

SCAMPER Program: Developing Creative Artistic Skills among Kindergarten Children

Marvat Nour Ymani Zayed¹ and Rabab Abdallah Elawady Abdou^{2*}

Northern Border University, Arar, Saudi Arabia

E-mail: ¹<marvatzayed@yahoo.com>, ²<rabab.abdu@nbu.edu.sa>

¹<<https://orcid.org/0000-0003-3151-3610>>, ²<<https://orcid.org/0000-0002-8832-5525>>

KEYWORDS Artistic Activities Program. SCAMPER Strategy. Artistic Skills. Kindergarten Children

ABSTRACT The aim was to develop an artistic activities program based on the SCAMPER strategy and assess its effectiveness in developing artistic skills among kindergarten children. Fifty five-year-old children attending two kindergarten schools were recruited to participate. The pre-test-post-test evaluations with experimental and control groups was employed. The difference was checked with the Paired Samples t-test. Results showed a significant difference between pre-test-post-test score averages of children in experimental and control groups. SCAMPER, on the other hand, supports child's development and creativity, and contributes to the child significantly.

INTRODUCTION

One notices children, either in front of or behind one's backs, as they use coloured pencils and scribble on the walls of the room, using some paint and a brush (Altıparmak and Eryilmaz-Mustu 2021). This first experience with art makes the child feel pleasure, imagination, and active participation. This engagement in art is creativity (Kanani 2011; Gündogan 2019; Hayes et al. 2021). The childhood stage has a distinctive nature that has its own characteristics and needs that distinguish it from other stages. The child at this stage has a curiosity to discover the surrounding environment, and this appears in the form of questions and inquiries that they direct to others, as they have the ability to acquire a huge amount of information and facts that help them adjust to society (Rimawi 2014).

The kindergarten stage is characterised by the fertility of imagination, and that feature is on which innovative thought depends, which does not depend on a specific field of human life, and appears in the fields of science and the arts, including all kinds of human activity, and in some areas the characteristic of innovation is evident from others (Peter 2021). The field of art education is one of the most fertile fields in which the characteristic of innovation is available and it facilitates the training of children to carry out

innovative solutions through experimentation in the various artistic activities that are presented to the child in order to gain them and develop the innovative sense that grows in them and helps them in facing various life problems for them later.

Artistic Activities in the Early Childhood Stage

Artistic activities are a means of knowledge for the child during the first five years, and they constitute the basis for building their future personality and defining the features of this personality, and its importance may also reach the degree of defining the tendencies and temperament that characterise this personality (Kanani 2011). This is because the first five years of the child's life are crucial years in the formation of their entire personality, because its influence on them is indelible for life, so it must be based on the chances of their future success. This can be through manual work and developing aesthetic taste through painting, music and love of nature, and the growth of knowledge through language, mathematics, experiences and other knowledge (Peter 2021).

The pre-school child's art differs in artistic expression from the rest of the ages in expression, so a pre-school child begins their random sketches in drawing just to enjoy the effects that they produce on paper, then over time they try to find a relationship between the shapes

*Address for correspondence:
E-mail: rabab.abdu@nbu.edu.sa

they produce and the things they see and touch. Art education is a practical subject, through which the shame starts from the limitations of theoretical lessons to where they practice various activities in an atmosphere of freedom, and art education gives children some appropriate skills in fields and artistic works, such as the use of means of implementation and colouring, and provides them with the ability to use some tools such as scissors, brush, paste, colours and cardboard.

Activities can be varied by making multiple types of materials available for children to take care of and use with their hands, and whenever children enjoy these activities, they gain experiences required to produce artistic work, which has given research some valuable experience in innovative work (Khalil 1999).

In children, artistic expression may be driven by self-expression, for the child during their adaptation processes to the environment influences and is affected, in the field of artistic expression may be the only field that allows the child the opportunity to express themselves, as in their interactions with the environment, their loves and hates, rejoices and suffers, feels and is afraid, they have their tendencies and desires, their hopes, sentiments and experiences, and they have times in which they like to express these feelings and ideas, and it is an inner desire for their sincere needs to express themselves, so they may not express them well in the language (Khalaf 1996), so the plastic language becomes an important means of communicating with others and conveying what they occupy, and the content of artistic expression is not equal. As an expressive language, with the content of speech expressions and their customary forms, artistic expression for children is an easier and simpler language that combines the visual and symbolic aspects, and the child can carry their symbols with many psychological meanings, so their symbols appear in a state of conditioning suitable for the child's psychological state using their projections in the methods of expression. The technician can delete, add and exaggerate to inform the viewer in their own sense of the elements of their painting and their function that they perform in the space that they placed in it (Al Faras 2011).

When the child practices artistic expression, they narrate events and abbreviate them in formal models and repeat these models closer to the letters of writing, but the letters are theirs and their personality and can be identified through a series of artistic works of their own (Al Sers 1999). The individual during the process of free association, which is originally one of the basics and rules of psychoanalysis, as the child expresses themselves under sound educational and therapeutic conditions of non-stressful, unleash their thoughts, trends, struggles, desires and feelings without reservation, and these repercussions are fluently linked no matter how trivial it seems, the main goal collapse is to reveal repressions and conflicts, highlight them and bring them into a sense of existence (Qurayti 1995).

The motivation behind the artistic expression of children may be curiosity, experimentation, and discovery of the environment and its elements around them after their ability to walk and wander (Khalil 1999). The child increases their questions and tries to increase in all aspects of knowledge of what interests them. Scientists call this stage the question stage, so children go to the materials and test them and try to cut the paper. They scourge and play with mud, and the goal is to discover the environment.

Using the SCAMPER Technique for Developing Artistic Skills

Creativity takes many forms, such as mental creativity that is reflected in the form of ideas, theories, artistic product, music, story, or a creative poetry poem, and practical creativity, which is represented in quantitative forms such as mathematical expansion, arriving at a new equation, or setting a record in a particular game, and qualitative creativity, which is the application of a new or effective management of a talent. There is also a fourth form of creativity that combines the mental and practical form, which mixes theory and application, such as arriving at a new theory and putting it into practice in a particular field (Gülay and Özsevgeç 2017). In order to provide the appropriate climate for the development of innovative thinking, one must choose creative teaching methods that break traditional thinking patterns and stimulate the emergence

of new patterns that lead to the formation of new ideas and concepts. The SCAMPER strategy is one of the effective strategies in generating ideas and developing innovative thinking among students with learning difficulties, and it depends on the use of a set of directions and questions that stimulate ideas in order to add new components to things that already exist or modify them, and the SCAMPER strategy raises questions that stimulate ideas that help overcome challenges. It is easy to use and powerful at the same time towards achieving goals (Hussain 2018).

The creative climate of the idea generation strategy (SCAMPER) is characterised by releasing the freedom of thinking and imagination of the learners, generating the largest amount of ideas, building on the ideas of their colleagues and developing them, and giving them enough opportunity to raise questions while avoiding criticism of their ideas or evaluating them until they reach a solution to the problem at hand (Eberle 1997; Al Qudah 2018; Alzoubi 2021).

The idea generation strategy (SCAMPER) aims to help learners generate new or alternative ideas. It is a tool for creative and divergent thinking, where each letter of the word SCAMPER represents an area in which questions are asked that require them to think SCAMPER in depth (Eberle 2008; Gündogan 2019).

Due to the scarcity of studies that have used SCAMPER in the Egyptian environment to develop creative technical skills among pre-school children, the importance of the current study, which aims to develop an artistic activities program based on SCAMPER strategy and assess its effectiveness in developing artistic skills among kindergarten children.

Hypothesis

The study tries to test the following hypothesis:

H1: There will be a differentiated effect of the creativity strategy between the two groups in TCT-DP scores in post-test in favour of the experimental group.

METHODOLOGY

Participants

Fifty five-year-old children attending two kindergartens located in Kafr El Sheikh Governate, Egypt, were recruited to participate. The two schools with the similar socio-cultural environment, according to the area supervisor's view, were selected. With a simple random sampling method, a school experimental group (25 children) from Amira School and a control group (25 children) from Al Shahabia School were selected. In the experimental group, there were 15 females and 10 males, while, in the other group, there were 12 boys and 13 girls.

Measure

The Test for Creative Thinking-Drawing Production (Urban and Jellen 1996) was used in this study. It takes 15 minutes. Assessment using the TCT-DP includes 14 criteria in a Creative Thinking Test (Urban and Jellen 1996; Urban 2004, 2005). Urban (2004) reported good interrater reliability of TCT-DP.

Procedures

A pretest was applied to determine children's level of TCI-CF before manipulation was carried out. There was no significant difference between the two groups in the scores in TCI-CF ($p > 0.05$). Children from two classes, taught by the same female teacher, were randomly assigned to the experimental and control groups. The researchers, after the principal's and the teacher's permissions, attended classes with the children to be familiar with them. The researchers could make a manual for activities to be applied to children adopted from the book entitled SCAMPER by Eberle (2008). The researcher, with the help of two other colleagues from English department, could translate the activities into the Arabic language. Children in the experimental group were exposed to the adopted activities for 30 minutes a day.

Data Analysis

The control group were not exposed to these activities, and were attending their normal, everyday classes. After completing all the program sessions, post-test were carried out for the children in the experimental and control groups to determine their level of TCT-DP after the program administration.

A pre-test-post-test evaluations with experimental and control groups were employed.

RESULTS

Table 1 shows data on ANCOVA analysis for the differences in post- test mean scores between experimental and control groups in TCT-DP scores. (F) value was (96.743) and it was a significant value at the level (0.01).

Table 1: ANCOVA analysis (TCT-DP Scores)

Source	Type III sum of squares	df	Mean square	F	Sig.
Pre Group	4.322	1	4.322	96.743	0.01
Error	374.363	1	374.363		
Total	143.178	47	3.870		
	544.400	49			

Source: The authors

Table 2 shows t-test results for the differences in post-test mean scores between experimental and control groups in TCT-DP scores. As shown in the table, the experimental group outperformed the control group. The difference was significant at 0.01 level.

Table 2: t-test results (TCT-DP Scores)

Group	N	Mean	St. deviation	t	Sig.
Experimental	25	15.95	1.79	10.112	0.01
Control	25	9.65	2.13		

Source: The authors

DISCUSSION

The aim was to investigate the effectiveness of an artistic activities program based on SCAMPER strategy in developing artistic skills among kindergarten children. The results showed a significant difference in favour of the experimental group. SCAMPER's in-depth answers to the questions lead to the identification of potential options for changes to an existing product, procedure, or problem in a systematic and organised manner. All available solution options are examined through brainstorming. To arrive at the most appropriate, the list is used throughout the problem-solving process (Kaytez and Güngör 2016). The findings of this study go in the same

line with Efthymia and Anastasios (2013) in that environmental art, and refers to the association of art with nature, shows the extent to which art is linked to things and materials found in nature, such as leaves, wigs, pebbles, rocks, sand, and shellfish. In his studies, children have an opportunity to create and experiment through artistic expression. Al-Saidi (1992) also proved that there is a direct relationship between the growth of the child's innovative thinking and the child's practice of artistic education activities that include construction and composition, decoding and merging, forming printing, colouring, planning, drawing, the child's practice of art activities, and plastic arts (handicrafts, printing, copying, colouring).

The reason for the increase in the post-test scores of TCT-DP for the children of the experimental group may be due to the technical activities program, and this was confirmed by the study (Rajai 2007), which proved the role of artistic activities in developing the aesthetic sense of children, as well as the study by Al-Saidi (1992), which emphasised that there was a positive relationship between the growth of the child's innovative thinking and the child's practice of artistic education activities (that include construction and composition, disassembly and merging, shaping, printing, colouring, planning, drawing) and the child's practice of plastic arts activities (handicrafts, printing, copying, colouring their taste for these arts) while supporting it by using educational methods in this field leads to a distinctive growth through art, which is a growth in artistic vision.

According to Alzayat (2014), Kaytez and Güngör (2016) and Brown and Johnson (2008), the development of creative abilities is one of the most important educational goals that all educational institutions seek to achieve, and innovation does not mean the production of something new out of nothing, but it means the learner's experiences with rearranging and organising their information in a new way that makes them able to produce original models for that, the innovation process is the outcome of a complex group. It is intertwined with complex cognitive, skill, and emotional processes. It includes remembrance, understanding, application, analysis, deduction, inference, analysis, curiosity, and love of adventure.

Integration of SCAMPER strategy with current programs adopted in the kindergartens may significantly contribute to develop artistic skills among kindergarten children. Moreover, when SCAMPER training ends, teachers should assess and discuss the effect of SCAMPER technique on children. Teachers themselves can be trained in SCAMPER technique. During the intervention, the researchers observed that children could not move comfortably due to the narrow space of the classroom while SCAMPER strategy needs a wider environment.

CONCLUSION

SCAMPER is a process for finding and making new ideas. It is a process for finding and making new ideas. SCAMPER contributes to the development of creative thinking and imagination, and this is done either by providing programs and activities that aim to teach thinking independently of the regular curricula, and to be a single approach as an independent enrichment program for the development of creative thinking, or by providing activities and indirectly developing creative thinking and providing. The strategy is within the content of the regular curriculum, and the owners of this trend believe that mental operations are learned in this direction through teaching using the SCAMPER strategy.

RECOMMENDATIONS

Researchers can adopt and apply other existing techniques, rather than SCAMPER strategy to improve artistic skills among kindergarten children and new techniques can also be developed. Different activities such as drama, telling a story, and games can be applied as well to the children. Different techniques for improving artistic skills among kindergarten children can be compared.

FURTHER RESEARCH

This study relied on the SCAMPER strategy, which measures artistic skills among kindergarten children. The value of this study lies in the type of kindergarteners from which data were gathered. Future research efforts could develop other sub-skills known to be important to creativity.

CONFLICTS OF INTEREST

The author declares that she has no conflicts of interest.

ACKNOWLEDGEMENT

The authors would like to thank Deanship of Scientific Research at Northern Border University for supporting this work under Project Number SAT-2019-1-10-F-8172.

REFERENCES

- Alawad A 2012. Can we bring the natural environment into the art classroom? Can natural sound foster creativity? *Educational Research and Review*, 7(28): 627-631. DOI: 10.5897/ERR11.167.
- Al Faras F 2011. *Developing Emotional Intelligence Skills by Using Artistic Education Activities for a Sample of Behaviorally Disturbed Children*. Master Thesis. Helwan, Egypt: Department of Art Education Sciences, College of Art Education, Helwan University.
- Al Qudah F 2018. The effectiveness of using generate ideas (SCAMPER) on improving ninth grade students, writing skill a Wadi El Sir School in Jordan. *Journal Education and Practice*, 25(2): 67-83.
- Al-Saidi M 1992. *The Impact of the Artistic Vision and Practice as an Entry Point for the Growth of Innovative Thinking through Designing an Educational Bag for Preschool Children*. MA Dissertation, Unpublished. Minia, Egypt: College of Education, Minia University.
- Altıparmak T, Eryılmaz-Mustu O 2021. The effects of SCAMPER technique activities in the 8th grade simple machines unit on students' academic achievement, motivation and attitude towards science lessons. *International Journal of Educational Methodology*, 7(1): 155-170. <https://doi.org/10.12973/ijem.7.1.155>
- Al Sers A 1999. *Teacher Guide to Develop Mathematical Skills for Kindergarten Children at the First Level in Kindergarten*. Ministry of Education, Kindergarten Administration. Cairo: Al Shorouk Press.
- Alzayat MN 2014. The Development of Creative Thinking in Preschool Teachers: The Effects of SCAMPER Program. *International Journal of Psycho-Educational Sciences*, 6(3): 81-87. From <<https://www.perrjournal.com/index.php/perrjournal/article/view/360>> (Retrieved on 13 May 2022).
- Alzoubi A 2021. The Effectiveness of SCAMPER Strategy in Enhancing Gifted Students' Habits of Mind and Achievement Motivation. *International Journal of Innovation, Creativity and Change*, 15(7): 885- 901. From <www.ijicc.net> (Retrieved on 13May 2022).
- Brown J, Johnson S 2008. Childrearing and child participation in Jamaican families. *International Journal of Early Years Education*, 16: 31-40. <https://doi.org/10.1080/09669760801892110>

- Eberle B 1997. *SCAMPER*. Texas: Prufork.
- Eberle B 2008. *SCAMPER: Creative Games and Activities for Imagination Development*. Waco, TX: Prufrock Press.
- Efthymia, K, Anastasios X 2013. Environmental policy, first nature advantage and the emergence of economic clusters. *Regional Science and Urban Economics* 43(1): 101-116. DOI:10.1016/j.regsciurbeco.2012.05.006
- Gülay A, Özsevgeç LC 2017. Determining the Creative Thinking Levels of Fourth Grade Students at Primary School: Qualitative Research Report. *Psycho-Educational Research Reviews*, 6(2): 48-60. From <<https://perrjournal.com/index.php/perrjournal/article/view/275>> (Retrieved on 12 June 2022).
- Gündođan A 2019. The test of creative imagination: Making the test suitable to the age group of 5-6 years. *Early Child Development and Care*, 189(8): 1219-1227. <https://doi.org/10.1080/03004430.2017.1372429>
- Hussain M 2018. Fourth graders make inventions using SCAMPER and animal adaptation ideas. *Journal of STEM Arts, Craft, and Constructions*, 1(2): 48-66.
- Hayes N, Maguire J, O'Sullivan C 2021. Professional development in Arts Education for early childhood education: A Creative Exchange Model. *IJEC*, 53: 159-174. <https://doi.org/10.1007/s13158-021-00290-y>
- Kaytez N, Güngör Aytar A 2016. Analysis of the effect of SCAMPER Education Program on five-year-old children's creativity. *Journal of Human Sciences*, 13(3): NNN-NNN. doi:10.14687/jhs.v13i3.4037
- Khalaf A 1996. *A Proposed Program to Provide Kindergarten Children from (5-6) Years with Geographical and Historical Concepts*. MA Dissertation, Unpublished. Ain Shams, Egypt: Ain Shams University, Girls' College - Child Education Department.
- Khalil A 1999. *Technical Activities Guide for Kindergarten Children*. Cairo, Egypt: El Shorouk.
- Kanani M 2011. *Readings in the Child's Creativity*. Amman, Jordan: Dar El Masera.
- Peter P 2021. *Development of Scientific Concepts and Skills for Preschool Children*. Amman, Jordan: Dar El Masera.
- Rajai A 2007. *Designing a Portfolio for Artistic Activities to Develop a Kindergarten Child's Aesthetic Sense in the Light of Some Personal and Social Variables*. PhD Thesis. Cairo, Egypt: Girls' College.
- Qurayti A 1995. *Psychology of Children's Drawings*. Cairo, Egypt, Dar El Nahda.
- Rajaei A 2007. *Designing a Bag For Artistic Activities to Develop the Aesthetic Sense of Kindergarten Children in Light of Some Personal and Social Variables*. Doctorate, Unpublished. Ain Shams, Egypt: Ain Shams University, Girls' College - Department of Child Education.
- Rimawi M 2014. *The Psychology of Childhood and Adolescence Development*. Amman, Jordan: Dar El Masera.
- Urban KK, Jellen HG 1996. *Test of Creative Thinking: Drawing Production: TCP-DP*. Thurston Granary, Station Hill, Thurston, Suffolk, IP31 2QU, England.
- Urban KK 2004. Assessing creativity: The Test for Creative Thinking-Drawing Production (TCT-DP) - The concept, application, evaluation, and international studies. *Psychology Science*, 46(3): 387-397.
- Urban KK 2005. Assessing creativity: The Test for Creative Thinking-Drawing Production (TCT-DP). *International Education Journal*, 6(2): 272-280.

Paper received for publication in February, 2022
Paper accepted for publication in June 2022