

THE LEVEL OF KINDERGARTEN TEACHERS' USE OF AUGMENTED REALITY TECHNOLOGY IN DEVELOPING HEALTH AWARENESS IN KINDERGARTEN CHILDREN

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Abstract

The current study aims to identify the extent to which kindergarten teachers use augmented reality technology to develop health awareness among kindergarten children. A descriptive approach was used, and the study was conducted with (70) kindergarten teachers registered in government kindergartens in Najran. The following tools were used in the study: - A questionnaire to measure the level of kindergarten teachers' use of augmented reality technology in developing health awareness among kindergarten children. The questionnaire included the following topics: environmental health, sleep health, diseases and their prevention, and the concept of first aid. The study reached the following conclusions: The level of kindergarten teachers' use of augmented reality technology in developing health awareness among kindergarten children was moderate, with an average score of (52.87) and a relative weight of (62.94%), placing it at a moderate level. The level of kindergarten teachers' use of augmented reality technology in developing environmental health awareness among kindergarten children was moderate, with an average score of (13.67) and a relative weight of (65.10%), placing it at a moderate level. The level of kindergarten teachers' use of augmented reality technology in developing sleep health awareness among kindergarten children was moderate, with an average score of (12.49) and a relative weight of (59.46%), placing it at a moderate level. The level of kindergarten teachers' use of augmented reality technology in developing awareness of diseases and their prevention was also moderate. The level of kindergarten children's use of augmented reality (AR) technology in developing their awareness of first aid was average, with the average score of the teachers in the research sample being 14.87 (70.82%), placing them at an average level. Similarly, the level of use of AR technology by kindergarten teachers in developing awareness of first aid concepts among kindergarten children was also average, with the average score of the teachers in the research sample being 11.84 (56.39%), placing them at an average level. Based on the study's findings, the researchers offered several recommendations: developing a guide for early childhood teachers explaining how to utilize AR technology in teaching kindergarten children; conducting workshops for early childhood teachers to train them on AR applications; and holding training courses for early childhood teachers to familiarize them with the importance of using AR technology and encourage its application in education.

Keywords: Augmented Reality, Health Awareness, Kindergarten Teachers

INTRODUCTION:

Early childhood is one of the most influential stages of human development in shaping a child's personality and determining their future. The first years of a child's life, with their joyful and painful experiences, contribute significantly to shaping their future life. Studies have highlighted the importance of this stage, which is why researchers and those interested in aspects of human development have focused their attention on it (Abu Jammous & Al-Damakh, 2016). Attention to developing health concepts in kindergarten has a significant impact on a child's physical, social, emotional, and cognitive health throughout childhood (Pippi et al., 2020). Eid (2020) defines health awareness as a set of perceptions, visions, information, facts, concepts, and beliefs that help a child in their life and guide their behavior and feelings toward their health through their understanding of physical, nutritional, environmental, preventative, and first aid awareness. In other words, it is a practice resulting from convincing the

child and their understanding of what is happening around them. Watari Ibrahim (2020) states that health awareness is an individual's responsibility towards their own health and the health of those around them, encompassing two aspects: prevention and treatment. When developing health awareness in kindergarten children, the focus should be on prevention to align with their understanding, while the treatment aspect involves fostering positive attitudes towards taking medication, receiving injections, and seeking medical attention when ill, as well as isolating sick individuals from healthy ones.

The educational process has become increasingly evolving with the rise of e-learning. Therefore, teachers must be constantly innovative in their communication with students to cultivate a positive mindset towards learning, especially among children. Technological change necessitates that everyone, without exception, keep pace with the new technological age.

Several studies have also confirmed the importance of using augmented reality technology for children, such as the study by Akram and Recep (2017), and the study by Al Yousefi (2015), which aimed to measure the effectiveness of using augmented reality applications as a tool for teaching and learning when teaching kindergarten children the English alphabet. It concluded that there was a very strong linear relationship between the interaction of children in the experimental group with the alphabet lesson content presented through augmented reality and their scores on the English alphabet test. Yilmaz et al. (2017) used a descriptive approach to analyze augmented reality (AR) picture books for preschool children. Their study showed that children experienced immense joy and keen interest during this activity, expressing their enjoyment of the books and perceiving them as magical worlds. Furthermore, their comprehension of the story improved significantly. Barkhaya et al. (2018) add that AR technology is an engaging and effective educational tool for developing children's cognitive, linguistic, and social skills, and for enhancing their understanding of complex information that can only be easily grasped through direct experience. Al-Mubarak (2018) also noted that using this technology allows children to control the flow of the educational presentation according to their abilities and interests, thus saving time and effort. AR technology transforms dry academic information into engaging and enjoyable experiences. Al-Zahrani (2021) adds that AR allows for the provision of an environment Augmented reality is an educational tool that encourages learning and stimulates inquiry into scientific concepts and real and imagined facts. It is one of the most exciting modern technologies in education, as it is a powerful and motivating tool that can engage multiple senses through the effective combination of sound, image, and touch. Since all those involved in children's education must face societal challenges and be prepared to keep pace with developments in all aspects of life, we must motivate learners, as learning becomes more effective when learners are receptive to and engaged in it.

The kindergarten teacher plays a significant role in shaping a child's personality. Children acquire positive habits and attitudes towards various health concepts and topics from the teacher. She also plays a crucial role in guiding and supporting children when they encounter health problems. This means that the kindergarten teacher's role is not limited to providing affection and care in the absence of the mother, but extends to becoming a role model for the child in adopting healthy behaviors. She must also utilize all available resources in the child's environment to develop their abilities and interests (Al-Maliji, 2021). From the above, the importance of developing health awareness in kindergarten children becomes clear. Furthermore, the role of the teacher and the school has changed in the age of technology, with a focus now on providing students with opportunities to participate in the educational process and to become self-reliant in exploring technological tools and methods in teaching and learning.

The role of the teacher and the school has changed in the technological age, with a greater emphasis on providing students with opportunities to participate in the educational process and to rely on themselves to learn about technological tools and methods in teaching and learning. A study by Taha and Bastawisi (2019) confirmed the lack of attention given by kindergarten teachers to developing health awareness among kindergarten children, in addition to the fact that many of them suffer from illnesses that affect their health. Furthermore, the study highlighted the teachers' limited use of engaging educational activities. In light of the above, we can affirm that augmented reality technology represents a scientific breakthrough in the field of e-learning. The focus on employing it as an educational strategy in early childhood aligns closely with future needs. Therefore, the current study derives its importance from the significance of early childhood education, the importance of instilling the initial seeds of a love for science combined with technology in children, and the need to use educational technologies to improve and develop children's learning and equip them with sufficient technological skills.

The Problem of the Study:

The problem addressed in this study stems from our work as supervisors of early childhood students in practical education. We observed certain behaviors indicating a low level of children's awareness of the health concepts necessary to protect them from health risks and problems. This was compounded by teachers' reliance on traditional methods and approaches to developing these concepts. Furthermore, a review of previous studies on developing health concepts in kindergarten children confirmed that most of them emphasized the low level of health awareness in kindergartens due to the use of traditional methods. This negatively impacted the children's understanding of health concepts, as highlighted by the studies of Al-Maliji (2021) and Nassar et al. (2019). The results of the study by Pippi et al. (2020) also recommended the necessity of enhancing health awareness among kindergarten children. The study by Dias, Maria J.A. (2020) emphasized the need to eradicate health illiteracy

from childhood to old age. Additionally, numerous conferences have recommended the integration of modern educational technologies in the field of learning and teaching. Attention was also given to ways of developing augmented reality (AR) technology to help achieve its desired educational goals. Among the most prominent conferences on this topic were the Fourth International Conference on E-Learning and Distance Education in Riyadh (2015), the Fifth Teacher Preparation Conference held at Umm Al-Qura University (2016), the Scientific Conference of the College of Graduate Studies in Education in cooperation with the Arab Society for Educational Technology, entitled "Education and Interactive Learning Environments: Challenges of Reality and Visions of the Future" (2017) in Egypt, and the Second International Conference on the Future of Digital Education in the Arab World held in Saudi Arabia (2021). The latter conference specifically recommended the necessity of developing skills in using AR technology, researching its impact on enhancing learners' technical skills, and encouraging its widespread use in education. As a result, many educational institutions began employing AR technology in their educational programs, which is where the researchers identified the problem: identifying the level of AR use by kindergarten teachers in developing health awareness among kindergarten children.

Research Questions:

To what extent do kindergarten teachers use augmented reality (AR) technology to develop health awareness in kindergarten children?

This leads to the following questions:

To what extent do kindergarten teachers use AR technology to develop environmental health awareness in kindergarten children?

To what extent do kindergarten teachers use AR technology to develop healthy sleep habits in kindergarten children?

To what extent do kindergarten teachers use AR technology to develop children's awareness of diseases and their prevention?

To what extent do kindergarten teachers use AR technology to develop children's awareness of first aid?

RESEARCH METHODOLOGY

This study employed a descriptive approach to identify the extent to which kindergarten teachers use AR technology to develop health awareness in kindergarten children. **Spatial Boundaries:** The study was conducted on kindergarten teachers enrolled in a government-run kindergarten affiliated with the Early Childhood Education Department in Najran.

Human Boundaries: Kindergarten teachers enrolled in a government-run kindergarten affiliated with the Early Childhood Education Department in Najran.

Temporal Boundaries: The study was conducted on the study sample during the first semester of the academic year 1447 AH.

Thematic Boundaries: The study addressed the use of electronic stories in developing health awareness (personal hygiene, physical health, healthy food, prevention, and safety) among kindergarten children.

Research Sample: The study sample consisted of a random sample of 70 kindergarten teachers in Najran, enrolled in a government-run kindergarten affiliated with the Early Childhood Education Department in Najran.

Study Terminology:

Augmented Reality: Al-Asraj (2019) defines augmented reality technology as a technology that allows the user to interact with digital content anytime and anywhere through specialized applications.

Al-Ayed and Al-Shaya define it similarly. (2018) It is defined as the technology that aims to add virtual elements to the real environment using the camera of smart devices, allowing individuals, when looking at the screen, to see their surroundings with additional information that complements the images they are viewing.

Operationally, it is defined as the technology that blends the real world, with its elements and materials present in the child's environment, with the virtual reality projected using appropriate applications to develop health awareness (environmental health, sleep health, diseases and their prevention, and the concept of first aid) among kindergarten children.

Health awareness:

Erekat (2018) defines it as an ongoing process aimed at encouraging children to adopt healthy lifestyles and practices, thereby improving their behaviors and preserving their health and the health of their community by preventing or reducing the incidence of disease.

It is also defined as the ability of an individual, their family, and their local community to access, understand, and utilize information in ways that promote and maintain good health (World Health Organization, 2020). Operationally, it is defined as the kindergarten child's familiarity with health knowledge and information, the development of positive attitudes towards healthy behaviors, encouraging them to maintain their health, and accustoming them to practicing sound health behaviors (environmental health, healthy sleep, diseases and their prevention, and the concept of first aid).

Kindergarten Teachers: Attia (2021) defines them as the educator and leader tasked with nurturing learners and providing them with various types of knowledge. They are characterized by virtuous morals, refined character, and sound mental, physical, psychological, and moral well-being. They possess the necessary skills to perform their educational role effectively, build positive relationships with their students, and serve as good role models.

Operationally, they are defined as individuals holding an academic qualification (Bachelor's degree in Early Childhood Education) who work in government kindergartens affiliated with the Ministry of Education in Najran, as teachers dedicated to the care and education of children.

Research Tools and Materials:

Research Tools

A questionnaire to measure the level of kindergarten teachers' use of augmented reality technology in developing health awareness among kindergarten children. It includes the following topics: (Environmental Health - Sleep Health - Diseases and Their Prevention - The Concept of First Aid). The objective of the questionnaire was to identify the level of kindergarten teachers' use of augmented reality technology in developing health awareness among kindergarten children. The researchers relied on the following sources to develop the research tool: research and studies that addressed early childhood development, its philosophies, augmented reality, and health awareness. The instrument consists of four main sections: the first section is Environmental Health and comprises (7) statements; the second section is Sleep Health and comprises (7) statements; the third section is Diseases and their Prevention and comprises (7) statements; and the fourth section is the Concept of First Aid and comprises (7) statements. The total number of statements across the four sections is 28. Teachers respond by choosing Yes, No, or Somewhat. The questionnaire is scored accordingly: 3 points for choosing Yes, 2 points for choosing Somewhat, and 1 point for choosing No. The total score for the questionnaire is 84. Instructions for the teachers are provided before the start of the questionnaire, explaining the concept of the test in the simplest possible terms, how to answer its questions, and providing an example of how to respond to the questionnaire questions.

To ensure the validity of the initial version of the test, the researchers confirmed the validity of the initial version of the scale by calculating the psychometric properties of the scale and its items, through: calculating the validity and reliability of the study instrument. The level of use of augmented reality technology by kindergarten teachers in developing health awareness among kindergarten children includes the following axes (environmental health - health in sleep - diseases and their prevention - the concept of first aid).

Face Validity (Arbitrator Validity):

The researchers confirmed the face validity of the test by presenting it to a group of nine (9) expert arbitrators with specialized knowledge and experience in the field of study. These arbitrators reviewed the study's title, questions, and objectives. They were asked to provide their opinions and observations on the suitability of the questionnaire items for measuring kindergarten teachers' use of augmented reality technology in developing health awareness among kindergarten children. Their feedback focused on: the appropriateness of the statements to the study's focus, the accuracy of the language used, and the suitability of the images. Some statements and images were revised based on the arbitrators' feedback.

Statistical Analysis:

The researchers used the Statistical Package for the Social Sciences (SPSS 25) for the statistical analyses and employed the following statistical methods:

- 1- Pearson's correlation coefficient; 1. To measure internal consistency and construct validity.
- 2- Cronbach's alpha coefficient and split-half method to measure scale reliability.
- 3- Arithmetic mean and standard deviation.
- 4- Mann-Whitney U test to measure the discriminatory power of scale items (extreme comparison).
- 5- A three-tiered scale to determine the level of the axes and the scale as a whole, as shown in Table (1).

Level			Class length	Range	Max degree	Min degree	
high	medium	Low					
23.34 to 28	18.7 for less than 23.34	14for less than 18.67	4.67	14	21	7	Aspects
65.33 to 84	46.67 for less than 65.33	28for less than 46.67	18.67	56	84	28	Scale

Results of Internal Consistency Validity of the Scale

To verify internal consistency validity, correlation coefficients were calculated between the scores of each scale item and the total scores for the axis to which the item belongs. These coefficients ranged from 0.548 to 0.789, and all were statistically significant. Therefore, the scale items are considered valid for what they were designed to measure.

Results of Construct Validity of the Scale

To verify the construct validity of the scale, correlation coefficients were calculated between the total scores for each axis and the total scale scores. The results are shown in Table (2): Table (2): Shows the correlation coefficients between the total scores for each axis and the total scale scores.

Table (2): Shows the correlation coefficients between the total scores for each dimension and the total scale scores.

Aspects	Correlation coefficient
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Environmental health	0.668**
Sleep health	0.490**
Diseases and their prevention	0.545**
The concept of first aid	0.576**

Table (2) shows the correlation coefficients between the total scores for each axis and the total scale scores. The coefficients for each axis ranged from 0.490 to 0.668, and all were statistically significant, indicating the validity and homogeneity of the scale dimensions.

Scale and Axial Reliability Results

The reliability of the scale and its dimensions was verified using both Cronbach's alpha coefficient and the split-half method. The results are shown in Table (3).

Table (3): Reliability Coefficients for the Scale and its Dimensions

Half splitting		N	Aspects
Spearman-Brown	Cronbach's alpha coefficient		
	0.808	7	Environmental health
	0.731	7	Sleep health
	0.804	7	Diseases and their prevention
	0.780	7	The concept of first aid
0.807	0.777	28	Total grade

Table (3) shows the reliability coefficients for the scale and its dimensions. The Cronbach's alpha coefficients for the dimensions ranged from (0.731 – 0.808), the overall reliability coefficient for the scale was (0.777), and the split-half reliability coefficient was (0.807). These are acceptable reliability rates, which reassure the researcher about the results of the scale application.

Discriminatory Power of Scale Items

The results of the Mann-Whitney U test for comparing the mean scores of the high-scoring group and the low-scoring mothers' group on the kindergarten children's health awareness scale showed that the Z-values ranged from (3.476 – 5.182), all of which were statistically significant.

This indicates statistically significant differences between high and low-scoring individuals on all scale items, suggesting that the discriminatory power of the scale items is adequate.

Steps of the Study Procedures: - Reviewing previous studies related to the study topic; To prepare the theoretical framework, review previous studies, and research instruments.

- A questionnaire was developed to measure the level of augmented reality (AR) technology used by kindergarten teachers in developing health awareness among kindergarten children. This questionnaire was reviewed by specialists and a language editor to ensure its suitability, correct wording, validity, and reliability.

- The Early Childhood Education Department was contacted to facilitate the researchers' application of the research instruments to kindergarten children.

- A pilot sample of 30 kindergarten teachers was selected to administer the test and confirm its validity and reliability.

- The test was administered to the main sample of 70 kindergarten teachers in Najran.

- A program based on the use of electronic stories to develop health awareness among kindergarten children was developed and implemented with the study sample.

- After the program's implementation with the study sample, a pictorial health awareness test was administered to assess the level of health awareness among the kindergarten children.

- The data was tabulated and coded in the SPSS statistical analysis program in preparation for analysis. - Analyzing the data statistically to answer the research questions.

- Interpreting and discussing the results, and writing recommendations and suggestions.

Study Results

Answer to the main research question:

- The main question states: "To what extent do kindergarten teachers use augmented reality technology in developing health awareness among kindergarten children?"

- To answer the main question, the mean scores, standard deviation, relative weight, and level (low – medium – high) were calculated. The results are as follows:

Table (4): Arithmetic mean, standard deviation, relative weight, and level of the research sample teachers' scores on the health awareness scale for kindergarten children.

Scale	M	St-dev	Relative weight	Level
Health awareness among kindergarten children	52.87	6.11	%62.94	Medium

Table (4) shows that the level of kindergarten teachers' use of augmented reality (AR) technology in developing health awareness among kindergarten children was moderate, with the average score of the teachers in the research sample being (52.87), representing a relative weight of (62.94%), which is considered moderate.

The results of this study are consistent with the research of Abdul Rahman (2020), which found that early childhood teachers have a moderate level of awareness regarding the concept of AR technology and the basic requirements for its use in early childhood education, such as internet access, prior planning to determine the concepts they wish to convey to children through this technology, and the media that will assist them in this. However, they lack sufficient awareness of how to employ it in early childhood education. Similarly, Khamis's (2022) study indicates that technological illiteracy in society and a lack of awareness about AR technology, coupled with societal skepticism about the effectiveness of AR technology compared to traditional methods, may affect the level of communication and human interaction among children.

Answer to the first sub-question of the research:

The first sub-question states, "To what extent do kindergarten teachers use augmented reality technology in developing the environmental health of kindergarten children?"

To answer the first sub-question, the mean scores, standard deviation, relative weight, and level (low – medium – high) were calculated. The results are as follows:

Table (5): Arithmetic mean, standard deviation, relative weight, and level of the teachers' scores in the research sample on the first axis (environmental health).

Scale	M	St-dev	Relative weight	Level
Environmental Health	13.67	2.56	65.10%	Medium

Table (5) shows that the level of kindergarten teachers' use of augmented reality (AR) technology in developing environmental health awareness among kindergarten children was moderate, with the average score of the teachers in the research sample being (13.67), representing a relative weight of (65.10%), which is considered moderate.

The results of this study are consistent with Al-Tamimi's study (2024), which indicated a lack of adaptive AR technology among early childhood teachers in teaching children. This is attributed to the heavy workload placed on teachers, preventing them from using this type of technology in education; the scarcity of AR applications that support health awareness; the difficulty kindergarten children have in interacting with AR technology; and the challenges of implementing AR technology with large groups of kindergarten children.

Answer to the second sub-question of the research:

The second sub-question states: "What is the level of kindergarten teachers' use of AR technology in developing sleep health among kindergarten children?" To answer the second sub-question, the mean scores of the scale, the standard deviation, the relative weight, and the level (low - medium - high) were calculated, and the results came as follows:

Table (6): The arithmetic mean, standard deviation, relative weight, and level of the scores of the research sample teachers on the second axis (health in sleep).

Scale	M	St-dev	Relative weight	Level
Sleep Health	12.49	2.78	59.46%	Medium

Table (6) shows that the level of kindergarten teachers' use of augmented reality (AR) technology in developing children's health awareness regarding sleep was moderate, with the average score of the teachers in the research sample being (12.49) with a relative weight of (59.46%), placing them at an average level.

The study's results are consistent with the control study (2020), which indicated a lack of awareness among early childhood teachers regarding how to utilize AR technology in children's education. This may be due to the fact that these teachers were not exposed to the concept of AR technology and how to use and adapt it in their teaching during their pre-service training, nor were they given sufficient training in its application during their service.

Answer to the third sub-question of the research:

The third sub-question states: "What is the level of kindergarten teachers' use of AR technology in developing children's awareness of diseases and their prevention?" To answer the third sub-question, the mean scores of the scale, the standard deviation, the relative weight, and the level (low - medium - high) were calculated, and the results came as follows:

Table (7): The arithmetic mean, standard deviation, relative weight, and level of the scores of the research sample teachers on the third axis (diseases and their prevention).

Scale	M	St-dev	Relative weight	Level
Diseases and their prevention	14.87	2.48	70.82%	Medium

Table (7) shows that the level of kindergarten teachers' use of augmented reality (AR) technology in developing children's awareness of diseases and their prevention was moderate. The average score of the teachers in the research sample was (14.87), with a relative weight of (70.82%), placing them at an average level.

The study's results are consistent with Al-Tamimi's (2024) study, which indicated a lack of adaptive AR technology among early childhood teachers in teaching children. This is attributed to the heavy workload placed on teachers, preventing them from using this type of technology in education; the scarcity of AR applications that support health awareness; the difficulty kindergarten children face in interacting with AR technology; and the challenges of implementing AR technology with large groups of kindergarten children.

Answer to the fourth sub-question of the research:

The fourth sub-question asks: "What is the level of kindergarten teachers' use of AR technology in developing children's awareness of first aid?" To answer the fourth sub-question, the mean score, standard deviation, relative weight, and level (low - medium - high) were calculated, and the results were as follows:

Table (8): Arithmetic mean, standard deviation, relative weight, and level of the scores of the research sample teachers on the third axis (the concept of first aid).

Scale	M	St-dev	Relative weight	Level
The concept of first aid	11.84	2.57	56.39%	Medium

Table (8) shows that the level of kindergarten teachers' use of augmented reality (AR) technology in developing first aid awareness among kindergarten children was moderate, with the average score of the teachers in the research sample being (11.84), representing a relative weight of (56.39%), which is considered moderate.

The results of this study are consistent with Abdul Rahman's (2020) study, which concluded that the weak application of AR technology in kindergartens stems from the lack of necessary equipment and software for teachers, the dependence of AR education on other technological factors such as the efficiency and accessibility of communication networks, and the lack of digital content prepared by AR specialists.

Based on the above, it is clear that the obstacles to using AR technology in developing health awareness among kindergarten children are due to:

The heavy workload placed on teachers, which prevents them from using this type of technology in education.

The teachers' weak skills in using AR technology.

The teachers' negative attitudes towards using AR technology in teaching kindergarten children. Lack of guidance materials explaining to teachers how to use augmented reality (AR) technology in kindergarten education.

A scarcity of AR applications that fully support health awareness.

Difficulty kindergarten children encounter with AR technology.

Challenges in implementing AR technology with large groups of kindergarten children.

Limited resources available to educational institutions for implementing AR technology in kindergarten education. Overall average

Suggestions for Activating Augmented Reality in Developing Health Awareness in Kindergarten Children:

Incorporating augmented reality (AR) learning technology into some kindergartens as a pilot program at this stage.

Implementing AR learning in phases to ensure a gradual transition from traditional to AR learning.

- Promoting a culture of integrating reality into AR technology.

- Gradually implementing AR learning in stages.

- Conducting training courses and programs on utilizing AR applications in kindergarten.

- Establishing clear and specific standards to ensure the quality of AR learning outcomes.

- Developing the necessary infrastructure for health-related activities that require internet connectivity.

- Raising digital awareness to develop skills in using AR applications in kindergarten.

Study Recommendations: Based on the findings, the researchers recommend the following:

1- Developing a guide for early childhood teachers explaining how to utilize AR technology in teaching kindergarten children.

2- Conducting workshops for early childhood teachers to train them on AR applications.

3- Conducting training courses for early childhood teachers to familiarize them with the importance of using augmented reality technology and encourage them to implement it in education.

Recommendations: The current study suggests:

1- Conducting a study on the current use of augmented reality technology in developing physical concepts in early childhood.

2- Conducting a study on the impact of using augmented reality technology on developing linguistic concepts in early childhood.

3- Conducting a study on the effectiveness of using augmented reality technology in developing biological concepts in early childhood.

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