspective, conducted using a cross-sectional survey method. A qualitative research design was utilized to achieve the research objective. The participant population consisted of university professors and experienced art teachers, who were selected through purposive sampling. Theoretical saturation was reached after 10 interviews. Semi-structured interviews with experts were used as the data collection tool. The validity of the qualitative section was evaluated and confirmed by the judges based on Lincoln and Guba's recommendation, applying four criteria: credibility, transferability, confirmability, and dependability. The reliability of the qualitative section and the coding of the interviews were assessed with a Holsti coefficient of 0.712, which was confirmed as acceptable. Data were analyzed using grounded theory method in MAXQDA software, which involved extracting primary and secondary categories from the results of the foundational data analysis, leading to the presentation of the final model.

Findings: After data analysis, 11 main themes and 63 subthemes were identified.

Conclusion: Based on the results, it was determined that causal conditions including professional skills, problem-solving skills, and ethical skills have an impact on the central phenomenon of creative skills. These components, along with contextual conditions including cognitive competencies and emotional competencies, and intervening conditions such as the culture of the educational system, influence strategies and actions involving the strategy for developing creative skills.

Keywords: *Creative skills, professional skills, art education teachers.*

1. Introduction

In light of the current requirements and needs of societies and in alignment with the increasing changes and transformations in the world, revising educational methods is on the agenda for schools as cultivators of the next generation. In this context, attention to creativity in education is inevitable because it entails benefits such as enhancing innovation, adaptability, intellectual independence, and critical thinking in students (Tang et al., 2022). Many thinkers have regarded creativity as one of the highest human mental processes, which plays a special role in the comprehensive growth and development of human life, and many have emphasized that student creativity is a general talent and all students are somewhat creative. Therefore, each student has a certain capacity for creativity according to their talents, which can be developed and enhanced through skill learning (Fitri et al., 2023). According to Guilford, creative skills include four elements: fluency, elaboration, originality, and flexibility; fluency is the ability to propose various solutions, elaboration includes planning and organizing, challenges, originality in the sense of the ability to break habits, and flexibility refers to the ability to create new patterns of thought. It also includes traits such as curiosity, initiative, openness to experience, and perseverance, which are associated with divergent thinking skills, introversion, self-esteem, tolerance for ambiguity, risk-taking, behavioral flexibility, and emotional variability (Hojjati et al., 2021; Leikin & Elgrably, 2020).

The development of students' creativity is intertwined with the characteristics and skills of teachers, which are crystallized within various educational dimensions and are teachable and learnable. Creative skills have been introduced as an approach based on behavior change that emphasizes balancing the three domains of knowledge, attitudes, and skills. Therefore, a single-focus view on creativity in student education is indefensible. As a result, it can be said that given the variety of creativity dimensions, there are also diverse skills. Creativity does not occur within individuals but arises from the interaction of an individual's thoughts and their cultural and social context (Leikin & Elgrably, 2020). Teacher creativity includes cognitive, volitional, and emotional skills. Three types of skills—cognitive, creative, and motivational—are effective in the emergence of creative thoughts, and without their combination, the creativity cycle will not begin. It must be understood that the nature of teachers' creativity skills from a social perspective differs from the perspective that views creativity skills from an individual, innate, or hybrid perspective, but relying on the insight of a hybrid approach can say that all creativity domains are inextricably linked in such a way that, for example, without individual creativity, there is no ground for collective creativity and vice versa. Therefore, categorizing the different dimensions of developing teachers' creative skills is a key factor for the growth of creative and innovative activities of teachers. Creative skills involve various aspects such as individual, social, cognitive, motivational, emotional, etc., and are interconnected in shaping the predominant aspect of the overall nature of teacher creativity (Tang et al., 2022; Yakubov & Egamova, 2021).

One of the subjects that has a dynamic interaction with students' creativity is art. Art education in society, on one hand, in the operational dimension helps to expand and enrich artistic and spiritual methods and beauties, and on the other hand, in the audience dimension, it guides the audience towards growth (Abedi, 2023). Art education (artistic education) is presented as one of the fundamental and important functions of the educational system. The importance of this function stems from the fact that art and artistic education play a significant role in fostering and enriching areas such as innovation and creativity, growth of cognitive and thinking skills, nurturing and moderating emotions and feelings (emotional education), moral growth, and more (Fazel Samii & Shabani, 2022).

Despite the importance of art education, the fundamental issue is that research shows that art education, which can provide the conditions for fostering creativity, has not been taken seriously, and in fact, this subject has been unable to meet its intended goals. It seems that in preparing educational environments suitable for fostering creativity, we have no choice but to improve our attitude towards art and its extensive effects. A critical look at the current educational system, identifying obstacles and problems in fostering creativity and art education, providing the conditions for the emergence of students' creative talents, and a strong determination to implement this important task must be the main concern of educational authorities. In this direction, the creative skills of teachers play a fundamental role, and understanding the dimensions and components of developing such skills can be enlightening. If a suitable model for developing teachers' creative skills is designed and developed, it can provide the groundwork for the growth and flourishing of art among students, who will be the future builders of Iraq. Therefore, the current study answers this key question: What are the dimensions and components of developing creative skills?

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E-ISSN: 2981-2526

2. Methods and Materials

2.1. Study Design and Participants

The present research, based on its objectives, is an applied-developmental study as it aims to identify the dimensions and components of developing creative skills in order to propose a model for art education teachers in Iraq using a grounded theory approach. Additionally, considering the utilization of library research methods and field methods such as semi-structured interviews, it can be stated that this research is a cross-sectional survey-based study in terms of data collection methods.

The statistical population includes experts, professors, teachers, school principals, and specialists in art education in Iraq. Qualitative sampling was conducted purposively and reached theoretical saturation after 10 interviews.

2.2. Measures

2.2.1. Semi-Structured Interview

The data collection tool in the qualitative part of the research was the semi-structured interview. The credibility of the interview results was measured using the Holsti coefficient, with the "Percentage of Agreement Observed" or PAO calculated at 0.712, which is an acceptable value. Thus, the reliability of the qualitative part is considered satisfactory. The validity of the questionnaire was assessed and confirmed by estimating the Content Validity Ratio (CVR).

2.3. Data analysis

For the analysis of the qualitative data, the grounded theory method was used, and MAXQDA software was utilized for qualitative analysis.

3. Findings and Results

This study conducted 10 interviews, involving 6 men and 4 women. Age-wise, 2 participants were under 35 years, 4 were between 35 to 45 years, and 5 were over 45 years. In terms of education, 3 had a master's degree and 7 held a doctorate. Regarding work experience, 7 participants had between 10 to 20 years, and 3 had over 20 years.

Initially, the grounded theory or qualitative data analysis method was used to identify the underlying factors of the research. The perspectives of professors, teachers, school principals, and art education specialists in Iraq were gathered through semi-structured interviews by using 5 open-ended questions in the interview protocol, with new questions emerging during the interview process as anticipated. Interviews continued until theoretical saturation was achieved, which was determined by the repetition in extracted codes. The interview texts were repeatedly reviewed before being entered into the MAXQDA software as text files, and key points were coded into the software. During the open coding phase, 11 main categories and 63 subcategories were identified. These indicators are categorized into main and subcategories. Indicators of the dimensions and components of developing creative skills to propose a model for art education teachers in Iraq, extracted from interviews using the grounded theory method, are presented in Table 1.

Table 1

Summary of Axial Coding Results

Selective Coding	Axial Coding	Open Coding
Causal Conditions	Professional Skills	1. Familiarity with modern teaching techniques
		2. Mastery of technical and specialized topics in courses
		3. Deconstruction skills
		4. Inversion skills
		5. Valuation skills
		6. Teaching skills
	Problem-Solving Skills	7. Enhancement of critical thinking skills
		8. Familiarity with problem-identification methods
		9. Enhancement of problem-finding ability
		10. Familiarity with philosophical issues
		11. Familiarity with processes and solutions for problem-solving
		12. Development of innovative problem-solving strategies
	Ethical Skills	13. Acting based on educational ethical charter
		14. Work commitment and duty-love

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		15. Ability to recognize cognitive values
		16. Work conscience and duty-awareness
		17. Faith and belief in ethical norms
Contextual Conditions	Cognitive Competencies	18. Professional and specialized knowledge
		19. Professional skills
		20. Work experience
		21. Continuous updating of knowledge and information
	Emotional Competencies	22. Self-efficacy
		23. Social interactions
		24. Understanding and expressing one's emotions
		25. Establishing positive communications and interactions
		26. Ability to empathize
Intervening Conditions	Culture of the Education System	27. Creative values in the workplace
		28. Belief in creativity and innovation
		29. Norms that enhance creativity
		30. Innovative and creative atmosphere
		31. Support and backing for teachers' creativity
Central Phenomenon	Creative Skills	32. Idea generation and ideation skills
		33. Expressing feelings without fear
		34. Conversation skills
		35. Providing opinions without needing validation
		36. Intellectual courage in expressing viewpoints
		37. Welcoming the resolution of job-related issues and challenges
		38. Managing anxiety and stress in crises
		39. Spirit to face educational problems
		40. Pioneering and initiative in educational actions
Strategies and Actions	Strategy for Developing Creative Skills	41. Clear vision for creative skills
		42. Specific missions aligned with creative skills
		43. Long-term goal setting for creative skills
		44. Specific strategy towards long-term goals
		45. Short-term goal setting for creative skills
		46. Policies for implementing short-term goals
		47. Presentation of procedures and practices for creative skills
Consequences	Fostering Creative Thinking	48. Increased learning capacities
		49. Enhanced teaching abilities
		50. Enhanced innovative thinking power
		51. Utilization and application of fresh ideas
	Teacher Creativity	52. Presentation of new educational methods
		53. Attractive approaches to education
		54. Improvement of the educational process
		55. Continuous innovation in education
		56. Increase in the creation of new ideas
	Student Creativity	57. Familiarizing students with questioning skills
		58. Strengthening students' research spirit
		59. Strengthening students' reasoning power
		60. Increase in student innovations
		61. Increased student participation in discussions
		62. Presentation of new problem-solving methods by students
		63. Self-control and reduced need for continuous supervision

Based on the selective coding results of the research, according to the paradigmatic model of research, causal conditions include (Professional Skills, Problem-Solving Skills, Ethical Skills). Contextual conditions (Cognitive Competencies and Emotional Competencies), and Intervening conditions (Culture of the Education System); Central Phenomenon (Creative Skills); Strategies and Actions (Strategy for Developing Creative Skills); Consequences (Fostering Creative Thinking, Teacher Creativity, Student Creativity) are included. In the research process, after data collection, analysis, and interpretation, it comes to the presentation of the model, conclusion, and summary of the research. The paradigmatic model of the research is presented in Figure 1.

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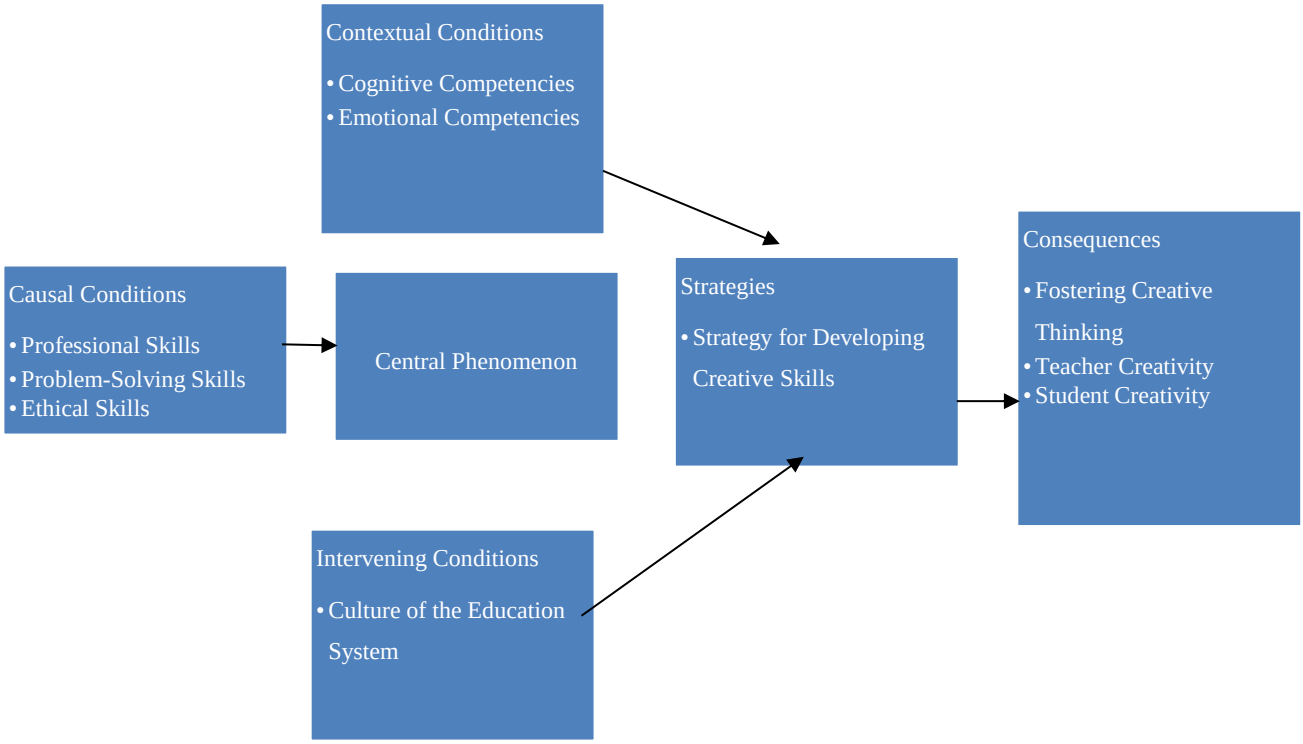
E-ISSN: 2981-2526

Figure 1

Final Paradigm Model



4. Discussion and Conclusion

In the current research, the main objective was to identify the dimensions and components of developing creative skills in order to provide a model for art education teachers in Iraq. After data analysis, 11 main themes and 63 subthemes were identified.

4.1. Professional Skills

One of the most important and prominent factors in the teaching-learning process, student success, and academic progress in education depends on the presence of teachers who possess the necessary theoretical and scientific capabilities. In addition to the responsibility of designing, implementing, and evaluating the teaching-learning process in the educational environment, a teacher acts as a constructive individual providing a dynamic and appropriate cultural environment, and serves as a role model, especially for the younger generation, influencing students to achieve perfection, growth, and positive motivation with their capabilities and skills. Professional skills of a teacher, which include awareness of teaching methods, classroom organization and management, counseling, and student guidance, and evaluation, play a significant role in this regard.

4.2. Problem-Solving Skills

The most fundamental factor for creating a favorable situation in achieving educational goals is the teacher. Mastery of content and subject matter is one of the most important characteristics of a teacher, but beyond having rich scientific content, a teacher must possess teaching techniques, presentation methods, communication theories, and knowledge of new psychology and behavioral sciences, especially teaching and learning psychology.

Skill in using educational technology helps teachers achieve maximum efficiency with minimal effort.

Skill in teaching methods and choosing appropriate content: Using modern teaching models based on new technologies is one of the skills that make the classroom an attractive and optimal environment for learning and teaching creativity to students. In such an environment, students face real-life issues and solve problems (Hojjati et al., 2021; Leikin & Elgrably, 2020).

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4.3. *Ethical Skills*

Professional ethics, in its simplest definition, refers to a system of ethical principles that influences both your lifestyle and the lives of those around you and your colleagues. These ethical traits define and determine individual and organizational behavior. Therefore, whether as an individual or as a member of an organization, adhering to these ethical traits can provide the best performance under various conditions (Balakrishnan, 2022; Hojjati et al., 2021).

4.4. *Cognitive Competencies*

In addition to personal and scientific characteristics, a teacher must have professional competencies because with these skills, they can direct their educational activities, analyze the educational process, and choose their teaching method using available facilities and equipment. It is essential for a teacher to have a full understanding and mastery of rich scientific content, teaching methods, planning, instructional design, and evaluation, which are known components of professional skills, to be able to teach effectively and impactfully (Hojjati et al., 2021).

4.5. *Emotional Competencies*

Teaching in education today is not just teaching and instructing but also inspiring and guiding learners for learning. A successful teacher is not just one who teaches or educates but one who creates various learning opportunities.

Skill in classroom management or teaching management: If students are active in the classroom, the classroom is ready for work, and no problems arise for the teacher.

Skill in counseling and guiding students: This is achieved when students trust the teacher, gaining the trust of the students will cause them to share their issues and problems with the teacher (Suherman & Vidákovich, 2022; Tang et al., 2022).

4.6. *Education System Culture*

Education has various explicit and implicit functions and responsibilities in society. Among the explicit functions are: cultural transmission (acculturation), socialization or societal nurturing, political education, professional and specialized training, innovation and change, social unity, social order, etc. Some of the implicit functions include transforming the class system of society, facilitating social mobility, weakening parental power over children, and more. The results of studies by Dadashi & Alizadeh (2020) showed that the area of culture is the most important factor in the economic, social, political, human, and ethical development of the country. By explaining the relationship between culture and education, the impact of culture on societal behavior can be considered. Social behaviors such as formal, intimate, upper-class, lower-class, enthusiastic distancing, etc., are influenced by culture. There is a direct relationship between culture and education.

4.7. *Creative Skills*

Creativity is a valuable skill in the workplace because it can be a useful tool for developing new ideas, increasing efficiency, and devising solutions to complex problems. Although individuals may naturally possess creativity in specific forms, it is a skill that can be learned and developed over time. The results of the study by Hojjati et al. (2021) on exploring the foundations and objectives of the curriculum for teaching creative and critical thinking skills showed that for suitable objectives of teaching creative and critical thinking based on expert opinions, two main categories were selected: intrapersonal skills and interpersonal skills. In the category of intrapersonal skills, principles such as technical skills, problem-solving skills, and ethical skills were extracted, and in the category of interpersonal skills, principles of emotional competencies, cognitive competencies, and social competencies were extracted (Hojjati et al., 2021).

4.8. *Creative Skills Development Strategy*

The development of creative skills involves the development of new and innovative ideas. When a person thinks creatively, they can develop new solutions or ways to overcome a problem that others have not yet considered. Creative thinking requires a collection of analytical, problem-solving, organizational, and communication skills to evaluate and solve a problem. According to the study by Hojjati and colleagues (2021), for the appropriate goals of teaching creative and critical thinking based on expert opinions, two main categories were selected: intrapersonal skills and interpersonal skills. In the category of intrapersonal skills, principles such as technical skills, problem-solving skills, and ethical skills were extracted, and in the category of interpersonal skills, emotional competencies, cognitive competencies, and social competencies were identified (Hojjati et al., 2021).

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E-ISSN: 2981-2526

4.9. *Fostering Creative Thinking*

Fostering creative thinking is a type of mental skill that enables an individual to make new and constructive connections between different meanings to create something new and extraordinary. These new connections may occur between things that seem unrelated but become meaningful to the individual after breaking cognitive barriers. Creative thinking skills are used in problem-solving, decision-making, and effective communication, and can give individuals the power to create new solutions (Sabzeh & Hosseini Kamyab, 2022).

4.10. *Teacher Creativity*

Although formal training aids in improving teaching skills, connecting with other colleagues who are active in the same field is also important. While inspiration can be drawn from renowned speakers and writers, other teachers can be equally inspiring. Also important in this area are skills in instructional design and implementation: skills in starting a lesson, preparing to go to class, planning a class session, assigning appropriate homework, summarizing educational content in the classroom, discovering students' creativity and innovation, and using examples that are relevant and interesting to students are essential skills that all teachers should possess (Tang et al., 2022; Yakubov & Egamova, 2021).

4.11. *Student Creativity*

Generally, if fostering creativity in students is to be successful, it must go beyond conventional frameworks and habits. One of the key principles for increasing creativity in students is providing opportunities for trial and error. Students should be reassured that if they make mistakes, they will neither be blamed nor judged or ridiculed. Study and learning should not merely be the dictation of textbook concepts to the students' minds, as a mind filled with rote learning will not be fertile ground for nurturing creativity in students (Mohebbi & Shamabadi, 2023; Tang et al., 2022).

5. Limitations & Suggestions

For professional skills, it is recommended to increase familiarity with modern teaching techniques and mastery of technical and specialized topics in courses, and to enhance deconstruction skills to develop creative skills for art teachers in Iraq. What is important in professional skills is improving inversion skills and, of course, valuation skills in the mentioned teachers. Also, by strengthening teaching skills in teachers, the goals related to their professional skills can be achieved.

For problem-solving skills, it is suggested to enhance critical thinking skills and familiarize teachers with problem-identification methods. In this regard, enhancing problem-finding ability and familiarity with philosophical topics are important. Also, by becoming familiar with problem-solving processes and developing innovative problem-solving strategies, creative skills can be developed for art teachers in Iraq.

For ethical skills, it is recommended to act based on the educational ethical charter and to increase work commitment and duty-friendliness. The development of creative skills for art teachers in Iraq depends on the ability to recognize cognitive values and the level of work conscience and duty awareness of the mentioned teachers. Also, teachers who have faith and believe in ethical norms have higher ethical skills compared to other teachers.

For cognitive competencies, it is suggested that at the beginning of employment, attention should be paid to the professional and specialized knowledge of teachers. Also, achieving goals related to the cognitive competency of teachers depends on improving their professional skills, which are related to their experience and work history. The mentioned teachers should strive to continuously update their knowledge and information.

For emotional competencies, it is suggested that necessary actions regarding self-efficacy and having social interactions be taken by art teachers in Iraq. The development of creative skills for art teachers in Iraq is influenced by understanding and expressing their own emotions and, of course, establishing positive communications and interactions and having the ability to empathize.

For the culture of the education system, it is suggested to facilitate the path to achieving the goals of developing creative skills for art teachers in Iraq by employing creative values in the workplace and having a belief in creativity and innovation. In this regard, norms that strengthen creativity and an innovative and creative atmosphere are important, and most importantly, support and backing for teachers' creativity is essential.

For creative skills, while focusing on ideation and idea creation skills, attention should also be paid to expressing emotions without fear. The development of creative skills for art teachers in Iraq depends on improving conversation skills and presenting opinions without the need for

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E-ISSN: 2981-2526

validation. Also, having intellectual courage in expressing viewpoints and welcoming the resolution of job-related issues and challenges are important in this area. Teachers with the characteristic of controlling anxiety and stress in crises and the spirit to face educational problems can also achieve pioneering and initiative in educational actions.

For the strategy of developing creative skills, while developing a clear vision for creative skills and specific missions in line with creative skills, long-term goal setting for creative skills should also be addressed. The development of creative skills for art teachers in Iraq needs to formulate a specific strategy towards long-term goals and, of course, short-term goal setting for creative skills. In this regard, policies for implementing short-term goals also help improve the presentation of procedures and practices for creative skills.

For fostering creative thinking, while increasing learning capacities, attention should also be paid to enhancing teaching ability. Teachers with the power of innovative thinking can achieve goals related to the development of creative skills for art teachers in Iraq by employing and applying fresh ideas.

For teacher creativity, necessary actions should be taken to present new educational methods and attractive approaches to teaching. Also, achieving goals related to improving the educational process is attainable through continuous innovation in teaching. In this regard, there is a need to increase the creation of fresh ideas, which can be provided with the help of consultants and relevant specialists.

For student creativity, it is suggested that relevant teachers familiarize students with questioning skills and strengthen their research spirit. The development of creative skills for art teachers in Iraq helps strengthen students' reasoning power and increase student innovations. Also, by encouraging students to increase their participation in discussions and presenting new problem-solving methods by them, student creativity can be assisted. In addition to the mentioned items, self-control and the absence of the need for continuous supervision of teachers over students are also important.

Acknowledgments

We would like to express our appreciation and gratitude to all those who cooperated in carrying out this study.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

The study protocol adhered to the principles outlined in the Helsinki Declaration, which provides guidelines for ethical research involving human participants.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

Funding

This research was carried out independently with personal funding and without the financial support of any governmental or private institution or organization.

Authors' Contributions

All authors equally contributed to this article.

References

Abedi, J. (2023). The interaction of religion and art: the effect of works of art on creating spiritual atmosphere in religious places. *seven to the sky*, *84*(25), 123-139. https://www.noormags.ir/view/en/articlepage/1990023/%D8%AA%D8%B9%D8%A7%D9%85%D9%84-%D8%AF%DB%8C%D9%86-%D9%88-%D9%87%D9%86%D8%B1-%D8%AA%D8%A7%D8%AB%DB%8C%D8%B1-%D8%A7%D8%AB%D8%A7%D8%B1-%D9%87%D9%86%D8%B1%DB%8C-%D8%A8%D8%B1-%D9%81%D8%B6%D8%A7%D8%B3%D8%A7%D8%B2%DB%8C-%D9%85%D8%B9%D9%86%D9%88%DB%8C-%D8%AF%D8%B1-%D8%A7%D9%85%D8%A7%DA%A9%D9%86-%D8%AF%DB%8C%D9%86%DB%8C

Balakrishnan, B. (2022). Exploring the impact of design thinking tool among design undergraduates: a study on creative skills and motivation to think creatively. *International Journal of Technology and Design Education*, *32*(3), 1799-1812. https://doi.org/10.1007/s10798-021-09652-y

Fazel Samii, M. H., & Shabani, M. M. (2022). How could we facilitate the realization of the goals of the art curriculum in the first grade of elementary school? *New developments in*

JAYPS Adolescent and Youth Psychological Studies
E-ISSN: 2981-2526

psychology, educational sciences and education, *54*(5), 111-124. https://www.noormags.ir/view/en/articlepage/1989575/%DA%86%DA%AF%D9%88%D9%86%D9%87-%D8%AA%D9%88%D8%A7%D9%86%D8%B3%D8%AA%DB%8C%D9%85-%D8%AA%D8%AD%D9%82%D9%82-%D8%A7%D9%87%D8%AF%D8%A7%D9%81-%D8%A8%D8%B1%D9%86%D8%A7%D9%85%D9%87-%D8%AF%D8%B1%D8%B3-%D9%87%D9%86%D8%B1-%D8%B1%D8%A7-%D8%AF%D8%B1-%D9%BE%D8%A7%DB%8C%D9%87-%D8%A7%D9%88%D9%84-%D8%AF%D8%A8%D8%B3%D8%AA%D8%A7%D9%86-%D8%AA%D8%B3%D9%87%DB%8C%D9%84-%D9%86%D9%85%D8%A7%DB%8C%DB%8C%D9%85

Fitri, M. A., Hadi, S., Sholahuddin, A., Rusmansyah, R., Aufa, M. N., Hasbie, M., & Saputra, M. A. (2023). The Module Development with Creative Problem Solving Model to Improve Creative Thinking Skills and Self-Efficacy of Junior High School Students. *Jurnal Penelitian Pendidikan Ipa*, *9*(1), 422-426. https://doi.org/10.29303/jppipa.v9i1.2569

Hojjati, M., Haemi, H., Shariatnia, K., & Bayani, A. A. (2021). Analysis of the Basics and Curriculum of Teaching Creative and Critical Thinking Skills in Elementary School. *Journal of Research in Educational Systems*, *15*(53), 58-71. https://www.jiera.ir/article_130024_7481432903abff0641c0449a5551d9d4.pdf

Leikin, R., & Elgrably, H. (2020). Problem posing through investigations for the development and evaluation of proof-related skills and creativity skills of prospective high school mathematics teachers. *International Journal of Educational Research*, *102*, 101424. https://doi.org/10.1016/j.ijer.2019.04.002

Mohebbi, A., & Shamabadi, A. (2023). Investigating the relationship between creativity and self-confidence with academic achievement in the mathematics course of first secondary school students. *Research in educational sciences and counseling*, *1401*(17), 96-110. https://educationscience.cfu.ac.ir/article_2511.html

Sabzeh, B., & Hosseini Kamyab, F. (2022). The lived experiences of primary school teachers about creative teaching methods in the context of virtual education. *Research teaching*, *27*(10), 209-236. https://www.noormags.ir/view/en/articlepage/1975493/%D8%AA%D8%AC%D8%A7%D8%B1%D8%A8-%D8%B2%DB%8C%D8%B3%D8%AA%D9%87-%D9%85%D8%B9%D9%84%D9%85%D8%A7%D9%86-%D8%AF%D9%88%D8%B1%D9%87-%D8%A7%D9%88%D9%84-%D8%A7%D8%A8%D8%AA%D8%AF%D8%A7%DB%8C%DB%8C-%D8%AF%D8%B1%D8%A8%D8%A7%D8%B1%D9%87-%D8%B4%DB%8C%D9%88%D9%87-%D9%87%D8%A7%DB%8C-%D8%AA%D8%AF%D8%B1%DB%8C%D8%B3-%D8%AE%D9%84%D8%A7%D9%82-%D8%AF%D8%B1-%D8%A8%D8%B3%D8%AA%D8%B1-%D8%A7%D9%85%D9%88%D8%B2%D8%B4-%D9%85%D8%AC%D8%A7%D8%B2%DB%8C

Suherman, S., & Vidákovich, T. (2022). Assessment of mathematical creative thinking: A systematic review. *Thinking Skills and Creativity*, *44*, 101019. https://doi.org/10.1016/j.tsc.2022.101019

Tang, C., Mao, S., Naumann, S. E., & Xing, Z. (2022). Improving student creativity through digital technology products: A literature review. *Thinking Skills and Creativity*, *44*, 101032. https://doi.org/10.1016/j.tsc.2022.101032

Yakubov, K., & Egamova, A. (2021). Developing professional creative skills of future teachers in the technology field of education. *Annals of the Romanian Society for Cell Biology*, 48-55. http://annalsofrscb.ro/index.php/journal/article/view/905

JAYPS Adolescent and Youth Psychological Studies
E-ISSN: 2981-2526