The Effectiveness Of Using Augmented Reality Technology In Teaching History To Develop Digital Citizenship In The Light Of The Vision Of The Kingdom Of Saudi Arabia 2030

Ahmed Mohammed Abdelmotaleb Mohammed, Mohammad Abdulrahman alsalamah

Abstract
The study aimed to identify the effectiveness of using augmented reality technology in teaching history to develop digital citizenship in light of the aspirations of the vision of the Kingdom of Saudi Arabia 2030. Therefore, the study relied on the quasi-experimental approach, and its members consisted of (60) first-year secondary students in one of the schools in Al-Rass in the first semester of the academic year 1441/1442 AH. The number of students was (30) and the control group studied the educational unit in the usual way, and its number was (30) students.

Keywords:
Augmented Reality, Technology, History, Teaching, Digital Citizenship, Saudi Vision 2030

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Introduction
It has become one of the requirements of modern education to develop the skills necessary for the future by creating an appropriate educational environment and designing curricula that qualify young people to keep pace with progress and development in an era in which nations are measured by their minds capable of construction and development (Mujahid and Abdel Wahab, 2021, 7).

Augmented reality technology depends on linking features from the real reality with the appropriate virtual element that is previously stored in its memory, such as historical and geographical coordinates, information about the place, introductory video or any other information that enhances the real reality (Al-Amraji, 2017).

Augmented reality is defined as a type of virtual reality that aims to replicate the real environment in the computer and enhance it with virtual data that was not part of it. In other words, the augmented reality system generates a composite display for the user that mixes the real scene that the user looks at and the virtual scene created by the computer and tablets which enhances the real scene with additional information by which the real science is integrated with the virtual world by smart devices (Issa, 2020, 4).

Al-Enizi (2021, 112) defines it as integrating digital content such as images, videos, three-dimensional shapes and others into the student's real environment and enhancing it with additional virtual information that increases the student's capabilities, interaction and understanding of the educational content.

Characteristics of augmented reality in education:
(Isa, 2020: 14) see that one of the characteristics of augmented reality is the mixing of the real and the virtual, in a real, interactive environment that, at the time of its use, is three-dimensional; Augmented reality provides clear and accurate information, the ability to enter information in an easy and effective way, and the possibility of interaction between two parties, such as: (teacher and learner).

Simplicity of use and powerful information delivery has made complex procedures easy for users, cheaper in cost, and augmented reality technology allows the combination of real-world objects with virtual objects or virtual information. As a result, virtual objects seem to coexist in the same space with the real world. However, AR is not limited to a visual feeling only, but can be applied to all senses such as hearing, touch, and smell.

Augmented reality helps students interact with educational content by leveraging what they know about interacting with the physical world - they can pan to change perspective, pan to change scope while providing an innovative learning space. This is by integrating digital education materials with various media formats of means and tools, which are direct parts of the physical space or the so-called physical environment, thus creating an opportunity for learners to enjoy (a situational learning), and one of the most important aspects of augmented reality is the ability to enter information in an easy and effective way, and the possibility of interaction between two parties, such as: (teacher and learner).
realism is to motivate learners to participate in learning. Because it combines fun and knowledge at the same time, and this would motivate learners to discover more in the educational content.

**digital citizenship:**

Digital citizenship is one of the most important areas that require the individual to interact with others using digital tools and resources such as the computer in various forms, and the information network as a medium for communication with others, using many means or images such as: e-mail, blogs, websites, and various social networks (Sharaf and Damardash, 2014)

The researchers believe that digital citizenship requires awareness of the digital world and its components, possessing effective and appropriate practice skills in the uses of the digital world with its various mechanisms, and following moral rules that make a person’s technological behavior characterized by social acceptability in interaction with others.

**Components of digital citizenship:**

(Khalil, 2021), (Al Rabaa, 2019), (Ibrahim, 2018) identified the following nine elements as components of digital citizenship:

- Digital availability for all: Technology users should be aware that there are not equal opportunities for all individuals to access technology despite the importance of this availability for these individuals to be digital citizens, and therefore it is necessary to search for alternative resources and opportunities to achieve the requirement of access to all.

- Digital commerce: The users of technology should be aware that the buying and selling of goods and supplies has become widely and rapidly through various technical media, with what is now called digital commerce, and that this requires awareness of those processes and the laws regulating them and the ethics that govern the behavior of individuals during the conduct of digital commerce operations. Ultimately making them active users of modern digital commerce tools.

- Digital Communication: The digital revolution, whose applications have emerged widely in the twenty-first century, has provided various opportunities for communication between individuals wherever they are, through many media such as: e-mail, mobile phones, instant messages, ... and this requires the education and training of individuals to know The appropriate options for communicating through these media.

- Digital Literacy: Technology has made its way to educational institutions and has some basic structures and requirements such as computers, software and applications in some educational and training fields. With the belief in the importance of technology in the educational process, it became necessary to be aware of its uses and to possess the necessary skills to benefit from it and its applications, which is what means the necessity of technological and information literacy among many of its users.

- Digital fitness: that users of technology see that one of the urgent problems associated with digital citizenship is irresponsible, inappropriate behavior, or violating some of the etiquette of digital dealing in any of its media, which makes those responsible for these media resort to preventing them from participating and communicating in violation of rules and ethics. This prohibition is not sufficient to prepare a responsible digital citizen, but we should educate and train him on appropriate behavior patterns to act as a responsible citizen.

- Digital laws: The society has become acquainted with a set of laws that represent the ethics of this society, the abandonment of which is tantamount to committing violations and crimes that expose individuals to falling under the law. Examples of these violations include the robbery of the intellectual property of some publishers and authors without prior permission, and this requires The digital citizen's awareness of these laws and ethics to protect them from such crimes and violations.

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- Digital rights and responsibilities: Related to the aforementioned digital laws are rights that should be preserved for any digital citizen that represents disciplined freedom and privacy, and on the other hand, they are offset by duties to preserve this freedom and privacy, which means that rights and duties are two sides of the same coin. If you want to preserve the right of the other, then Your duty towards it and vice versa to be a responsible digital citizen.
Digital rights and responsibilities: Related to the aforementioned digital laws are rights that should be preserved for any digital citizen that represents disciplined freedom and privacy, and on the other hand, they are offset by duties to preserve this freedom and privacy, which means that rights and duties are two sides of the same coin. If you want to preserve the right of the other, then Your duty towards it and vice versa to be a responsible digital citizen.

Digital health and safety: technology users are exposed to some forms of physical stress that fall on the eyes and hearing, as well as psychological stress, which exposes them to some risks in their personal and work lives, and this requires the education and training of individuals on the optimal and appropriate use of these technologies while dealing with them.

Digital security (self-protection): Technology users are exposed to some forms of theft and various violations by some professionals, and this requires that we prepare the digital citizen on, among other things, the ability to deal with these thefts and violations, relying on antivirus software, and making backup copies of Data in anticipation of its loss and knowledge of the necessary tools for control and guidance.

Since the date of the announcement of the vision of the Kingdom of Saudi Arabia 2030 in 2016, all specialists in all educational fields have been striving to achieve what is contained in this forward-looking vision for the future of the Kingdom of Saudi Arabia, which includes ways of educational development in terms of building the philosophy of the curricula, policies, objectives, ways to develop them and mechanisms for activating them and making the learner the focus. It is not the teacher and the focus is on building skills and building a school environment that is stimulating, attractive and willing to learn. This is to achieve the education outcomes in the Kingdom’s Vision 2030, which are derived from the following areas:

Cognitive outputs:
- Cognitive Learning Outcomes
- Defining concepts, generalizations, and skills.
- The capacity of the education system, the requirements of development and the needs of the labor market.
- Apply mathematical, scientific and engineering knowledge.
- Skill outputs includes:
  - Creates creative solutions to the problems that direct him.
  - Analyze and think critically by developing curiosity to gain knowledge and knowledge.
  - Fluent and competently manage knowledge and inspired leadership skills.

Outcomes of dealing with others
- Responds responsibly in educational and personal situations.
- Participates in the work team.
- He chooses the professional field that suits him.
- Develops and enhances his personality in a developmental way and his talent for self-learning.

Communication and information technology outputs:
- Communicate with others Can effectively orally and in writing.
- Uses knowledge in solving life problems, and communication and information technology effectively.
- Employs acquired skills in support of national strategic plans.

Psychokinetic outputs:
- Uses the modern technologies necessary to carry out his duties, and the necessary skills in practical applications.
- Uses available tools and resources effectively.
- Fluent in motor and psychological synergy in the necessary skill performances. (Mr., 2018)

Many studies have proven the effectiveness of augmented reality technology in developing many skills, such as the Warrior study (2019), which revealed the effectiveness of using augmented reality technology in academic achievement, learning retention, and cognitive burden among tenth grade students in social studies, and the study recommended the need to take advantage of reality technology. Enhanced teaching of social studies at all levels of study, developing the competencies of social studies teachers and training them to use this technology. The study of (Sayed, 2019) showed middle school students their admiration for the blended learning environment based on augmented reality technology in social studies - history branch in the traditional classroom, and it had a significant impact on the development of achievement, some information processing skills and historical thinking of this group, and the study of the fourth (2019), a study (Lim; and Lim, 2020), and a study (Schiavi, 2018) all confirmed the effectiveness of employing augmented reality in teaching civic and civic education in developing digital citizenship and metacognition skills for tenth grade students. Al-Zahrani's study (2019) recommended setting policies related to digital citizenship in schools and the mechanisms for their implementation, and the roles and responsibilities of the elements of the educational process in the implementation processes.
By analyzing the trends of digital citizenship for school students in terms of different variables and ascertaining whether the attitude towards technology is an important indicator of digital citizenship, (Erdoğan; Tonga, 2020) and (Lozano-Díaz, & Fernández-Prados, 2020) have studied Through it, he concluded that there is a significant difference between the attitudes of digital citizenship and access to the Internet, the year of Internet use, the area of Internet use, Internet use skills, the level of knowledge of rights and responsibilities, and variables of the education status of the father and mother. It was also found that the attitude towards technology is an important indicator of the attitude of digital citizenship.

Many studies emphasized the importance of activating digital citizenship in secondary schools and clarifying its effective role in building the personality of the digital citizen within the framework of appropriate and responsible behavior rules for using technology to ensure sound digital and intellectual practices among our students to keep pace with the developmental digital requirements to achieve Vision 2030, such as the Al-Shehri study (2020), And Ibrahim’s study (2018), and Al-Omarji study (2017), where the results agreed on the existence of great effectiveness for using social networks in teaching history and developing political awareness and digital citizenship values among the students of the experimental group, as well as the effectiveness of using augmented reality technology in teaching history for the first secondary grade on developing Students' achievement, historical thinking skills, and motivation to learn using technology

As a result of the importance of teaching history and the importance of teaching digital citizenship and the educational benefits achieved from employing augmented reality technology in education and the importance of achieving the requirements of the Kingdom’s Vision 2030, this study seeks to measure the effectiveness of using augmented reality technology in teaching history to develop digital citizenship in light of the aspirations of the vision of the Kingdom of Saudi Arabia 2030.

problem of the study

The problem of the study came from the researchers’ observation of some abnormal digital practices during learning, and the low level of awareness among social studies teachers of augmented reality programs with the failure to employ teaching strategies that support modern technologies, and work on developing digital citizenship skills in teaching history, as indicated by a study monthly (2020) And the Raba’a study (2019), the Zahrani study (2019), the Ibrahim study (2018), and the Olayan study (2017). The problem is expanding in light of the requirements to achieve the Kingdom’s vision 203, which calls for the need to learn and expand knowledge and training on communication and information technologies effectively and using them in all fields. Educational, educational and training. Thus, the study problem was determined in the following basic question: What is the effectiveness of using augmented reality technology in teaching history to develop digital citizenship in light of the aspirations of the vision of the Kingdom of Saudi Arabia 2030? A number of sub-questions emerge from this question:

1) Are there statistically significant differences at the level of significance (a ≤ 0.05) between the mean scores of the two groups of the experimental and control study on the tribal digital citizenship scale?
2) Are there statistically significant differences at the level of significance (a ≤ 0.05) between the mean scores of the two groups of the experimental and control study on the post digital citizenship scale?
3) Are there statistically significant differences at the level of significance (a ≤ 0.05) between the mean scores of the members of the pre-experimental group and the mean scores of the members of the post-experimental group on the digital citizenship scale?

Study Approach:
The researchers used the quasi-experimental approach, for its convenience, to reveal the effectiveness of using augmented reality technology in teaching history to develop digital citizenship in light of the aspirations of the vision of the Kingdom of Saudi Arabia 2030. The design with two experimental and control groups with a pre and post test was used, where the experimental group is subjected to the experimental independent variable, which is Augmented reality technology, while the control group is isolated from it.

Study population and sample:
The study population consists of all first-year secondary students at Al-Rass Secondary School for Boys affiliated to the Department of Education in Al-Rass city in the academic year 1441/1442 AH, and their number was (60) students during the first semester. Then the researchers applied the study to (60) students, who were divided into two groups (experimental and control).

The fifth unit of the history course was taught for the first secondary grade, which deals with the following lessons (Kingdom of Saudi Arabia: foundation, Kingdom of Saudi Arabia: uniting the country, Saudi Arabia: foundations of the state, Kingdom of Saudi Arabia: covenants of kings, Saudi Arabia: civilizational achievements, architecture The Two Holy Mosques) for the experimental group using augmented reality technology, while the control group was taught in the traditional way, and the number of members of each group was (30) students.

Study tools:

Study tools:

The validity of the scale was verified by its apparent validity by presenting it to (11) arbitrators who are specialists in the field of educational psychology, measurement, evaluation, curricula and teaching in public universities.

The proposed modifications were made and the scale in its final form consisted of (48) items. The answer to the scale’s items consisted of three degrees, where the student assesses her level of digital citizenship on each item as follows: Grade (3) means that the student has always achieved the level of citizenship Digital, and grade (2) means that the student sometimes achieves the level of digital citizenship and grade (1) means that the student has never achieved the level of digital citizenship.

The minimum score that a student can obtain on the scale is (48) and the maximum score is (144). The level of digital citizenship for tenth grade students was divided into three levels: (high, medium and low) by dividing the number range from 103 into Three categories to get over each level.

Structural validity: To verify the structural validity of the scale, the researcher calculated the correlation coefficients between each item of each domain with the total score of the domain. It was found that the values of the correlation coefficients between each item of each domain and the total score are as follows:

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>correlation coefficient</th>
<th>Paragraph</th>
<th>correlation coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.67</td>
<td>24</td>
<td>0.67</td>
<td>1</td>
</tr>
<tr>
<td>0.75</td>
<td>26</td>
<td>0.75</td>
<td>2</td>
</tr>
<tr>
<td>0.75</td>
<td>27</td>
<td>0.75</td>
<td>3</td>
</tr>
<tr>
<td>0.75</td>
<td>28</td>
<td>0.75</td>
<td>4</td>
</tr>
<tr>
<td>0.79</td>
<td>29</td>
<td>0.79</td>
<td>5</td>
</tr>
<tr>
<td>0.87</td>
<td>30</td>
<td>0.87</td>
<td>6</td>
</tr>
<tr>
<td>0.87</td>
<td>31</td>
<td>0.87</td>
<td>7</td>
</tr>
<tr>
<td>0.87</td>
<td>32</td>
<td>0.87</td>
<td>8</td>
</tr>
</tbody>
</table>

Enabling digital security

Promote digital culture

Digital health and safety

Knowledge of the digital laws

<table>
<thead>
<tr>
<th>Paragraph</th>
<th>correlation coefficient</th>
<th>Paragraph</th>
<th>correlation coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.87</td>
<td>33</td>
<td>0.87</td>
<td>10</td>
</tr>
<tr>
<td>0.91</td>
<td>34</td>
<td>0.91</td>
<td>11</td>
</tr>
<tr>
<td>0.67</td>
<td>35</td>
<td>0.67</td>
<td>12</td>
</tr>
<tr>
<td>0.91</td>
<td>36</td>
<td>0.91</td>
<td>13</td>
</tr>
<tr>
<td>0.88</td>
<td>37</td>
<td>0.88</td>
<td>14</td>
</tr>
<tr>
<td>0.67</td>
<td>38</td>
<td>0.67</td>
<td>15</td>
</tr>
</tbody>
</table>
It is clear from the table that all the values of the correlation coefficients are positive, high and significant at the (0.05) level, and indicate the internal consistency between each paragraph and the degree of the domain to which it belongs.

**The stability of the digital citizenship scale:**
The researchers extracted the stability of the digital citizenship scale in two ways:
The method of testing and re-testing: (Test-ReTest) by applying it to a sample from outside the study sample and from its community, which amounted to (20) students with a time difference of two weeks, after which the reliability coefficient was calculated using the Pearson correlation coefficient.

Internal consistency method using alpha Cronbach’s equation: The reliability was calculated through a random sample of (20) students from outside the study sample and from its community, using the alpha Cronbach method.

**Table (2): The stability coefficient by the internal consistency method Cronbach’s alpha to calculate the stability of the paragraphs of the digital citizenship scale**

<table>
<thead>
<tr>
<th>correlation coefficient</th>
<th>Alpha Cronbach</th>
<th>the field</th>
<th>number</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.74</td>
<td>0.92</td>
<td>develop digital culture</td>
<td>1</td>
</tr>
<tr>
<td>0.75</td>
<td>0.92</td>
<td>Knowledge of the digital laws</td>
<td>2</td>
</tr>
<tr>
<td>0.81</td>
<td>0.74</td>
<td>E-Commerce</td>
<td>3</td>
</tr>
<tr>
<td>0.85</td>
<td>0.86</td>
<td>Enabling digital security</td>
<td>4</td>
</tr>
<tr>
<td>0.75</td>
<td>0.78</td>
<td>Digital health and safety</td>
<td>5</td>
</tr>
<tr>
<td>0.86</td>
<td>0.72</td>
<td>Digital Citizen Responsibilities</td>
<td>6</td>
</tr>
<tr>
<td>0.79</td>
<td></td>
<td>total summation</td>
<td></td>
</tr>
</tbody>
</table>

It is clear from the table that the reliability coefficient using the Pearson correlation coefficient as a whole was (0.79), and the values of Cronbach's alpha coefficients ranged between (0.72-0.92), and these values are considered high, which indicates that the reliability of the measurement fields is high.

**Augmented Reality Technology:**
The goal of using augmented reality technology is to develop digital citizenship skills for first-year secondary students in light of the aspirations of the Kingdom’s Vision 2030. To achieve this goal, the researchers followed the following steps in preparing a learning environment based on augmented reality technology:
1) Analysis stage: where the fifth unit of history (National History: Saudi Arabia) was analyzed for the first grade of secondary school, and the characteristics of the students were determined, as their ages ranged between (15-16) years, then the unit was analyzed into Lessons are (), and analyze the objectives of the unit lessons, which are:
2) Preparation stage: At this stage, the cost and time required for preparing augmented reality technologies, preparing videos and images, and selecting the BILPPAR application, which supports augmented reality technologies and is characterized by ease of use, were determined. The procedural goals for each lesson were determined, and the augmented reality growth was determined, which is individual sleep., so that each student can deal with the application on their own using the mobile phone.
3) Development stage: The researchers prepared the unit's content supported by augmented reality technologies, and the videos were linked with the image that was designed, and the BILPPAR program application was downloaded to the students' smartphones.
4) Development stage: The researcher prepared a content modifier project called augmented reality technologies, videos were designed with the image that was designed, and (BILPPAR) application was designed on students' smartphones.

5) Application stage: In this stage, the researchers applied the teaching steps to the two groups as follows:
6) Experimental group: The students of the experimental group were taught the prescribed unit through the use of augmented reality technology.
7) The control group: The students of this group were taught the same prescribed unit in the usual way.
8) Evaluation stage: where the two researchers codified the digital citizenship scale and applied it to an exploratory sample to ensure honesty and stability. After the application was completed, the two tools were applied to the study sample before and after, and then statistical analysis of the study data was conducted and the results were output and discussed.

Results:
The first question states: Are there statistically significant differences at the level of significance (a ≤ 0.05) between the mean scores of the two groups of the experimental and control study on the tribal digital citizenship scale?

In order to answer this question, the arithmetic averages and standard deviations were calculated for the performance of the two study groups on the tribal digital citizenship scale, and Table (3) shows that

<table>
<thead>
<tr>
<th>Table (3) Arithmetic averages and standard deviations of the performance of the two study groups on the tribal digital citizenship scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous application</td>
</tr>
<tr>
<td>standard deviation</td>
</tr>
<tr>
<td>0.88</td>
</tr>
</tbody>
</table>

It is clear from the table that there are apparent differences between the arithmetic averages and standard deviations of the scores of first-year secondary students on the tribal digital citizenship scale between the experimental and control groups, 1.42), in contrast, the tribal arithmetic mean of the scores of the control group that was studied in the usual way on the tribal scale was (2.62), and the standard deviation was (0.88). Determining whether the differences between the means of the two study groups are statistically significant at the level of significance (T-Test) as shown in Table (4):

<table>
<thead>
<tr>
<th>Table (4) (T-Test) to calculate the significance of the differences between the means of the two study groups in previous application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indication level</td>
</tr>
<tr>
<td>0.345</td>
</tr>
<tr>
<td>0.86</td>
</tr>
</tbody>
</table>

It is clear from the table that the calculated value of (t) was (12.65), with a significance level of (0.345), which indicates the insignificance of differences between the scores of the experimental group and the scores of the control group before experimentation, and this indicates the equality of the experimental and control groups.

The second question states: Are there statistically significant differences at the level of significance (a ≤ 0.05) between the mean scores of the two groups of the experimental and control study on the post digital citizenship scale?

In order to answer this question, the arithmetic averages and standard deviations were calculated for the performance of the two study groups on the dimensional digital citizenship scale, and Table (5) shows that

<table>
<thead>
<tr>
<th>Table (5) Arithmetic averages and standard deviations of the performance of the two study groups on the dimensional digital citizenship scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous application</td>
</tr>
<tr>
<td>standard deviation</td>
</tr>
<tr>
<td>0.88</td>
</tr>
</tbody>
</table>
It is clear from Table (5) that there are apparent differences between the arithmetic averages and standard deviations of the scores of first-year secondary students on the dimensional digital citizenship scale between the experimental and control groups. And the standard deviation is (1.42). In contrast, the pre-arithmetic mean of the scores of the control group that was studied in the usual way on the post-scale was (2.42), and the standard deviation was (0.88).

In order to determine whether the differences between the means of the two study groups were statistically significant at the level of significance (0.03), the T-Test was applied as shown in Table (6):

**Table (6) (T-Test) to calculate the significance of the differences between the means of the two study groups previous application**

<table>
<thead>
<tr>
<th>Effect size</th>
<th>Indication level</th>
<th>Calculated (t) value</th>
<th>standard deviation</th>
<th>SMA</th>
<th>the group</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.93</td>
<td>0.03</td>
<td>29.65</td>
<td>1.42</td>
<td>8.80</td>
<td>Experimental</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.88</td>
<td>2.42</td>
<td>previous</td>
</tr>
</tbody>
</table>

It is clear from Table (6) that the calculated value of (T) amounted to (29.65), with a significance level of (0.03), and an effect size of (0.93), which indicates the significance of the differences between the scores of the experimental group and the degrees of the control group in the post application. In favor of the experimental, it is attributed to the use of augmented reality technology in teaching the experimental group.

**The third question states: Are there statistically significant differences at the level of significance (a ≤ 0.05) between the mean scores of the members of the pre-experimental group and the mean scores of the members of the post-experimental group on the digital citizenship scale?**

In order to answer this question, the arithmetic averages and standard deviations were calculated for the performance of the two study groups on the tribal digital citizenship scale and table (7).

**Table (7) Arithmetic averages and standard deviations of the experimental group's pre and post performance on the digital citizenship scale**

<table>
<thead>
<tr>
<th>Previous application standard deviation</th>
<th>SMA</th>
<th>No the group</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.42</td>
<td>2.80</td>
<td>Experimental</td>
</tr>
<tr>
<td>1.42</td>
<td>8.80</td>
<td>previous</td>
</tr>
</tbody>
</table>

It is evident from Table (7) that there are apparent differences between the arithmetic averages and standard deviations of the scores of the experimental group, tribal and remote, on the digital citizenship scale. On the other hand, the arithmetic mean of the scores of the experimental group that was studied using augmented reality technology on the dimensional scale was (8.80), and the standard deviation was (1.42).

In order to determine whether the differences between the means of the experimental group, pre and post, on the digital citizenship scale are statistically significant at the level of significance (0.01), the T-Test was applied as shown in Table (8):

**Table (8) T-test to calculate the significance of the differences between the averages of the pre and post application for the experimental group**

<table>
<thead>
<tr>
<th>Effect size</th>
<th>Indication level</th>
<th>Calculated (t) value</th>
<th>standard deviation</th>
<th>Arithmetic mean</th>
<th>Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.91</td>
<td>0.01</td>
<td>27.33</td>
<td>1.42</td>
<td>2.80</td>
<td>Previous application</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.42</td>
<td>8.80 the post-application</td>
</tr>
</tbody>
</table>

It is clear from Table (8) that the calculated (T) value was (27.33), with a significance level of (0.01), and an effect size of (0.91), which indicates the significance of the differences between the application and is attributed to the use of augmented reality technology in teaching the group. Experimental.

Discuss the results:
The results of the statistical analysis showed the superiority of the experimental group that was taught with augmented reality technology over the control group in digital citizenship skills that were taught in the normal way.

From the researchers’ point of view, this superiority is due to the fact that augmented reality technology is one of the technological innovations that increases students’ learning motivation, because of its fun and excitement, which helped students to progress in learning without getting bored until they reached the stage of mastery, growth of achievement and acquisition of citizenship skills, digital.

Augmented reality technology takes into account individual differences between students and encourages self-learning and self-organization, and uses visual culture from videos and images to work on the communication of knowledge and addresses all the senses of students from hearing, sight and others. The augmented reality technology has also helped enable students to mix self-learning and university learning and exchange experiences Among the students, and enabled the students to use it at home, which gave them flexibility in the achievement and acquisition of skills.

The results of the current study agree with many of the results of previous studies, such as: Al-Mohareb study (2019), Sayed study (2019), Al-Raba’a study (2019), Al-Omarji study (2017), where the effectiveness of using augmented reality technology in academic achievement, learning retention and burden was confirmed. Knowledge of tenth grade students and middle school students in social studies - history branch, and in teaching national and civic education in developing digital citizenship, historical thinking skills, motivation to learn, as well as students’ metacognition skills

**Study Recommendation:**

1) According to the results of the study, the researchers recommend the need to use history teachers in particular and social studies teachers in general to purify the augmented reality as one of the teaching techniques that support digital citizenship and the development of thinking, and the need to integrate digital citizenship skills into history curricula in light of the Kingdom’s vision 2023 AD. The researchers also recommend including teacher guides in history books, modern teaching strategies that support technical innovations, especially augmented reality technology

2) According to the results of the study, the researchers recommend the need to use history teachers in particular and social studies teachers in general to purify the augmented reality as one of the teaching techniques that support digital citizenship and the development of thinking, and the need to integrate digital citizenship skills into history curricula in light of the Kingdom’s vision 2023 AD. The researchers also recommend including teacher guides in history books, modern teaching strategies that support technical innovations, especially augmented reality technology.

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