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The Effectiveness of Using Educational Pillars in Kindergartens and their Impact on Developing Creative Activities among Kindergarten Children in Raising the Marka Brigade

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Abstract

The current research aims to understand the efficiency of using educational pillars in kindergartens and their impact on the development of creative activities among kindergarten children in Liwa Marka education. The research sample included 120 children, male and female, who were purposefully selected from 11 government and private kindergartens in Amman, Marka District, with 60 male and female children from each type of kindergarten (using educational corners and regular kindergartens), where half of the sample was male and the other half was female. A form was prepared to collect data and a field survey was carried out to identify kindergartens that use educational corners. The test of the formal part of the Torrance Test for Creative Thinking was also applied, after extracting the implications of stability and correction stability. After analyzing the data statistically using two-way analysis of variance, the research reached the following results: There are statistically significant differences at the level of (0.01 ≥α) between the average scores of children who attend kindergartens that use educational corners, and the average scores of children who attend regular kindergartens in aspects of developing creative activities, as the results were supportive of the effectiveness of using educational corners in this regard. There are no statistically significant differences at the level of (0.01 ≥α) Gender in all aspects of the development of creative activities, due to gender. There is no statistical effect that is considered significant for the interaction between the variables of kindergarten type and gender in their impact on the development of creative activities. Based on the research results, the researcher presented a number of conclusions and recommendations.

Keywords: *Effectiveness, Educational Pillars, Kindergartens, Creative Activities.*

Introduction

Childhood is considered one of the most important stages in shaping an individual's personality, as inclinations and trends grow, abilities develop, and skills and knowledge are acquired. This stage determines the child's development path in the physical, mental, social and emotional aspects, based on the influences surrounding him from the cultural, social and educational environment. This environment provides opportunities for the child to discover himself and achieve his personal ambitions.

Child care is one of the most important standards that determine the progress of nations and societies. Paying attention to childhood in general, and early childhood in particular, is considered a cultural necessity for developing countries, given the modern scientific and technological challenges they face. In his book Emile in 1762, Rousseau emphasized the

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importance of preschool education, noting that the sensory senses were considered the primary basis for the acquisition of knowledge.

Stalozzi was interested in early education, and was influenced by Froebel in the early nineteenth century, who gave great importance to play and games in the education of kindergarten children. Therefore, the educational system must look for diverse methods to educate children at this stage. He must also provide an educational environment appropriate to the child's age and mental and temporal aspirations, such that it arouses his attention and enhances his desire and motivation to learn and explore.

A study conducted by Muhammad in 2021 confirmed that the kindergarten stage is considered a crucial period for the development of a child's senses, abilities, inclinations, and trends. The study indicated that this stage effectively contributes to developing children's thinking abilities by paying attention to developing their senses and mental abilities. The study recommended that the best way to teach children to think is by training their senses, as these senses are considered the gateway that helps absorb knowledge and feelings and enter them into their minds. Therefore, the primary goal of focusing on developing a child's senses is to develop his or her thinking abilities (Muhammad, 2021).

In 2021, many researchers such as Al-Fariji have called for kindergartens to be designed not only for the purpose of education but also to promote thinking. Al-Derini in 2016, Abdel-Fattah in 2021, and Al-Adini in 2016 also pointed out that the child has an immediate ability to create because he is born with a high level of readiness. Childhood is considered a vital period for the development and discovery of creativity.

From the above, we note that the kindergarten stage is considered essential in the educational process, during which the child acquires basic knowledge, skills, and attitudes that enable him to interact with his small environment at home and in the neighborhood. The results of some studies conducted by Al-Fariji in 2021, Abu Al-Shamat in 2017, and Al-Murtada in 2019 proved that kindergarten has an effective role in developing creative activities.

Based on the importance of kindergarten in developing creative activities, most educational systems in many countries have given great importance and attention to this stage. This is done by providing appropriate infrastructure, such as buildings, equipment, arenas, rooms and necessary tools, to create educational environments that help children grow and learn effectively.

Developing a child's creativity requires an environment rich in stimuli that contributes to the proper development of mental abilities through the use of modern scientific programs and methods in the kindergarten stage. This helps expand the child's awareness and develop his mental abilities creatively. The Hyena study (2022) showed that there is a correlation between the kindergarten environment and the abilities to develop creative activities in children.

The environment for effective use of educational corners is an environment rich in stimuli, as it arouses the child's curiosity and desire to explore. This environment consists of corners in a spacious room equipped with low, open shelves, equipped with various materials and activities that suit each corner, enabling the child to participate in learning activities on his own without the need for constant nanny intervention. These various activities and materials that the child interacts with individually are designed to achieve specific educational goals, and include a variety of options such as games, applications, tools, and educational aids with varying difficulty levels, in addition to stories designed specifically for children (Al-Houli and Gohar, 2021).

Learning through the effective use of educational corners depends primarily on the child's activity in this environment, through which he satisfies his love of discovery and exploration, gets acquainted with an environment similar to his natural environment, and learns according to his abilities and capabilities, which increases his motivation and activity towards the learning and production process. This environment also contributes to his acquisition of a wide range of intellectual and motor skills, and contributes to the formation of some moral values such as respect for the property of others, accuracy, order, calm, and cooperation in order to complete tasks successfully.

Most educational systems in many countries have moved towards enhancing interest in the educational and pedagogical environment by setting special standards and specifications. These standards include health and educational conditions, as well as security, safety, and school location. In addition, these standards include specifications for architectural models, equipment, and educational toys. Most experts in the field of early childhood stress the importance of providing specialized educational nooks and corners that enhance learning through play and processing stimuli. It is recommended that the toys available be carefully selected to suit the growth and development characteristics of children, including their ages and developmental levels. These corners should be distributed along the sides of the classroom, allowing a central space for large group activities, such as morning circles and end-of-day assessment and wrap-up sessions. In addition, it is recommended to include songs for finger movement and story telling (Tarawneh,2021).

Therefore, the use of the Educational Corners Effectiveness program has spread widely in many kindergartens in various countries, including Syria, Kuwait, Saudi Arabia, and Jordan. This spread is due to the great importance that the pillars play in the daily program of work in kindergartens, as the pillars are considered a basic pillar for achieving the goals of the kindergarten curriculum.

Based on its awareness of the importance of early childhood programs in establishing the foundations for learning later in the educational stages, the Ministry of Education expanded the scope of establishing kindergartens in public schools, by directing efforts towards remote areas that desperately need this service. The Ministry also established a number of kindergartens attached to some schools, equipped with educational corners designed to provide a flexible environment that enables children to interact and learn freely, which enhances their sense of belonging to one group (Al-Balawna and Tarawneh, 2023).

Research Problem:

In modern curricula, the child occupies a central place and activities are designed around his needs and interests. These curricula focus on enhancing the child's self-activity and developing his spirit of experimentation, experimentation, and discovery. It also encourages free play and excludes the idea of coercion and coercion, focusing instead on flexibility, creativity, innovation and inclusion. To achieve these goals, it is necessary to provide an educational environment rich in stimuli, and this environment can be achieved by using the effectiveness of educational pillars.

Many scientific studies, such as...Vangham & Pattillo (2020), the Ingraham study (2019), the Saleh study (2019), the study of Al-Houli and Jawhar (2021), Al-Khalili (2021), Al-Jabri (2016), and Al-Amari and Al-Khamisi (2019), stating that using educational pillars effectively contributes to the development of... Comprehensive aspects of child development.

Despite the progress Jordan has witnessed in the field of education in general, kindergarten, or what is known as pre-school education, still faces various challenges. There is a clear difference between educational institutions in this sector, whether with regard to infrastructure or physical, administrative, educational and health components. This was confirmed by many previous studies in Jordan, such as the study of its factors (2015), the study of Sawalha (2016), the study of Al-Momani (2018), and the study of Matar et al. (2019). These studies show that some kindergartens do not have the required effectiveness, as they suffer from a lack of infrastructure such as buildings, facilities, playgrounds, and equipment. It also indicates the absence of unified and modern curricula, in addition to a shortage of administrative staff and specialized teachers. This disparity in available capabilities leads to a clear disparity in the quality of services provided, including the development of creative activities and the mental and cognitive aspects of the child in kindergarten.

Based on the results and recommendations of previous studies, and the results of field visits conducted by the researcher and the female trainees to a group of private and private kindergartens in Amman, Marka District, the services available in these kindergartens were evaluated. The results revealed a discrepancy in the services provided, which leads to a discrepancy in the level of interest in aspects of child development in general, and the development of creative activities in particular. Questionnaires evaluating the services available in kindergartens, especially the implementation of the program for the effectiveness of using educational corners, showed that a small number of kindergartens, whether governmental or private, have educational corners. The majority of kindergartens lack this aspect. Therefore, the topic of the current research stems from the need to understand the impact of the pillar environment on the development of creative activities among kindergarten children. The research aims to compare the level of development of creative activities among children in kindergartens that apply the effectiveness of the use of educational pillars, with the level of development of creative activities among children in regular kindergartens.

From this standpoint, the topic of the current research stems from the need to answer the following main question:

What is the effect of using educational corners effectively in kindergartens on developing children's creative activities?

Research Importance:

The importance of this research stems from the importance of childhood as a crucial period in shaping the child's personality and developing his creative abilities. This stage has become the focus of great interest for specialists in the field of childhood and pre-school education, and has become a major topic in various conferences, seminars and workshops at the local, Arab and international levels.

Based on the above, the importance of the current research is determined in the following points:

1. The effectiveness of using educational corners can provide a comprehensive and clear picture of the role it plays in developing aspects of a child's development in general, and promoting the development of his creative activities in particular.

2. It may help those responsible for kindergartens to contribute to improving and enhancing the kindergarten environment by adding cognitive stimuli that stimulate creativity.

3. Kindergarten workers may know the important role of pillars in promoting and developing creative activities in children.

4. It may be beneficial for those in charge of kindergartens to choose programs aimed at enhancing and developing creativity in children.

5. It may contribute to enriching the library of literature on childhood, and represents part of the balance in studies related to the role of the effectiveness of using educational pillars in developing aspects of child development in general, and developing creative activities in particular.

Search Goal:

The goal of the current research is to study the effect of the environment of effective use of educational corners on the development of creative activities among kindergarten children, taking into account gender differences.

Research Assumes:

The following hypotheses were derived from the main objective of the research:

1. There are no statistically significant differences between the average scores of children enrolled in kindergartens that use educational pillars effectively and the average scores of children enrolled in regular kindergartens in the components of developing creative activities.

2. There is no statistically significant difference between the genders in all aspects of developing creative activities.

3. There are no significant statistical effects attributed to the interaction between the variables of kindergarten type and gender with regard to the development of creative activities.

Search Lmits:

The scope of the current research is limited to children who attend kindergartens with effective use of educational components, in addition to children enrolled in regular kindergartens, who reside in the Marka District area in Amman. The children included in the study are between 5 and 6 years old, during the 2023-2024 academic year. The research includes children enrolled in kindergartens in the government and private sectors.

Definition of Terms:

The effectiveness of using educational pillars:

Al-Houli and Johar (2021) define it as: “small spaces in the classroom set aside, in which the child uses educational tools and materials to discover one or more areas of learning, in order to achieve individual learning based on satisfying the child’s individual needs.”(Al-Houli and Jawhar, 2021).

The researcher defines the effectiveness of using educational corners as specific corners with low barriers that make it easy for the educator to supervise and monitor them. They are characterized by being flat on the floor or located on the table, and each corner is considered an educational corner.

An Effective Environment for Using Educational Pillars:

Al-Houli and Jawhar (2021) defined it as: "A well-equipped environment that stimulates the child's curiosity to reveal its secrets. It consists of corners in the classroom with low and open shelves, on which various materials and activities are placed that belong to each corner so that the child can practice learning activities without the need for intervention." The parameter is constantly (Al-Houli and Jawhar, 2021).

The researcher defines the corner environment as an educational environment organized on the basis of various activities distributed in specific corners of the classroom. It is considered an environment for self-learning that contains educational materials, tools, and various sources for learning.

The staff environment contains several educational pillars, the most important of which are:

1. Library corner.
2. Artistic expression corner.
3. Cube corner.
4. Cognitive games corner.
5. Acting corner.
6. Research and exploration corner.

Developing Creative Activities:

Torrance (2018) defined creativity as "the process of recognizing problems and changes in information, forming ideas and assumptions, and then selecting and modifying these assumptions to reach results." While Obada (2019) describes creativity as "an individual's ability to produce that is characterized by the maximum degree of intellectual fluency and spontaneous flexibility." And authenticity and far-reaching repercussions, as a response to a provocative problem or situation" (Obadah, 2019). While Hong defines it (Honig, 2021) as "the generation of new ideas and products through intellectual interaction and increasing the conceptual distance between the individual and his or her experiences"; Sawafta (2018) describes it as "a complex and purposeful mental activity, driven by a strong desire to find solutions or develop new, previously unknown results. It is characterized by comprehensiveness and complexity because it includes interconnected cognitive, emotional, and moral elements that constitute an individual state of mind" (Sawafta, 2018).

The researcher defines it as a mental process that results in a number of unique ideas, represented by the diversity of answers produced that depart from the cognitive framework followed by the child.

The procedural definition is the total score that the child obtains on the Torrance Scale for Formal Creative Thinking, Image (B).

Skills for developing creative activities:

The researcher chose Torrence's definitions of skills for developing creative activities because they were approved in the test.

- Fluency: Torrance knowsFluency is defined as: “the ability to recall the greatest amount of appropriate ideas in a specific period of time for an exciting problem or situation.”

- Flexibility: Torrance defines flexibility as: "the ability to produce appropriate solutions or forms. These solutions are characterized by diversity and non-stereotyping. It is also the ability to change the situation for the purpose of generating new and diverse solutions to stimuli or problems."

- Originality: Torrance defines originality as: “the ability of an individual to give an idea that is new and outside the scope of the ordinary or contrary to what is common” (Al-Fariji, 2021).

The Operational Definition of Fluency, Flexibility, and Originality Is:

- Fluency: The degree a child obtains by counting the number of ideas presented minus the repeated responses.

- Flexibility: It is the degree that the child obtains by counting the number of areas to which the proposed ideas belong.

- Originality: It is the score that a child obtains by sorting out the rare ideas he has drawn that no one has preceded him to do. The less common the idea is, the greater the degree of its originality. It is calculated according to its repetition in the correction guide. The children’s scores range between (zero and three degrees) depending on the rarity and frequency of the response.

Previous Studies:

Al-Murtada (2019) conducted a study aimed at identifying the impact of the kindergarten level on developing creative activities among first-grade students in the capital Sana’a. The study included a sample of 150 male and female students between the ages of 6 and 7 years. The sample was divided into three groups; The first group is of children graduating from a high-level kindergarten, the second group is of children graduating from a lower-level kindergarten, and the third group is of children graduating from a low-level kindergarten. The results of the study showed that there were statistically significant differences between the average scores of children in the high and low levels in favor of the high level, as well as between the average scores of the medium and low levels in favor of the medium level. As for the interaction of the variables of kindergarten level and gender, the results of the study did not show statistically significant differences between the average scores of children according to this interaction in developing creative activities.

Abu Al-Shamat's study (2017) aimed to explore the effectiveness of using children's stories as a source of artistic expression in developing the creativity abilities of pre-school children. A sample of 32 boys and girls in the age group between 5 and 6 years was selected. The sample was divided into two groups, where the experimental group was exposed to a narrative program while the control group was not exposed to this program. The results of the study showed that there were statistically significant differences between the average scores of the children of the experimental and control groups in all aspects of creativity development, in favor of the experimental group.

Al-Shammari’s study (2021) conducted research to determine the effectiveness of a training program in developing the creative abilities of kindergarten children in Kuwait. The study

focused on understanding the extent to which the use of story presentation and role playing affects the development of creativity abilities among this age group. The study sample included 90 children aged between 5 and 6 years from kindergartens in Kuwait. The results of the study showed that there were statistically significant differences between the pre- and post-tests in all aspects of developing creative activities in favor of the experimental group.

Al-Eidani (2021) conducted a study with the aim of understanding the impact of providing activities and learning materials on developing the creative abilities of kindergarten children in the United Arab Emirates. The study sample included 60 boys and girls, aged between 4 and 6 years. The sample was divided into two groups, where the experimental group was exposed to activities and learning materials designed to develop creative abilities, while the control group was not exposed to these activities. The results of the study showed that there were statistically significant differences between the scores of the children of the experimental group and their peers in the control group in the abilities to develop creative activities in favor of the experimental group.

Rajeh (2018) conducted a study to examine the effect of using educational games on the development of creative abilities (fluency, flexibility, originality) among kindergarten children in Cairo. The study sample included 75 boys and girls, aged between 5 and 6 years. The sample was divided into three groups, where the first experimental group studied the educational games program in a free manner, while the second experimental group studied educational games under the supervision and guidance of the teacher. The third group was studied in the usual traditional way as a control group. The results of the study showed that there were statistically significant differences between the two experimental groups in developing creative abilities, in favor of the experimental group that studied in the free-play method. The results also showed that there were statistically significant differences between the three groups in favor of the two experimental groups in developing creative activities.

The Hyena study (2022) aimed to determine the relationship between some environmental factors, which are expressed through the variables of the kindergarten environment and the cultural level of the child's family, and intelligence on the one hand, and innovative thinking abilities on the other hand. The sample for the study included a group of children, numbering 600 kindergarten children in the city of Cairo, whose ages ranged between 4 and 6 years. The researcher relied on several tools, including a drawing test to measure intelligence, the Torrance Test for Creative Thinking, the Family Cultural Level Scale, and the Kindergarten Environment Scale. The results of the study showed a relationship between the variables of the kindergarten environment and innovative thinking abilities.

PAC-MAN performed (Bachman, 2017) conducted a study with the aim of identifying the effect of playing different types of computer games on the development of creative abilities in America. The study sample consisted of 40 boys and girls, between the ages of 6 and 8 years. The sample was divided into two groups, where the experimental group trained on computer games while the control group did not receive this training. When comparing the difference scores between the two groups in developing creative abilities (fluency, flexibility, originality), it was found that the experimental group was statistically superior to the control group.

The topic of the impact of the kindergarten environment, including various programs and events, has attracted the interest of many previous studies. Among these studies was the Post study (Post, 2016) which aimed to identify the trends of pre-school programs in developing the innovative ability of children in America. The study also aimed to compare the innovation capabilities of

children in classes that encourage activities based on children's principles with classes that encourage the practice of activities directed by the educator (the traditional method). The study sample amounted to 70 children, male and female, between the ages of 5 and 6 years. 35 children were selected from classes that encourage activities based on children's principles, and 35 children, male and female, were selected from classes that encourage the practice of activities directed by the nanny. The results of the study showed that there are fundamental differences in the ability to innovate between the evaluation scores of kindergarten programs that are high and low in capabilities, as well as between the scores of children in classes that encourage activities based on children's principles and traditional classes in favor of classes that encourage children's principles. While the results did not show significant differences between males and females in innovation capabilities.

After reviewing previous studies, it becomes clear that each study used various activities, games, and programs, which are considered different types of educational pillars. These pillars contribute to the development of aspects of child development in general, and promote the development of creative activities in particular.

Research Methodology and Procedures:

Research Methodology:

The current research is classified as a retrospective study, as it analyzes the impact of previous experiences that children went through without intervention or change by the researcher, and without him having the ability to control those experiences, whether in terms of quantity or quality.

Retrospective studies are research in which the researcher analyzes the effects of specific behaviors or events in a systematic and organized manner, without interfering in or changing them, and without having the ability to control them. In these studies, the researcher aims to study the differences that exist between individuals at the present time, and benefits from previous variables or differences before the start of the study, by using them in forming the studied groups, whether experimental or control, within the field of study.

Since the primary goal of this research is to understand the influence of the pillar environment on the development of creative activities, it is necessary to make a comparison between two groups of children in the development of creative activities. The first includes children enrolled in kindergartens who benefit from an effective environment to benefit from the educational pillars. While the second includes children enrolled in kindergartens that do not have educational corners (i.e. halls or small rooms prepared for teaching). A follow-up test will be conducted after a period to evaluate the effect of the experience gained from the educational staff environment (the independent variable) on the development of creative activities (the dependent variable).

Research Community:

The research population includes all children registered in public and private kindergartens in the Marka district of Amman. According to Ministry of Education data for 2021, their total number is 40,599 boys and girls.

Riyadh Sample:

The sample was selected from among 11 kindergartens in a purposive manner, based on the form developed by the researcher to evaluate the effectiveness of the use of educational corners in each kindergarten. The kindergartens that effectively used educational corners and the kindergartens that did not have these corners (and instead used small halls or rooms) within the school were selected.

Based on the questionnaire, five sports were selected that had educational pillars, and six sports that did not have educational pillars. Table 1 shows this distribution.

Names of kindergartens that do not contain educational pillars	Names of kindergartens that contain educational pillars
First international kindergarten.	Kindergarten of heroes:
Horizon Private Kindergarten.	Al-Nasr Kindergarten:
Baraem Al-Aqsa Kindergarten.	Roqaya kindergarten:
Al-Alia Schools Kindergarten.	Miss Shahad Kindergarten:
Al-Fayhaa Basic School Kindergarten.	Al-Bayda Al-Shamali Kindergarten
Al-Hatmiyeh Mixed Kindergarten.	

Table (1): The Riyadh Sample Was Selected from the Amman Region of Marka District.

Children Ssample:

The research sample was selected from among 120 male and female children in the preschool class, aged between 5 and 6 years, using the purposive selection method. These children were selected from a variety of sports that were ranked using a sport identification form. The children were divided into two groups, where half of them come from kindergartens that effectively use educational corners, while the other half come from kindergartens that do not have educational corners. A balance between the number of males and females was taken into account in the selection, according to Qandalji (2018), where the sample is chosen completely freely by the researcher according to the nature and purpose of the research (Kandalji, 2018: 153).

Table No. (2) shows this

Kindergartens that contain the effective use of educational pillars				**Riyadh makes effective use of educational pillars**			
sum	**Females**	**Males**		**sum**	**Females**	**Males**	
10	5	5	First International Kindergarten:	12	6	6	Kindergarten of heroes:
10	5	5	Horizon Private Kindergarten:	12	6	6	Al-Nasr Kindergarten:
10	5	5	Baraem Al-Aqsa Kindergarten:	12	6	6	Roqaya kindergarten:
10	5	5	Al-Alia Schools Kindergarten:	12	6	6	Miss Shahad Kindergarten:

Kindergartens that contain the effective use of educational pillars				**Riyadh makes effective use of educational pillars**			
10	5	5	Al-Fayhaa Basic School Kindergarten	12	6	6	Al-Bayda Al-Shamali Kindergarten
10	5	5	Al-Hatmiyeh Mixed Kindergarten:				
120	30	30	the total		30	30	the total

Table (2): Distributing the Sample of Children to Kindergartens

* A preliminary questionnaire was designed to identify the kindergartens that include educational corners and to clarify the nature and number of these corners, in addition to identifying the kindergartens that do not contain educational corners and describing the tools, methods, and games available in the educational halls. This form was filled out by female field training students in the child education major.

Search Tool:

The Torrance Test for Creative Thinking in the formal form (Model B) of drawing circles was chosen because it is suitable for children in the age group from three to seven years, and it also has a high level of validity and reliability (Qatami and Ashar, 2017: 109).

Since the test uses drawing as a means of answering, it is considered suitable and popular among children aged (5-6) years, due to its simple presentation and ease of use by them.

The test consists of 36 circles of equal size distributed on two consecutive pages, and the tester is asked to draw as many pictures as possible in the allotted time, which is ten minutes. Circles should be the main part of his drawings, and the tester can add pencil lines, either inside or outside the circle, to complete the picture or shape as he sees fit. After that, he is asked to put an unconventional title that expresses a new idea under each picture. Three types of assessments are given for this activity: fluency, flexibility and originality. The sum of these scores in the three activities represents the total score for creativity.

To Apply the Reconnaissance Test:

The researcher applied the test to a small sample of (10) children from the preschool classroom in Baraem Al-Aqsa Kindergarten, and its aim was to find out the following:

1. Knowing the optimal classroom climate for the final application, including the appropriate number of children in the hall.
2. How to deliver instructions, and the time required for this.
3. The time the test takes is appropriate for this age group.
4. The appropriate vocabulary that the trainee must use while applying the test.
5. What difficulties or other obstacles the trainee may face during the final application.

After conducting the exploratory application, the researcher reached conclusions that later became controls or work guides that the trainees followed during the final application, which are:

1- It is necessary to provide a quiet and not crowded atmosphere, as the researcher decided that the appropriate number of children during the application of the selection should be from (8-10) years, and that they should sit separately.

2- The teacher must suggest to the children that she intends to do one of the fun activities or games, and that she deems it necessary for the hall teacher to be by her side while administering the test to exclude feelings of fear or anxiety among the children.

It is also shown that the appropriate time for giving instructions is 5 to 7 minutes, and the total time taken to take the test with instructions is 20 minutes.

Test Stability:

The repetition method was used to determine stability, which is considered one of the best ways to estimate stability, where the test is applied to a group of individuals, and then the same test is re-applied to them after a period of time, which usually ranges from two to four weeks, and the current research has adopted this method. method. The test was applied to a sample of children consisting of 20 boys and girls, selected from Baraem Al-Aqsa Kindergarten, and the test was re-administered two weeks after the first application. The reliability coefficients for the test components were: fluency (0.825), flexibility (0.878), and originality (0.762), and these ratios were considered appropriate for research purposes.

Patch Stability:

This method relies on the researcher re-scoring the answers of a small group of individuals on specific tasks or tests, with another person re-scoring the same test using the same scoring criteria used the first time. Then the transfer coefficient is calculated between the results of the two tests in order to ensure agreement between the two scorers (Abdel Hamid, 2020).

The researcher extracted the stability of the correction:

The answers of 15 boys and girls were re-corrected by the researcher, and the Pearson correlation coefficient was calculated (Pearson coefficient correlation) between the two corrections. The reliability coefficients for the test components were as follows: fluency (0.810), flexibility (0.799), and originality (0.849).

Tool Application:

After identifying the kindergartens that contain effective educational pillars and the regular kindergartens, the tool was applied to the children.

The researcher prepared the children psychologically and told them that the activity they would do was just a game, then she presented them with the test instructions and explained how to answer it. After that, I distributed the test sheet to the children and asked them to start drawing. She also answered any questions they asked. When the allotted time expired (10 minutes), I asked them to hand in the test paper.

Correction Procedures:

After the researcher reviewed some guides related to test marking, such as the marking guide prepared by Al-Hiti and colleagues (2019) and the marking guide prepared by Al-Murtada (2019), the researcher trained herself on the test marking process. After that, the researcher prepared her own guide for the correction process.

Before starting the correction, the researcher did the following:

1- Limit drawings and exclude repetitive ones.

2- Ignoring drawings that were not understood or were not clear.

3- Examining titles that were not well related to drawing and neglecting those that did not indicate drawing.

4- Identify drawings that have the same title and consider them as one drawing.

Fluency Correction:

The child's fluency score is calculated after collecting the number of ideas and drawings that the child presents on the test paper, then repetitive responses and responses that are not related to the subject of the test are excluded before determining his score.

Flexibility Correction:

The child's degree of flexibility is calculated based on the number of categories or areas in which his thinking and responses appear. If it is found that all of the child's drawings fall within one category or field, he will be awarded one grade. In the event that there are drawings that vary in different fields, two grades are given, and thus the degree of flexibility is determined for the child based on the number of diverse categories in which his thinking and perceptions appear.

Originality Correction:

The child's originality score is calculated by sorting the concepts he presented in his drawings, and determining the frequency of each concept in the correction guide. When a response was more than 10% frequent, it was given a score of zero. If a response occurred between 5% and 9.99%, it was given a score of 1. If the response occurred between 2% and 4.99%, it was given two marks. Finally, if a response was less than 2% frequent, it was given a score of three.

Points have been added to the degree of originality when a child combines two or more circles in his drawing, as the encouraging scores are combined with the scores the child receives. Therefore, the total score for originality is the sum of the scores obtained from this activity.

Test scores are then collected for each child and include the fluency score, flexibility score, and originality score. After that, the total score for creative thinking is extracted by summing these scores. This procedure is done for the purpose of comparing the average scores of children enrolled in a kindergarten with effective use of educational pillars and the average scores of children enrolled in a regular kindergarten.

Data Processing:

Data were processed to verify the hypotheses using the Statistical Package for the Social SciencesSPSS. Data were entered and statistically analyzed using a variety of the following statistical tools:

1. Pearson correlation coefficientPearson to find the reliability coefficient.

2. Two-way analysis of variance(Tow-way ANOVA) to determine the differences between the two groups and to determine whether there is a significant interaction between the variables of kindergarten type and gender.

Presentation and Discussion of Results:

Before verifying the hypotheses, the researcher extracted the arithmetic means and standard deviations for each component of the test, including fluency, flexibility, and originality, in addition to the total score. It also calculated two variables: kindergarten type (with educational pillars, without educational pillars), and the gender variable (males, females).

The research results presented in Table (3) showed that the average score of children enrolled in kindergartens with the effectiveness of using educational pillars in the creative activities development test reached (34.966), with a standard deviation of (3.284). While the average score of children enrolled in regular kindergartens on the test as a whole was (9.683), with a standard deviation of (5.260).

standard deviation	SMA	highest value	lowest value	the number	Tool components	Kindergarten type
4.872	16.083	25.00	7.00	60	Fluency	With educational pillars
2.604	9.383	16.00	5.00	60	Flexibility	
3.196	9.500	16.00	3.00	60	originality	
9.284	34.966	55.00	15.00	60	Total marks	
2.535	4.683	14.00	1.00	60	Fluency	Without educational pillars
1.671	3.233	9.00	1.00	60	Flexibility	
1.358	1.766	7.00	0.00	60	originality	
5.260	9.683	3.00	2.00	60	Total marks	

Table (3): Arithmetic Means and Standard Deviations of the Research Sample's Scores on the Tool's Components and By Type of Kindergarten.

The results of the study regarding the grades of children enrolled in kindergartens with the effectiveness of using educational pillars in the test components (fluency, flexibility, originality) showed that fluency achieved first place with an arithmetic mean of (16.083) and a standard deviation of (4.872). Authenticity ranked second with a mean of (9.500) and a standard deviation of (3.196). While flexibility came in third place with a mean of (9.383) and a standard deviation of (604.2).

As for the scores of children enrolled in regular kindergartens on the test components, fluency ranked first with a mean of (4.683) and a standard deviation of (2.535). As for flexibility, it ranked second with a mean of (3.233) and a standard deviation of (1.671). While originality achieved an arithmetic mean of (1.766) a nd a standard deviation of (1.358).

The researcher calculated the arithmetic means and standard deviation for the total score and for each component of the tool according to the gender variable (males and females).

The results presented in Table (4) show that the average score for males on the test in general was (22.900) with a standard deviation of (15.187), while the average score for females was (21.750) with a standard deviation of (14.407).

standard deviation	SMA	highest value	lowest value	the number	Tool components	Sex
7.217	10.683	25.00	1.00	60	Fluency	Males
3.890	6.550	16.00	1.00	60	Flexibility	
4.616	5.667	16.00	0.00	60	originality	
15.187	22.900	55.00	2.00	60	Total marks	
6.631	10.083	23.00	1.00	60	Fluency	Females
3.682	6.067	15.00	1.00	60	Flexibility	
4.599	5.600	16.00	0.00	60	originality	
14.407	21.750	49.00	2.00	60	Total marks	

Table (4): Arithmetic Means and Standard Deviations of the Research Sample's Scores on the Tool's Components and According to the Gender Variable.

The research results show that the fluency component ranked first for both males and females, as the average score for males reached (10.683) with a standard deviation of (7.217), while the average score for females reached (10.083) with a standard deviation of (6.631).

The flexibility component ranked second for both males and females. The average score for males in flexibility was (6.550) with a standard deviation of (3.890), while the average score for females was (6.067) with a standard deviation of (3.682).

According to the results, the originality component ranked third for both males and females. The average score for males on this component was (5.667) with a standard deviation of (4.616), while the average score for females on the same component was (5.600) with a standard deviation of (4.599).

Based on the preliminary results, it is clear that there are differences between the average scores of children enrolled in the kindergarten with the effectiveness of using educational pillars and the average scores of children enrolled in the regular kindergarten. These differences appear in the total score and in scores on test components, such as fluency, flexibility, and originality.

According to the results, no significant differences appeared between the average scores of males and females in the total score and in the scores of the test components, which indicates the convergence of their average scores in all test components and in the total score.

Results Related to the First Null Hypothesis:

No statistically significant differences were observed between the average scores of children attending the kindergarten with effective use of educational pillars and those attending the regular kindergarten in the total score of the test and in its three components (fluency, flexibility, and originality).

A two-way analysis of variance was used to determine the differences between the means in the development of creative activities (total score) in order to verify the validity of this hypothesis.

It is clear from the results presented in Table (3) that the average score of children enrolled in kindergartens with effective use of educational pillars was (34.966), which is greater than the average score of children enrolled in regular kindergartens (9.683). The results of the two-way analysis of variance presented in Table (5) showed that the F value of the differences between the means of the two groups (the pillars group, the no-pillars group) amounted to (333.209),

which is statistically significant at the level of ($\alpha \leq 0.01$), in favor of the group enrolled in kindergartens with the effectiveness of using educational pillars.

Verbal connotation	Statistical significance	F value	Mean squares	Degree of freedom	Sum of squares	Source of variance
D	0.00	333.209	19177.408	1	19177.408	Kindergarten type
Not a sign	0.408	0.689	39.675	1	39.675	Sex
Not a sign	0.820	0.052	3.008	1	3.008	Interaction between kindergarten type and gender
			57.554	116	6676.233	The error
				119	25896.324	the total

Table (5): Two-Way Analysis of Variance Tested the Differences Between the Means of the Two Groups.

The results of the two-way analysis of variance presented in Tables (6, 7, 8) related to the components of developing creative activities (fluency, flexibility, originality) showed that there were statistically significant differences between the average scores of children enrolled in kindergartens with effective use of educational pillars and the average scores of children enrolled in regular kindergartens. In each component of the test. The F-values for each component reached (255.813), (236.207), and (292.467), respectively, and all of these values are significant at the level ($\alpha \leq 0.01$). It is for the benefit of children enrolled in kindergartens that make effective use of educational pillars, which means that kindergartens that make effective use of educational pillars have the ability to develop creative activities. Thus, the null hypothesis is rejected and the alternative hypothesis is accepted, which indicates that there are statistically significant differences between the average scores of children enrolled in kindergartens with effective use of educational pillars and the average scores of children enrolled in regular kindergartens in developing creative activities.

Table (6) shows the results of the two-way analysis of variance test for the (fluency) component.

Verbal connotation	Statistical significance	F value	Mean squares	Degree of freedom	Sum of squares	Source of variance
D	0.00	255.813	3898.800	1	3898.800	Kindergarten type
Not a sign	0.402	0.709	10.800	1	10.800	Sex
Not a sign	0.816	0.055	0.833	1	0.833	Interaction between kindergarten

						type and gender
			241.15	116	1767.933	The error
				119	5678.367	the total

Table (6): Two-Way Analysis of Variance (Fluency) Test.

Table (7) shows the results of the two-way analysis of variance test for the (flexibility) component:

Verbal connotation	**Statistical significance**	**F value**	**Mean squares**	**Degree of freedom**	**Sum of squares**	**Source of variance**
D	0.00	236.207	1134.675	1	1134.675	Kindergarten type
Not a sign	0.230	1.459	7.008	1	7.008	Sex
Not a sign	0.708	0.141	0.675	1	0.675	Interaction between kindergarten type and gender
			4.804	116	577.233	The error

Table (7): Two-Factor Analysis of Variance (Elasticity) Test.

Table (8) shows the results of the two-way analysis of variance test for the (originality) component.

Verbal connotation	**Statistical significance**	**F value**	**Mean squares**	**Degree of freedom**	**Sum of squares**	**Source of variance**
D	0.00	292.467	1794.133	1	1794.133	Kindergarten type
Not a sign	0.883	0.022	0.133	1	0.133	Sex
Not a sign	1.000	0.000	0.000	1	0.000	Interaction between kindergarten type and gender
			6.134	116	711.600	The error
				119	2505.867	the total

Table (8): Two-Way Analysis of Variance (Originality) Test.

This is due to the presence of an environment rich in cognitive stimuli in kindergartens, with the effective use of educational corners, which work to develop creative activities in general. These results are in line with the conclusions of previous studies that indicated the effective role of using educational pillars in developing comprehensive aspects of child development, especially the development of creative activities, as previous studies such as Al-Dabaa (2022), Saleh

(2019), and Al-Houli and Jawhar (2021) have shown. Al-Jabri (2016), Al-Amari and Al-Khamisi (2019), and Al-Murtada (2019).

The results of the information gathering questionnaire, which was conducted by the researcher, show that there is a clear disparity between kindergartens with regard to infrastructure, the nature of programs and activities, the level of educational qualifications of educators, their experience, and their administrative competence. It seems that the kindergarten with the most effective material and educational resources is able to enhance all aspects of the child's development in general, in addition to developing their creative activities in particular.

The Second Null Hypothesis:

There are no statistically significant differences between the genders in all components of the development of creative activities.

The research results presented in Table (4) showed that the average score for males in developing creative activities was close to the average score for females, as the average score for males reached (22.900), while the average score for females reached (21.750). The results of the two-way analysis of variance showed that there were no statistically significant differences between males and females in the total score, as the calculated F-value was (0.689), which is not statistically significant at the level of ($\alpha \leq 0.01$). As for the components of developing creative activities, the results presented in Tables (6, 7, 8) showed that there were no statistically significant differences in fluency, flexibility, and originality, as the F values for each of them reached (0.709), (1.459), and (0.022). respectively, and all of these values were not significant at the level ($\alpha \leq 0.01$). Based on these results, the null hypothesis is accepted and the alternative hypothesis is rejected.

This result is consistent with what was stated in the study of Post (2016) and Al-Fariji (2019), which confirmed that there are no statistically significant differences between the genders in the total score and in each component of the development of creative activities. This can be attributed to the fact that males and females are at the same age, live in a largely shared educational environment, and participate in the same games and activities.

The Third Null Hypothesis:

There is no statistical effectiveness for the interaction between the variables of kindergarten type (with educational pillars and regular kindergartens) and gender (males and females) in their impact on the development of creative activities.

The results of the two-way analysis of variance, as shown in Table (5), showed that the F value for the type of kindergarten variable was (333.209), which is statistically significant at the level ($\alpha \leq 0.01$). In contrast, the F value for the gender variable was (0.689), which is not statistically significant at the level ($\alpha \leq 0.01$). From the results of the interaction between the variables of kindergarten type and gender, it is clear that there is no statistically significant effect of the interaction between the two variables in the development of creative activities, as the F value reached (0.052), which is not statistically significant at the level ($\alpha \leq 0.01$).

The presence of an interaction effect between the two variables in the components of developing creative activities (fluency, flexibility, originality) was verified. The results of the binary analysis of variance showed that the F value calculated for the type of kindergarten variable in the fluency component was (255.813), while the F value for the gender variable for the same component was (0.709).

By studying the results of the interaction between the two variables in this component, it was found that the F value was (0.055), which is not statistically significant at the level ($\alpha \leq 0.01$).

Considering the flexibility component, the F value for the type of kindergarten variable in this component was (236.207), while the F value for the gender variable was (1.459). By studying the results of the interaction between the two variables in this component, it is clear that there is no statistically significant effect of the interaction between the two variables, as the F value reached (0.141), which is not statistically significant at the level ($\alpha \leq 0.01$).

As for the originality component, the F value for the type of kindergarten variable in this component was (292.467), while the F value for the gender variable was (0.022).

Through the results of the interaction between the two variables, it was revealed that there was no statistically significant interaction effect between them, as the F value reached (0.000).

This result confirms the acceptance of the null hypothesis, which states that there is no statistically significant interaction effect between the variables of kindergarten type and gender in terms of their impact on the development of creative activities.

The researcher attributes this result regarding the type of kindergarten to the existence of a discrepancy between the components of the kindergarten, such as infrastructure, academic qualifications, experience, administrative competence, etc., which affects the role of the type of kindergarten in developing creative activities. The better the kindergarten is in terms of material, educational and human capabilities, the better it is in developing creative activities.

The researcher attributes the lack of gender differences in the development of creative activities to the great similarity between the children's grade point averages, due to them going through the same age stage, living in the same environment, and playing the same games and activities. Therefore, their level of abilities to develop creative activities is very similar, which means that there are no differences between the average scores of children according to the gender variable (males, females).

This result is in line with the study conducted by Al-Murtada (2019), as the study indicated that there are no differences between males and females in the degree to which they benefit from the effectiveness of using educational pillars.

Conclusions:

In light of the research results reached, the following conclusions can be drawn:

1. There is a clear impact of the effectiveness of the use of educational corners in the development of creative activities among children enrolled in kindergartens, as is the effectiveness of the use of educational corners.

2. There are no differences between males and females in the components of developing creative activities.

3. Kindergartens that effectively use educational corners provide an environment rich in cognitive stimuli that foster the development of creative activities.

4. The presence of differences between males and females in the components of developing creative activities indicates that gender is not affected by the cognitive stimuli available in the environment of the effectiveness of using educational pillars.

Recommendations:

Based on the results of the current research, the researcher recommends the following:

1. Expanding the opening of kindergartens with the effective use of educational pillars in public and private schools due to the importance of the role of the environment and the effectiveness of the use of educational pillars in developing the development of creative activities.

2. The Ministry of Education should follow up and supervise kindergarten institutions to ensure that they meet the necessary conditions in terms of the suitability of building the kindergarten and the availability of all necessary equipment for it, and paying attention to developing programmes, activities, games and tools to help promote the development of creative activities, especially audio-visual aids and appropriate games.

3. Paying attention to qualifying nannies before service and training them during service on the role of the nanny in developing the development of creative activities among children in particular and developing school readiness in general.

4. Appointing female graduates specializing in child education in public and private kindergartens because they possess the professional competencies of kindergarten educators.

5. Benefiting from the experiences and expertise of some effective kindergartens by using educational pillars recognized for excellence and creativity locally, Arably and abroad.

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