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Panoramic Virtual Trips and their Relationship to Develop the Concept of Color among Kindergarten Children

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Abstract

The aim of the research was to identify panoramic virtual trips and their relationship to developing the concept of color, and the researcher used the relational descriptive approach as a research method. As for the research sample, it consisted of (60) teachers for (360) children from the government-run Riyadh of Baghdad, with (6) children per teacher. Search tool, in which two tools were used (color concept test and virtual trips). It built a (color concept) test consisting of (5) paragraphs, which are illustrated questions given to each child individually, and the second search tool is (virtual trips).

It was divided into three groups depending on the content of each trip (historical, animation, video game mine craft). The researcher was not able to apply the trips directly to children due to (Corona pandemic and the disruption of official working hours by the Crisis Cell). She applied them through a cartoon questionnaire by sending the questionnaire links. Through social media, what's up, viber, email) to the parameters of the research sample, (6) grades were determined for each parameter to choose the appropriate degree for each trip, and appropriate statistical methods were used, namely (discrimination to distinguish the paragraphs of the color concept test , Point Paiserial, Keoder Richardtson for calculating test stability, mono-variance analysis for analyzing electronic questionnaire data, Toki equation to show the difference between trips, and the research found that there is a relationship between panoramic virtual trips and the development of color concept in kindergarten children.

Keywords : panoramic virtual excursions / color concept / kindergarten children

Chapter one

Research's problem

Early childhood is one of the most important stages of life that a person goes through, because it is the stage of establishing, preparing and developing other stages of growth in his life, and it represents the foundation building block in which the personality of the

child grows and expands his perceptions and in which different energies and skills are discovered, and scientists and researchers have found that many ideas The scientific mentality and concepts expand and are concentrated in the child's mind during these years.

Abbas (2016), affirms that learning scientific concepts in the kindergarten stage is necessary and important, as it helps in planning, forecasting, organizing and linking things and highlighting the interconnectedness between the different branches of science and the transfer of the learning effect to new situations, Hence, kindergarten teachers must emphasize the importance of learning scientific concepts of all kinds, by employing modern and appropriate technologies in education. (ibid: 10).

The concept of color is one of the important scientific concepts that a child must learn in the kindergarten stage, given what this concept constitutes a special place in the child's life, as it is an important part of his perceptual and natural experiences of the visual world, and it has its effects Psychological and physiological aspects of the child's life, and it is not possible to imagine the visual and physical world without color (Al-Daraysa, 2011: 10), and it represents one of the most important concepts that help the child to recognize the properties and characteristics of things.

Kindergarten institutions can effectively contribute to the development of this concept among children through the scientific and technical experiences they provide to children in interesting, attractive and colorful ways. The teacher can clarify and present scientific and artistic concepts to children by innovative and close means and prepare them for a fertile environment (modern cognitive technology), that saturates their craving for knowledge and gives them a lot of information and knowledge in an interactive way about the colors of their inner and outer surroundings.

However, the researcher, through her modest fourteen years of experience in kindergarten and her direct contact with children, and her presentation of a number of model lessons for children, including art education, and through the exploratory field visits that she undertook to a number of Riyadh, she noticed in general that all kindergartens are still using The simple, ancient traditional methods that are not interesting in the formation and development of the concept of color at a time when the world is heading towards the revolution of the explosion of knowledge and technology, and that these global developments put the Ministry of Education in constant challenges to renew its structure, goals, strategy and methods of education in response to those challenges, which calls for the need to use a modern technological means.

It takes the educational environment to a new and advanced level that simulates the motivation and keeps pace with the modern scientific development in the child's information in various aspects and makes it easy for the child to access information that is difficult to access in the real reality, so the researcher identified her research problem with the following question, can the virtual panoramic trips develop the concept of color I have kindergarten children?

Research Importance

The modern era represents a continuous scientific revolution that is building a new world edifice, characterized by the accelerating global cultural and civilizational change, which made education one of the first necessary concerns for the state to keep pace with modern technological applications in line with the child's learning ability to reach a high degree of knowledge and efficiency.

The process of using information and communication technology has become an effective role in transferring experience and information to the learner in a way that raises his interest and makes the book not the only source for that information (Daemas, 2011: 74).

So there has been a merging between the old traditional method and the modern method of education, which was called blended or (mixed) education, which employs 30% -70% of its activities for application via the Internet, and reduces the time for traditional learning in the classroom, and many studies indicate the effect of learning.

Built on achievement, such as the study conducted by the University of Central Florida (2001), in which their students learned through the blended learning method had higher achievement than students who learned through traditional face-to-face learning.

It increases the retention rate among blended learning students over traditional face-to-face learning (Moussa, 2012: 12). Therefore, education that is based on electronic media gives a wide scope for learning processes from the various sources of knowledge provided by the electronic portal through curricula that have been converted into cartoon books (Adams, 2011,132), and from one of the e-learning styles where virtual classes, e-books, as well as virtual e-trips appeared in exchange for traditional trips, which play a similar educational role if not more and more comprehensive, and virtual trips provide types of enhancement of learning activities and enrichment.

The educational environment with interactive activities that enable children to study concepts in interesting ways, as it allows the capabilities of the teaching staff to plan and implement field visits to provide real scientific content. Hence the importance of the study from the necessity to recognize the use of panoramic virtual trips and its relationship to the development of the concept of color for kindergarten children and its importance stems from the importance of the kindergarten stage as this stage aims to develop the child's personality in all its aspects (cognitive, emotional, and sense kinesthetic) as there is Educational situations in which the use of direct field visits to cultural landmarks falters due to their seriousness, difficulty in accessing them, their spatial and temporal dimension and their cost, where the need to employ technological innovations as a more effective alternative that can be used to achieve learning goals (Saleh 2010: 134).

From all the opinions of scholars and educators mentioned, and studies that dealt with virtual trips and the necessity to acquire scientific concepts (the concept of color) through them. Therefore, the researcher called for the necessity of using this effective method to start achieving the objectives of the research as follows:-

1.The importance of kindergarten children (5-6) years acquiring scientific concepts (concept of color) in interesting, fun and attractive ways.

2.It is possible to take advantage of (virtual trips) as an explanatory educational method in all fields for those in charge of the education process, because of its elements of attraction and suspense.

Third - Research objectives:

The current research aims to identify the relationship of panoramic virtual trips to developing the concept of color among kindergarten children.

Fourth - Research limits:

Human limits:

*Kindergarten teachers.

*Children of preschool grade in kindergarten, aged (5-6) years.

Time limits: 2019-2020 AD

Spatial boundaries: The General Directorate of Education in Baghdad with its two sides Al-Karkh and Al-Rusafa.

Scientific limits: the concept of color

-**thematic limits:** panoramic virtual excursions.

Fifthly - defining terms:

First: - Virtual flights:-

Defined (Hassan, 2010) as: an interactive environment that includes a set of various digital tools that can be used via the Internet, to provide a set of alternatives that simulate a place, and provide the learner with various opportunities to learn about the contents of these places without any time or spatial restrictions (Hassan (2010: 32).

Second: - Panoramic virtual tours

Gong (2011) defined it as: those trips that present wide 360-degree scenes, and are somewhat subject to the control of the learner, so that he can navigate inside the trip, left and right, up and down, as well as forward and backward, and can interact with certain parts of the panoramic scenes in front of him. Depending on the hotspots, which transfer it from one scene to another, this contributes to raising the learner's absorption rate (Gong, 2011: 25).

-**The researcher's procedure:** trips with scenes that make the learner and the user find a sense of realism within the environment he is visiting, as if he was truly walking in the middle of that environment, his movement is an absolute free movement.

Third: - the concept

Fuad Abu Hatab (1993): It is a set of features related to a rule (Abu Hatab, 1993: 22).

Fourth: - Color

Sieve (1986) defined it physically as: a light property that depends on the length of the wave, and the apparent color of an object depends on the wavelength of the light that reflects it, (Sieve, 1986: 158).

-And the theoretical definition is the concept of color (which is an optical characteristic of a specific feature that is related to a base that might be an object of an inanimate person, if an animal, or a whole nature, and it has a special wavelength for each shape that reflects its color).

Kindergarten children: They are children in the age group (4-6) years who are characterized by rapid growth in all its aspects (mental, physical, psychological, social and linguistic). They need kindergarten in developing their basic skills to achieve integrated growth (Al-Gharary, 2017: 7).

Chapter Two

Theoretical framework

First / Kindergarten stage

Kindergarten is an educational and social institution that has its own peculiarity, where children from 4-6 years of age enroll in it. Children, who qualifies them to enroll in the primary stage (El-Laqani, 2003: 34).

Child development characteristics in kindergarten stage:

Growth is a series of increasing changes that occur inside the body in the form of neurophysiological biochemical changes during the child's interaction with the external environment, and it is also a series of changes in behavior, habits, or skills that the child acquires as a result of this interaction (Ibrahim, 2007: 19).

1.Inclusion and integration: The development process includes all aspects of the child's personality and is not limited to one aspect without the other.

2.Continuity and gradual progress: The growth process is characterized by continuity as it does not stop at a certain limit, and it is characterized by gradual, that is, it proceeds according to regular and gradual steps in its progress according to the level and degree of growth.

3.Maturity: Learning depends on growth, as growth leads to maturity, which is an important factor in learning.

4.Growth is a phenomenon that differs from one child to another: The degrees of growth vary from one child to another, as children are not equal in their degrees of development, even if they are in the same age group.

5.The growth process proceeds from the general to the specific and from the whole to the parts: here is meant the large muscles progressing in the stages of their growth on the small muscles.

6.Each type of learning needs special growth demands: it is necessary to take into account the demands of growth when presenting experiences to the child (Al-Hariri, 2013: 16).

Second - Panoramic virtual trips

The first to establish a theater for research in the technology that is now called virtual reality (Ivan Sutherland in 1965), where he published a descriptive report called the Ultimate Display). He defined it (Khamis, 2003) as Education technology and advanced information provide a three-dimensional, computer-generated learning environment, an alternative to the real reality and simulate it, enabling the learner to immerse himself in it, interact with it and control it using external means that connect his senses with the computer (Khamis, 2003: 55), and he also defined it (Brook, 2011) as an exciting means of teaching and learning. From the outside world where you can travel to museums, scenic islands and outer space through a set of panoramic images that make the learner live inside the trip as if it were a real reality (Brooks, 2011).

As for the reason for using virtual trips, it is the result of obstacles in providing a real environment for the learner in addition to the lack of administrative and financial support, insufficient time for planning, and the failure of educational institutions to bear the risks of real trips. The virtual trip allows both the teacher and the learner to cooperate with all teachers and other learners while creating an environment. Effective targeted educational (workbooks, 2009).

Characteristics of virtual trips

Interactive: Provide a great deal of interaction between the environment and the user.

Realistic: it provides realistic methods of access and exploration of the various components of the environment

 -Cost: it is characterized by its lower material cost compared to real visits.

Availability: it is easily accessible due to the reason that it can be published on the Internet

Updating: subject to continuous modification and updating due to its flexibility

Immersive: allows for high rates of immersion and immersion in the environment

Integration: It is characterized by containing external links to information related to the content of the trip.

Sharing: It is characterized by the sharing of learning resources, and product offering to individual participants.

Movement: its user can move within the environment without any restrictions.

Ideal: it allows visual information and data to be visualized in a graphic way so that they appear real.

The Educational Importance of Virtual Trips

The virtual journey is the beginning of a great revolution and leap of great importance in education because, at all levels, it represents solutions to all educational problems and obstacles facing teachers. The importance of the virtual journey in education can be summarized in the following points- :

 1.Helps build effective educational experiences by roaming in inaccessible areas.

2.It is used to implement various educational experiences and projects because it is a controllable environment and its components are defined.

3.It helps the learner to discover the trip sites before the actual visits, so that the learner gives a sense of walking, which gives it more realism.

4. Using multimedia to enhance the educational process, making it more attractive and enjoyable, and it also generates motivation for the desire to learn as a result of practicing and viewing information.

5.Providing a safe environment in which the learner does not need to go to the place of the trip and thus overcome the problems of actual field trips, present information with different points of view and serve as an alternative experience for learners (Salem, 2004: 73).

Types of virtual excursions

There are many types of trips that we refer to:-

1.Photo-Based virtual trips: which depend on the presence of a group of images that support the text.

2.Video-based virtual trips: this type depends on that it combines sound, image and text, as it depends on the presence of a pictorial identical to the original version of the trip.

3.Text-based virtual trips: These are the simplest and least expensive types of trips, as they do not depend on the presence of any visual tools.

4- Audio-based virtual trips: which depend mainly on sound and use of this type and when this trip has a walking feature that enables the learner to feel the movement during the virtual tour.

5.Panoramic virtual tour: The word panorama refers to the wide view of the realistic scenes, and it is technically due to the idea of relying on lenses with a wide viewing angle to capture wide scenes that allow the learner to fully see the scene. (Al-Halafawi, 2011: 126).

This concept has been transferred to virtual trips as it depends on the presence of a group of images that are linked together to form a 360-degree panorama, and the image of this type must be of high resolution and quality so that the learner can move the images left and right, up and down, and there are two types of panoramic scenes.

Cylindrical panorama: It describes 360-degree horizontal scenes so that the learner can move it left and right and approach and move away with the inability to move it up and down.

Cubic panorama: through which scenes are presented that the learner can move vertically by 180 degrees and horizontally by 360 degrees. The two sides top and bottom and four round faces represent all the horizontal sides of the environment. Gong, 2011: 1626).

3.Simultaneous virtual trips: It depends on the integration of the video-based trip with the panoramic trip and is one of the most interesting and attractive types because it allows the learner to roam within a three-dimensional environment that simulates the real environment so that he can roam freely through the trip tools, and this trip depends on its construction on the system Virtual reality is one of the most expensive types (jeff, 2008).

The Third Axis / The Concept of Color

What does the concept of color mean?

Concepts grow as a result of linking the child's cognitive construction between new experiences and previous experiences, which also gives him a new experience that pushes him to more learning. The stages of developing concepts in children are divided into two stages, the first is the conceptualization phase, the second is the phase of learning the concept's name (Al-Jallad 2004: 346), and there are also factors that affect the development of the concept in children are:

1.Sense organs: - They are the channels through which experiences pass to the brain, so their state and efficiency affect the development of the concept.

2.Intelligence: One of the main factors in forming concepts.

3.Learning opportunities: - Learning opportunities should be provided for the child if we want his concepts to grow, and learning opportunities increase as the child grows.

4.Type of experience: - The development of concepts depends in the beginning on direct physical experience, and later the child obtains many concepts through indirect experiences.

5.Gender: The child is trained from the beginning of his life to think and act in a manner that suits his gender, and this appears in the various things and situations with which he interacts (El-Sherbiny, 2000: 77-78).

Concepts do not appear suddenly, but develop gradually and naturally with the appropriate experience, maturity and mental development as it is beneficial to understand the theories by which concepts are formed and developed, and there are a number of theories that explain the formation, growth and development of concepts in the child, the most prominent and most important of which are

Piaget has reached through his study on how to develop a child's mentality that the stages of mental development take place in four stages, each basic stage leading to the next stage, and these stages are:

1-Sensory-kinesthetic stage, (from birth - two years).

2-Pre-operations stage (2-7 years).

3-The stage of sensory processes, (7-11 years).

4-Abstract Operations Stage, (12- onward), (Salama, 2000: 10).

Piaget J. : It refers to the stage of the logical analysis of ideas, hypotheses, and premonitions, which is known as the stage of abstract processes in the adolescent and the adult person (Olivier, 2005: 62).

Color

Color is part of the world around us, and it haunts us in our lives, and a life without colors cannot be perceived, distinguished, and recognized for its properties.

Color is defined physically as a light and a form of energy, and it is a special light that depends on the length of the wave (Sieve, 1986: 158).

Color conventionally: It is the impression that creates light on the eye and is disseminated and distributed by the bodies exposed to the light (Al-Jubouri, 1997: 5).

Color is a sensation that affects the eye through light and is not a colored physical sensation, not even as a result of white light analysis, but rather a sensation sent to the mind by seeing something colored and luminous (Maidani, 2005: 112).

Childhood, in its successive stages, is one of the most important stages of life that a person goes through in his upbringing, upbringing and social rehabilitation, especially in the first five years of life, or in it the human features of the future personality of the individual that leave its effective effects for life, and color is often used in children's rooms (Furniture, wall paint, beds, clothes, toys).

Color can be recognized through its three basic components that are known as psychological characteristics of color:

1.The origin of color ((Hue), which is the dye by which we can distinguish and differentiate between one color and another, which we call by its name, so we say a color red, blue, yellow or orange..etc.

2- The value (value), which is the name that we give to the excitement and opacity of the hue, color brilliance and luster, and it means the amount of light that any surface can reflect and thus it represents the amount of glitter, gel and clarity of color and brightness

and darkness in the relationship of black and white as it can be raised Color value by adding white and reducing it by adding black.

3.Intensity, sometimes called chroma, represents the degree of color saturation and purity of the pigment. (Shawky, 1999: 184-185).

The Basoglu study, which was conducted on large samples to test children's preference for colors, found that children (5-8 years) prefer red, orange, yellow and purple, while they reject black, dark brown and gray colors, and children's preference for blue increases directly with increasing age. Most of the people prefer the light colors over the dark, and the primary over the secondary in general (Basoglu, 2002: 32).

There are effects that colors can play in relation to the visual components of the educational method presented to the child:-

1.The relationship between color and shape: colors play an important functional role in separating the design elements or the materials used in the educational method, provided that color is a design element used to emphasize and distinguish lines and shapes and to impart an aesthetic touch.

2.The relationship between color and material: The designer of the device must be concerned with the texture of the materials used in it, because the reflection of the color differs according to the different touches of the colored surfaces.

3- Fourth / Previous Studies

The first axis / previous studies dealt with virtual trips

Arab Studies:

1.Al-Mutairi's study (2018):

Following the panoramic and three-dimensional virtual trips in the development of science curriculum concepts is employed for middle school students in the State of Kuwait.

The study aimed to uncover the effect of virtual, panoramic and three-dimensional trips in developing the concepts of science curriculum among intermediate school students. The sample consisted of (60) students from two schools in Jahra Governorate in the State of Kuwait.

The researcher used the quasi-experimental approach where he divided the sample into two groups (experimental and control) , The tool was an achievement test according to an existing program to measure panoramic and three-dimensional virtual trips, and after applying the test to the experimental and control groups, the researcher reached the results of the research and there was a statistically significant difference at the level of (0.01) between the average scores of the students of the two experimental groups in the post-achievement test. The first (panoramic) on average (17.70), while the second experimental (three-dimensional) got an average (20.50), and the difference is in favor of the second, meaning that the three-dimensional virtual trips are the best in developing science curriculum concepts (Al-Mutairi, 2018).

2.The Spans Study (2016):

Color enhancement for visual memory of landscapes

The study aimed to identify how to enhance visual memory in color for landscapes and it used the experimental method. The research sample consisted of (120) participants and the

research tool consisted of displaying (120) images from a series of natural scenes on the computer screen, and they were displayed once and again in color. Gray, then the viewer was shown again to the same group and asked to know whether it was old or new. The results of the search indicated that the color of the color improves the recognition of natural images by about 4%, and it also plays an important role in the process of recognition and matching of images, and that the more exposure it increases. The participant of the stimulus, the greater the retrieval process (Spans, 2006).

Chapter Three

Research Methodology

The researcher adopted the relational descriptive approach (educational research methods that are based on determining the characteristics of the phenomenon and describing its nature and the quality of the relationship between its variables, causes and trends) (Al-Dulaimi, 2013: 148) to find out the relationship and correlation between the virtual panoramic trips and the concept of color.

Research Community

The current research community is determined by the kindergartens affiliated with the General Directorates of Education in Baghdad in its two sides Al-Karkh and Al-Rusafa, and the kindergartens have reached (181) governmental kindergartens as shown in the table

Table (1)

(Distribution of the research population according to the General Directorates of Education)

Directorate General For Baghdad Education	Numbers of Kindergarten	Numbers of Children Aged (5-6) years
First Rusafa	**28**	5385
Second Rusafa	**51**	9100
Third Rusafa	**20**	3433
First Al-Karkh	**32**	4169
Second Al-Karkh	**30**	4715
Third Al-Karkh	**20**	3561
Total	**181**	30,363

The researcher obtained the statistical information from the Planning Division in the General Directorates of Education in Baghdad on both sides of al-Karkh and al-Rusafa (2018-2019).

Third: Research Sample

The researcher selected the sample of children from the research community according to the following steps:

1-10% of kindergartens were selected from each directorate of Baghdad, so the total number of kindergartens in the sample became (18) kindergartens.

2-The researcher intentionally identified the female teachers present in each selected kindergarten and they numbered (60) teachers, and their distribution in the selected

kindergarten was unequal, as in one kindergarten there was a teacher and in another kindergarten there were six teachers according to their occupational distribution.

3-My intention was chosen for the kindergarten children from each kindergarten of the selected sample. Intentionally represent the children present in the kindergarten during that period, and the total number of children in the sample was (360) children, distributed unequally in the sample kindergarten, with (6) children per teacher.

Fourth / Research Instruments:

In order to achieve the goals of the current study, we list below the tools that the researcher will use to achieve these goals:

Color Concept Test

Through reviewing the kindergarten curriculum and the literature and previous studies in kindergartens, the Internet (the Internet), television and social networking sites, the researcher built a pictorial test consisting of six paragraphs that include pictorial questions that the researcher provides to the child individually, and the researcher determined a grade of (1) For the child when the correct answer is correct and (zero) when the answer is incorrect.

Face Validity to Test Color Perception:

  The external validity is the general aspect of the test, that is, its external framework, and it includes the type of vocabulary, how it is formulated, clarity and degree of objectivity. (David, 1990: 119-120).

The test items were presented to a group of experts in the fields of kindergarten, education and psychology Appendix (1), and it was approved by 90%, based on the opinion of experts, some paragraphs were modified and some were deleted and replaced with new paragraphs with a slight modification of the paragraphs in terms of clarity of images And the colors, were deleted, and thus the researcher obtained the apparent validity of the paragraphs.

Raw Color Concept Test:

After deleting and replacing the paragraphs, the test in its initial form consisted of (6) paragraphs, and the researcher set the alternatives (correct answer, wrong answer) and grades (1, 0).

Statistical analysis of the test items: After validation procedures have been completed for the scale, it is ready for statistical analysis as follows:

1.Procedures for preparing a construction sample:

Sample Construction:

The color concept test sample consisted of (250) male and female children, chosen by a simple random method from (19) kindergartens randomly selected from the kindergartens affiliated to the current research community from the Baghdad Education Directorates, with both Karkh and Rusafa sides.

 The application of the test procedures on the children of the sample test numbers took (13) actual days, and it was applied daily, and the time spent on answering the test items was (6) minutes, and this time was appropriate for the answer.

Discriminatory Power

The researcher analyzed the number of paragraphs of the color concept test of the kindergarten child statistically to reveal the strength of distinguishing the paragraphs, and one paragraph that received a very weak discrimination was deleted, as shown in table 2:

Table (2)

Paragraph highlighting table

Concept	Paragraph number	Ease factor	Difficulty factor	Discrimination	Indication
Color	**1**	**0.61**	0.38	**0.53**	
	2	**0.57**	**0.42**	**0.57**	
	3	**0.57**	**0.42**	**0.48**	
	4	**0.62**	**0.37**	**0.54**	
	5	**0.55**	**0.44**	**0.37**	
	6	**0,41**	**0,58**	**0,10**	inappropriate

The relationship of the paragraph degree to the degree of the concept to which it belongs:

For the purpose of making sure that the paragraphs of the concept are represented according to the correlation coefficient between the degrees of the individuals on the paragraph within the scientific concept. The correlation coefficients for the test in a kindergarten child is seen in the table (3):-

Table (3)

Seq. of Paragraph	coefficient of correlation with the degree of the concept
1	.578
2	.602
3	.674
4	.652
5	.429

Reliability:

The stability was extracted to test the scientific skills of a kindergarten child using the equation (Kuder; Richardson) (Faris, 2015: 129), and the reliability coefficient was (0.527).

Description of the color concept test for children's kindergarten in its final form:

After the color concept test for children in kindergarten was subjected to validity and consistency procedures and all statistical means, it became ready for implementation. The test consisted of (6) items, the total score ranged between (0) as the lowest score and (6) as the highest score (2).

The second search tool:

Virtual trips

 The construction and design of educational panoramic virtual trips must be planned and executed according to the foundations in which the educational goals are achieved, and after investigation and research from the Internet (the Internet), the researcher obtained (two) virtual panoramic trips.

First Category / Historical Tours

(Babylon city trip, Malawiya journey, and humpback trip):-

They are trips to historical landmarks that have been selected through a search on the Internet. They include a virtual panoramic pictorial description that embodies the transferred reality and the scientific concepts it contains (the concept of color) so that the child can recognize it, acquire it, and promote its development with it.

1-Babylon city trip:-

The journey begins at sunrise and sheds light on the ancient landmarks of the city of Babylon from the high angle, then begins by entering the main door of the city, which is decorated with colors and drawings of animals scattered on the door. Then, the camera moves to photograph the hanging gardens and the city completely and rotates (360) degrees to see the river on its sides, boats and houses, then the clouds, and then close the trip.

1.**The Journey of Malwiyah**:-
The trip begins with a virtual panoramic view of the Al-Malwiya Mosque, the camera moves to all corners of the mosque, and a unique view of the mosque's minaret (Al-Malwiya), which is a conical shape surrounded by a staircase and resting on a square base and containing a triangular ladder.
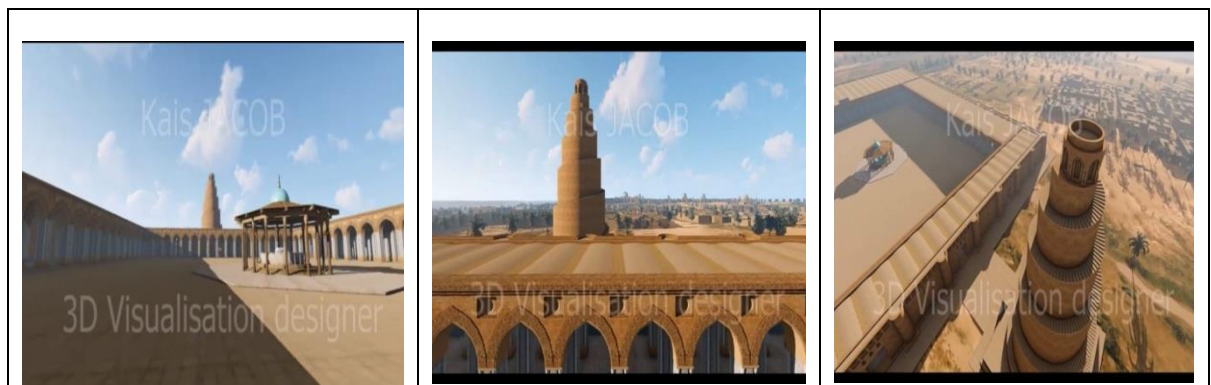
2.**The Al-Hadba Trip**

The trip begins by shining a light on one of the monuments that is located in the city of Mosul in northern Iraq, where a panoramic tour of the Al-Nuri Mosque and the Al-Hadba Minaret is shown from several angles, the camera moves multiple transfers and then heading towards the trees and palms surrounding the mosque, and watching the surrounding houses of different colors, then the trip ends with a view. The location is from the far corner. The trip is done.

The second category
(Sea trip, jungle excursion)

They are trips of a graphic nature that have been selected through simulation programs such as programs (VR Ocean Aquarium, VR Zoom Safari) that include a virtual panoramic picture description of the forest, its animals, the ocean and its marine creatures and the scientific concepts they contain so that the child can learn about them, acquire them and enhance their development with them.

(The third category / (from the researcher's numbers
(City of Cube Journey)

It is a panoramic animation journey that represents a residential complex that was designed and built by the researcher through the (Minecraft) program. The journey begins with a view of the city from the top and enters the city through the main gate and is navigated in a virtual environment. Street lamp, fountains, flowers) and some other figures in bright colors that serve the concept of color.

Face Validity:

The virtual panoramic trips were presented in their initial form to a group of (30) experts specialized in the fields of kindergarten, education, psychology and statistics, Appendix (1) to get acquainted with their views on the validity of the trips for the kindergarten child, and the agreement was (100%) on their validity with A simple modification that includes adding a musical sound for the historical trips and the residential complex to add a kind of excitement and excitement to the children.

The ultimate application of research tools

First / testing the scientific concepts of kindergarten children.

After completing the finalized color concept test, the researcher applied it to the selected research sample of (360) children and girls, and the application was daily by one kindergarten for each kindergarten of the selected (18) kindergartens, and sometimes the application was two days for one kindergarten. The application is carried out with the help of the director and the selected teacher in the sample. The research is supposed to be experimental, but the researcher was not able to use these procedures due to the country's circumstances.

Second / electronic questionnaire

In order to know (the relationship of panoramic virtual trips to the development of the concept of color), the researcher prepared an electronic questionnaire for distribution to the teachers of Riyadh (the research sample) through social media (Whats up, Viber, email)), which is one of the methods Located on and it consists of two parts, the first part represents the degrees of the total concepts, the second part represents the degrees of each scientific concept separately, and the questionnaire became its final form.

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Based on the above, the researcher prepared the questionnaire by- :

1- Benefiting from the test scores obtained from the test application process for (350) children in Riyadh for (18) selected research sample.

2- Take advantage of the virtual trips that I built in advance.

The questionnaire consists of a table containing horizontal rows representing virtual tour links, and vertical rows representing test scores designed through (Google forms) so that it can be sent through cartoon links to Riyadh teachers, where the questionnaire consists of (6) degrees for (6) children and (6) He travels

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Face Validity

The researcher sent the questionnaire link to (10) experts from various disciplines (kindergarten, psychology, and statistics). Appendix No. (1) was approved by 100% with a slight modification, which is to place the grades horizontally after being vertical, so the questionnaire is ready for application.

Questionnaire application

After modifying the questionnaire and taking the opinion of the experts, the researcher investigated and researched in order to obtain the phone numbers of the teachers from acquaintances and friends, and by virtue of the fact that the researcher is a teacher and has a connection with the departments and teachers of kindergartens, and in order for there to be more credibility in the answer, the researcher tried to obtain the phone numbers of the same kindergarten teachers that were applied. The test was on her children, and after distributing the questionnaire link via social media (what's up, viber, email) to the sample's teachers, who were (60) teachers answered by all the teachers, where the teacher selected one grade for each trip, which represents the appropriate score for that. The trip is divided the six degrees into six trips, as if it determines through the child's degree the flight that suits him and can develop the child's concept of color.

Statistical means

To achieve the objectives of the research and obtain the results, the following statistical methods were used: the percentage, the discriminatory coefficient equation, the ease factor equation, the difficulty coefficient, the Pearson correlation coefficient, the Fakronbach equation, the unilateral analysis of variance, the Tukey equation.

Chapter Four

This topic includes: -

First / Presentation and interpretation of results

The aim of the research is (To identify the relationship of panoramic virtual trips to develop the concept of color among kindergarten children).

To achieve this goal and to identify the significance of differences in the concept of color according to the variable of trips, the researcher used Way Anova (One) analysis, and the results indicated that there is a statistically significant difference in the color concept test as the calculated F value reached (3.08), which is higher than the tabular F-value. The number (2.21) is at (0.05) level and the degree of freedom (5-354), which means that a relationship between virtual flights and the development of color concept, and Table (4) illustrate this.

Table (4)

Arithmetic means and standard deviations to test the color concept according to the trip variable

Trips	number	Arithmetic mean	standard deviation
Babylon City tour	60	3.25	1.11
Sea trip	60	3.42	1.15
Al-Hadba Trip	60	2.98	1.1
Jungle Journey	60	3.40	1.06
Journey of Malouia	60	3	1.15
City of cubes trip	60	3.63	1.10
Total	360	3.28	1.14

Table(19)

An analysis of mono variance to reveal the significance of differences in the test scores of the scientific concepts of the color concept according to the flight variable

Source of variance s.of.v	Sum of squares s.of.s	degree of D.F freedom	mean squares M.S	value F	Significance Sig
Between groups	19.514	3.903	5		
Within the groups	449.150	1.269	354	3.08	**Sig**
Total	468.664	-----	359		

To find out the significance of the differences between each trip from the rest of the trips in developing the concept of color, the researcher conducted a Tukey test for dimensional (bilateral) comparisons, and the results showed that the arithmetic mean of the city cube trip is (3.63), which is the highest arithmetic average for the rest of the virtual trips, which ranged between (2.98 - 3.42).

According to the results, the city of cubes trip has achieved the highest degree in the development of the concept of color compared to each of (The Al-Hadbaa Trip, The Journey of Malwiya). The reason may be due to the fact that it contains elements and shapes similar to the cubes and games that children enjoy as it is one of the favorite games for both sexes It has attractive, exciting and clear colors, which made it more interesting and able to attract the child's attention so that it can easily recognize the color easily, and although the researcher focused in her design on the basic colors (red, yellow, blue, and green), it was statistically indicative of its distinction.

Other colors helped the child to develop the concept of color in him, as the color is one of the important perceptual elements of the components of the shapes within the trip and adds interesting and exciting qualities, as it represents a psychological experience that forms an important part of our natural perceptual experiences of the visual world as it affects the visual power with which it attracts attention , Since the more the color is saturated in shape and has a clear degree of color and high intensity, it is more stimulating to look (Graves, 1951: 395), and this is what was included in the city of the cube trip. The colors are dry, faded, and almost devoid of the color variation that is attractive to the child's eyes when compared with (City of Cubes).

Conclusions

1.Panoramic virtual trips achieved the goal for which they were prepared, which is to develop the concept of color among kindergarten children.

2.Creating excitement by watching panoramic virtual trips, wandering inside the trip and reaching locations that are difficult to reach in reality, as if it had an impact on developing the concept of color among the children of Riyadh.

3.Among all the trips, (City of Cubes Trip) outperformed (Journey of the Humpback and Al-Malwiya) because the trip contains elements of suspense and attention of the child as well as things that the child loves and interacts with in his life.

Recommendations

1.Paying attention to the formation and development of scientific concepts in the kindergarten stage with modern education methods and strategies such as all kinds of virtual panoramic trips.

2.The interest by the Ministry of Education to make cartoon trips over the web for female teachers to display educational programs using virtual trips to present scientific concepts and skills.

3.Take advantage of the electronic game (Minecraft) * in designing the virtual panoramic trip to develop various mathematical and engineering concepts.

Fourth / proposals

1.Conducting a similar study that deals with scientific concepts that the current research has not covered.

2.Conducting a study to find out the obstacles to using modern educational technology in kindergartens.

3.Conducting a survey study of the needs of kindergarten educators and identifying the crisis skills to employ virtual reality in teaching children aged (5-6 years).

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