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The Role of Virtual Classrooms on Developing Reflective Thinking in Islamic Education Among Students from Teachers' Perceptions in UAE

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ABSTRACT

The research aimed to identify the role of virtual classrooms on developing reflective thinking in Islamic education among students from teachers' perceptions in UAE. To achieve that, a quantitative design (descriptive-analytical approach) was used, and a questionnaire consisting of 30 items, distributed equally into two domains: the importance of employing virtual classrooms and the role of virtual classrooms in developing reflective thinking in Islamic education, was applied to a random sample of 467 Islamic education teachers. The results showed that the degree of importance of employing virtual classrooms in teaching Islamic education was (high), and the level of the role of virtual classrooms in developing reflective thinking in Islamic education among students was (high). The results also showed no significant difference in the degree of importance of employing virtual classrooms in teaching Islamic education due to (gender, educational stage, academic qualification, and years of experience) variables. Moreover, the results showed a significant difference in the role of virtual classrooms in developing reflective thinking in Islamic education among students due to the academic qualifications variable in favor of PhD and MSc, and experience variable in favor of less than 10 years' experience, while no differences appeared due to (gender and educational stage) variables. According to these finding, the researchers recommend the necessity of continuing to employ virtual classrooms in teaching, even in normal circumstances, because of their prominent role in developing reflective thinking.

Keywords: Virtual Classrooms, Reflective Thinking, Islamic Education, UAE

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1. INTRODUCTION

Recent years have witnessed a massive information revolution and tremendous scientific and technological developments in all aspects of life. Perhaps the tremendous knowledge explosion and its applications have prompted educators to rebuild and develop the entire learning and teaching process on new foundations that are consistent with the new reality, in order to provide an interactive educational environment. Consequently, modern teaching strategies have emerged based on the use of technology and computerized educational programs, which have been used in teaching all subjects and curricula, at all educational levels, and have proven their effectiveness and success in the educational process, especially the teaching of Islamic education.

Virtual classrooms are one of the most notable achievements of the contemporary information revolution. They are online learning environments that enable students and teachers to communicate simultaneously through audio and video, text chat, interactive whiteboards, application sharing, and more, as if they were standing face-to-face in a traditional classroom (Parker & Martin, 2010). Virtual classrooms are very similar to real classrooms; both allow for immediate feedback, support consensus and decision-making in group activities through clarification and timely information delivery, provide speed and discipline in learning, accelerate group development and cohesion, and enhance a sense of community (Schullo, Hilbelink, Venable, & Barron, 2007).

The virtual classroom provides a convenient environment for communication between distance learners and simulates a learning experience similar to a real online classroom (Chadha, 2018). It is therefore an online simulation that provides a convenient communication environment for distance learners, just like a traditional face-to-face classroom. This can enhance the learning

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environment with numerous advantages, including interactivity, synchronization, ease of use, and a sense of community, while significantly saving time, effort, and expense (Parker & Martin, 2010).

Thinking is one of the greatest blessings that God has bestowed upon man, distinguishing him from other creatures. The Holy Quran directly and explicitly calls for thinking and contemplating the universe. Islam does not restrict reason, but rather calls for its activation and makes it a means of proving the existence of the Creator, His greatness and His Oneness. God Almighty has praised those who contemplate the creation of the heavens and the earth, and reflect on themselves and the signs of God around them. God Almighty praised them by calling them people of understanding, in various ways (Omran, 2003). God Almighty said:

> Indeed, in the creation of the heavens and the earth and the alternation of the night and the day are signs for those of understanding. Who remember Allah while standing or sitting or [lying] on their sides and give thought to the creation of the heavens and the earth, [saying], "Our Lord, You did not create this aimlessly; exalted are You [above such a thing]; then protect us from the punishment of the Fire
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> [Al Imran: 190-191]

The concept of thinking, in its various forms and skills, particularly reflective thinking, has received significant attention from many scholars and researchers in various fields of psychology. This is due to its significant impact on students' cognitive development, enabling them to confront the challenges, difficulties, and problems they encounter in various life situations, whether academic, educational, social, ethical, or otherwise.

Reflective thinking is defined as an individual's contemplation of the situation they encounter, analyzing it into its components, drawing up plans to understand it, and then evaluating the results in light of those plans (Rayan, 2017). For John Dewey, reflective thinking represents a state of confusion, hesitation, and doubt that an individual faces. This then becomes the basis from which the reflective thinking process emerges to reach solutions that contribute to eliminating doubt and confusion. In doing so, he linked reflection to the scientific method. Reflection is a form of thinking that results from confusion in the situations a person encounters, which prompts research to reach conclusions derived from previous experiences. Thus, reflection shifts the scope of thought to the practical scope and the conclusions it often reaches (Kember et al., 2010).

Reflective thinking can be described as a mental process and purposeful mental activity. It is a type of thinking that uses visual perception and analysis to reach conclusions, provide convincing explanations, and propose solutions. It is also the individual's contemplation of the situation before him, with the aim of simplifying these situations and analyzing them into their components to reach the results required by the situation in light of the plans presented, and then making appropriate decisions (Al-Atoum & Al-Jarrah, 2017).

The importance of reflective thinking for students is highlighted by the fact that it allows them to revisit and scrutinize an idea, look at it from multiple angles, present its elements, reveal the relationships between these elements, uncover the gaps between them, and identify the reasons that led to the results through the relationships that connect them to the elements of the idea, then develop solutions to the problems presented. This helps create students capable of learning on their own, which is the goal of modern education. Developing reflective thinking is one of the most prominent goals of teaching, given that reflective thinking makes the student constantly plan and monitors his approach to the processes and steps he follows to make decisions. Reflective thinking is based on the student contemplating all the information presented to him, and this, in turn, leaves the impact of learning in the student's mind, which confirms that learning has an essential meaning that modern learning strategies focus on (Kember et al., 2001).

Islamic education represents the foundation upon which the creation of a useful generation is built, to be beneficial members of society. This subject works to shape the individual's character through educational situations that provide more effective learning opportunities, and the creation of teaching methods that facilitate reflective thinking, based on the fact that Islamic education deals with the creations created by the Almighty Creator. God Almighty says:

> Then do they not look at the camels - how they are created?. And at the sky - how it is raised?. And at the mountains - how they are erected?. And at the earth - how it is spread out?.
>
> [Al Ghashiya: 17-20]

Hence, it is necessary to consider teaching methods that foster reflective thinking and work to develop it to help students become active members of society. When students possess the ability to think and master their skills, this helps them develop their community's culture and evolve to meet the needs of contemporary society. In light of the above, the need has emerged to research and study the role of virtual classrooms in developing reflective thinking in Islamic education among students.

Hence, the current research aims to identify the role of virtual classrooms in developing reflective thinking in Islamic education among students in UAE.

1.1. Problem Statement

In light of the spread of the COVID-19 crisis and its impact on the suspension of studies and the closure of schools, the pandemic has deprived the equivalent of 1.5 billion children of education, according to a United Nations Educational, Scientific and Cultural Organization (UNESCO) report (2020), which has forced many countries around the world to impose a distance learning system in schools.

At a time when the world is witnessing a knowledge explosion and the use of information and communication technology in the educational process, to improve the outcomes of the educational process and create an interactive environment between the teacher and the student and the students themselves, and to develop the level of thinking skills among students, and out of the United Arab Emirates' keenness and its constant endeavor to ensure the continuity and sustainability of education even in the most difficult circumstances, the Ministry of Education launched the distance learning initiative through electronic education websites and educational platforms affiliated with the Ministry and public and private schools; This enables students to follow their lessons at all stages of education, according to specific timetables in which students meet with teachers, each according to his specialization, follow up on the explanation of lessons, perform the tasks assigned to them, and send them via the same platform, or the electronic programs used, in addition to conducting various assessment tests (MOE, 2020).

In light of this, virtual classrooms have been one of the most prominent solutions for continuing education. Many studies (Radovan & Kristt, 2017; Basilaia & Kvavadze, 2020) have indicated the significant role played by virtual classrooms in developing and improving the educational process, and their impact on both teachers and students, especially in developing reflective thinking among students (Al-Saqa, 2020; Al-Kathiri & Al-Shaboul, 2023; Naamneh, 2022; Al-Wadi'i, 2022; Saad, Ghallab, & Hawa, 2021).

On the other hand, many studies indicated that the degree of Islamic education teachers' use of reflective thinking skills was low (Al-Shahrani, 2023), in addition to the fact that the reality of teaching reflective thinking skills was moderate (Al-Maqousi, 2019), as well as the degree of Islamic education teachers' practice of reflective thinking skills was moderate (Al-Arabi, 2018).

In light of the above, the current research sought to explore the role of virtual classrooms in developing reflective thinking in Islamic education among students in the United Arab Emirates. Specifically, the research sought to answer the main question: "What is the role of virtual classrooms in developing reflective thinking in Islamic education among students from Teachers' Perceptions in UAE?". From which the following questions branch out:

1. What is the degree of importance of employing virtual classrooms in teaching Islamic education from the teachers' perspective?
2. What is the role of virtual classrooms in developing reflective thinking in Islamic education among students in UAE from the teachers' perspective?
3. Are there a significant difference ($\alpha \leq 0.05$) in the degree of importance of employing virtual classrooms in teaching Islamic education due to the variables (gender, educational level, academic qualification, and experience)?
4. Are there a significant difference ($\alpha \leq 0.05$) in the role of virtual classrooms in developing reflective thinking in Islamic education among students due to the variables (gender, educational level, academic qualification, and experience)?

1.2. Research Objectives

The current research aimed to identify the role of virtual classrooms in developing reflective thinking in Islamic education among students from teachers' perspective in UAE.

1.3. Significance of The Research

The theoretical significanceof this research stems from the importance of the topic it addresses. The role of distance learning in our lives has become increasingly apparent due to the emergence of a local and global crisis and ordeal. This research aligns with the educational plans advocated by the Ministry of Education in its ongoing efforts to develop digital learning. It is imperative to shed light on this mode of learning and its impact on student learning in light of new developments and emergency circumstances. It also highlights the UAE's immediate and rapid response to enhancing the teaching and learning process, maintaining the continuity and sustainability of student learning, and increasing academic achievement through the activation and use of virtual classrooms.

In practical terms, the research alerts officials and decision-makers at the Ministry of Education to the significant role played by distance learning in general, and virtual classrooms in particular, and the need to adopt a clear philosophy for the continued activation of virtual classrooms alongside face-to-face education in educational institutions. This can be achieved by utilizing the results of the current research, which provides feedback that contributes to shaping future plans for a bright future that keeps pace with rapid cultural and technological development. Given the scarcity of studies in the field of virtual classrooms in the country and the novelty of the topic, it is hoped that this research will serve as a starting point for conducting similar future studies in this field, and that students and researchers will benefit from its results and the tools used.

1.4. Research Limitations

The results of this research are determined as follows:

1. Time limitations: The research was conducted in the second semester of the academic year 2023/2024.
2. Spatial limitations: The research was used in a group of public schools in the Emirate of Abu Dhabi in UAE
3. Human limitations: The research was limited to a sample (467) of Islamic education teachers in the Emirate of Abu Dhabi in UAE.
4. Objective limitations: The research was limited to the role of virtual classrooms in developing reflective thinking in Islamic education among students from teachers' perspective in UAE. So, the generalization of the results of the research will be determined by the research instrument, the extent of its validity and consistency, and the implementation procedures.

1.5. Research Terminology

1. Virtual classrooms: Online classrooms via the Internet, where teachers meet with students at different times to interact with each other, reading their lessons and completing assignments using various interactive visual and audio media (Vai & Sosulski, 2016). They are operationally defined in this research as: online educational environments that enable teachers and students to communicate simultaneously using video and audio, text chat, interactive whiteboards, and application sharing to achieve desired goals. The degree of importance of employing virtual classrooms in teaching Islamic education is measured by the respondent's overall score on the items of the instrument developed for this purpose.

2. Reflective thinking**:** Thinking in which an individual contemplates a situation, analyzes it into its components, and develops the necessary plans to understand it with the aim of arriving at the results required by the situation, in addition to evaluating the results in light of these plans (Al-Atoum & Al-Jarrah, 2017). It is operationally defined in this research as: the student's contemplation of the situation before them and analyzing it into its basic components, then finding the relationships between these components, assigning meaning or interpretations to these relationships, and then developing proposed solutions to resolve the existing problem and testing that solution. The role of virtual classrooms in reflective thinking in Islamic education is measured by the total score the respondent receives on the items of the instrument developed for this purpose.

2. THEORETICAL FRAMEWORK

There are many studies related to the current research. Al-Shahrani (2023) conducted a study that aimed to identify the degree to which Islamic education teachers at the secondary level employ reflective thinking skills in light of some variables. To achieve this, the researcher used the descriptive approach, a list of reflective thinking skills, and an observation card consisting of 39 paragraphs to collect data. The sample consisted of 59 teachers from Saudi Arabia. The results showed that the employment of reflective thinking skills by Islamic education teachers at the secondary level as a whole was low; in addition to the presence of significant differences between the means of Islamic education teachers due to the experience variable in favor of teachers with more than 10 years of experience, and the academic qualification variable in favor of educational qualifications, and a master's degree.

The study by Al-Kathiri and Al-Shabool (2023) aimed to identify the impact of using the flipped learning strategy on developing reflective thinking skills. To achieve this, the quasi-experimental approach and the reflective thinking scale were used to collect data. The sample consisted of 49 students from Jordan, distributed into two groups: an experimental group (24 students) and a control group (25 students). The results of the study showed that there were statistically significant differences between the performance of the two groups on the reflective thinking skills scale attributed to the teaching strategy, in favor of the experimental group that studied using the flipped learning strategy.

Naamneh's study (2022) sought to identify the degree of application of virtual classrooms in teaching at the lower primary level from the teachers' perspective. The study sample consisted of 90 female teachers at the lower primary level in Jordan. The study

followed the descriptive approach and used a questionnaire to collect data. The results showed that the degree of application of virtual classrooms in teaching at the lower primary level from the teachers' perspective was high, as the field of importance of applying virtual classrooms in teaching came in first place with a high degree, followed by the field of difficulties in applying virtual classrooms with a high degree as well, while the field of teaching in virtual classrooms came in last place with a medium degree.

Al-Daroubi (2022) conducted a study that sought to identify the degree of employing distance education among secondary school teachers, and its relationship to their efficiency from the point of view of school principals in light of the Corona pandemic. The descriptive correlational approach was used, and the study tool was a questionnaire, which was applied to a sample of 99 secondary school principals from Palestine. The results indicated that the employment of distance education among teachers was medium, and that the extent of teachers' efficiency in using distance education tools was low, and that there was a strong and positive intrinsic relationship between the degree of employing distance education among teachers and their efficiency in using its tools.

Saad, Ghallab and Hawa (2021) aimed to investigate the effectiveness of designing a Web Quest based on e-learning in developing reflective thinking and academic achievement among students. The quasi-experimental approach and the reflective thinking and achievement test were used to collect data. The sample consisted of 60 female students from the second stage of basic education in Egypt, distributed into three equivalent groups: two experimental groups and a control group. The results showed a significant difference between the mean scores of the students in the two experimental groups and the mean scores of the students in the control group, in favor of the two experimental groups.

Al-Saqa's study (2020) aimed to reveal the effectiveness of a program based on virtual learning in developing some reflective thinking skills. To achieve this, a quasi-experimental approach was used for one group, and a reflective thinking test was used to collect data. The sample consisted of 25 students from the second year of secondary school in Egypt. The results showed that there were statistically significant differences between the mean scores of students in the pre- and post-applications of the reflective thinking skills test, in favor of the post-application.

The study by Safar and Agha (2020) sought to uncover the obstacles to employing the virtual environment in public educational institutions in Kuwait during the COVID-19 pandemic, from the perspective of teachers. The sample included 2,607 teachers. To achieve the study's objectives, a questionnaire was developed to identify obstacles in three areas (logistics, academics, and administrative). The results showed that the degree of impact of obstacles in the three areas was very high, and was high across all areas combined from the teachers' perspective. The results also revealed a significant effect of gender variables in favor of females, years of experience in favor of less experience, and educational level in favor of lower educational levels, while no differences were found in favor of academic qualifications.

Basilaia and Kvavadze (2020) investigated the ability of schools to continue education via distance learning (virtual classrooms and various educational platforms) during the COVID-19 pandemic. The study adopted a descriptive approach (case study), and used a questionnaire and personal interviews to collect data. The sample consisted of 950 male and female students from a private school in Georgia state. The results demonstrated the success of the transition from traditional face-to-face education to distance learning, but indicated that face-to-face education is more effective because the curricula are not designed for e-learning.

The study of Al-Arood, Aljallad and Baioumy (2020) investigated the impact of a cloud-based learning program in developing reflective thinking skills in Islamic education among UAE students. The sample consisted of 94 students from tenth grade, who were divided into two equal groups: an experimental group that studied the course using a cloud-based learning program and a control group that studied the same course in the usual way. To achieve the study objectives, reflective thinking (pre/post-testing) was applied. The results showed a significant difference in reflective thinking as whole and all its skills, due to the teaching method in favor of the experimental group. The results also showed no significant difference between the mean of the experimental group's students on the post-test due to the gender variable This study contributed in developing an educational program based on cloud-based learning and educational techniques in educational curriculum and Islamic educational teaching methods, and revealed its effectiveness in improving reflective thinking skills.

Hanawi and Najm (2019) conducted a study aimed at identifying the extent of schools' readiness to implement and activate distance learning from the teachers' point of view, in terms of competencies, attitudes, and obstacles. The sample included 120 teachers. To achieve the study's objectives, the descriptive approach was adopted, and a questionnaire was used to collect data. The results indicated that the total score for the three areas (competencies, attitudes, and obstacles) was high, and that there were statistically significant differences in the area of competencies attributed to the age variable, in favor of younger age, while it did not appear for the areas of attitudes and obstacles.

It is noted from previous studies that they differed in their objectives and methods. Some used the descriptive approach, such as the studies (Hanawi & Najm, 2019; Al-Daroubi, 2022; Al-Shahrani, 2023; Safar & Agha, 2020; Naamneh, 2022; Al-Wadi'i, 2022), while others used the quasi-experimental approach, such as the studies (Al-Arood, Aljallad & Baioumy, 2020; Al-Saqa, 2020; Al-Kathiri & Al-Shaboul, 2023; Saad, Ghallab, & Hawa, 2021), in addition to the qualitative approach (Basilaia & Kvavadze, 2020). Therefore, the current study agreed with the studies that used the descriptive approach, while it differed with the studies that used the quasi-experimental approach.

It is also noteworthy that studies that address the impact of virtual classrooms on developing reflective thinking skills in Islamic education from the perspective of teachers are scarce, and their absence from the research arena in the United Arab Emirates, to the best of the researchers' knowledge. Thus, the current study distinguishes itself from previous studies in its objective of identifying the role of virtual classrooms in developing reflective thinking in Islamic education among students. It also distinguishes itself in its community and sample of Islamic education teachers in UAE. Undoubtedly, this study benefited from previous studies in several ways, including defining the study problem, developing its instrument, and selecting a methodology, in addition to employing relevant studies in discussing and interpreting the results.

3. METHOD AND PROCEDURES

3.1. Research Methodology

The research used the quantitative design (descriptive-analytical approach) to identify the role of virtual classrooms in developing reflective thinking in Islamic education among students in UAE. This is because this approach is appropriate to the nature and objectives of this research. As the quantitative approach refers to a research method that aims to collect and analyze data using statistical methods, it is relied upon in scientific research to study the relationships between variables., and measure phenomena objectively, this approach is characterized by its ability to handle large samples and analyze data accurately (Creswell & Creswell, 2018).

3.2. Research Population and Sample

The population consisted of all Islamic education teachers in the Emirate of Abu Dhabi in UAE, totaling 1,326 teachers, according to statistics issued by MOE for the 2023/2024 academic year. The research sample consisted of 467 Islamic education teachers, representing 35% of the research population, who were selected using a random sampling method according to Thompson's equation (Thompson, 2012). Table (1) shows the distribution of research sample members according to the variables (gender, educational level, academic qualification, and experience).

Table 1: Distribution of Research Sample Members According to Variables (Gender, Educational Level, Academic Qualification, and Experience)

Variable	Variable levels	No.	Per.
Gender	Male	248	53.1%
	Female	219	46.9 %
	Total	467	100%
Educational Level	Cycle 1	132	28.3%
	Cycle 2	178	38.1 %
	Cycle 3	157	33.6 %
	Total	467	100%
Academic Qualification	BA	278	59.5 %
	Higher Diploma	74	15.9 %
	MSc	102	21.8 %
	PhD	13	2.8 %
	Total	467	100%
Experience	Less than 5 years	134	28.7 %
	5- Less than 10 years	157	33.6 %
	10 years and more	176	37.7 %
	Total	467	%100

3.3. Research Instrument

After reviewing the theoretical literature and previous studies related to the subject of the (Hanawi & Najm, 2019; Al-Daroubi, 2022; Al-Shahrani, 2023; Safar & Agha, 2020; Naamneh, 2022; Al-Wadi'i, 2022), and with the aim of identifying the role of virtual classrooms in developing reflective thinking in Islamic education among students from teachers' perceptions in UAE, the researchers prepared a questionnaire that consisted in its initial form of 35 items distributed into two domains as follows: the importance of employing virtual classrooms (16 items), and the role of virtual classrooms in developing reflective thinking in Islamic education (17 items).

3.4. Validity of The Instrument

In order to verify the **content validity**, the instrument was presented in its initial form to a group of expert judges with expertise in the field of Islamic education, its curricula, and teaching methods to provide their opinions on the accuracy and validity of the instrument's content. In light of the judges' opinions and comments, three items were deleted, and wording of some items was also modified. Consequently, the total number of items in the instrument was 30, distributed equally across the two aforementioned domains.

The **conduct validity** of the instrument was verified by a sample of twenty teachers from outside the research sample. Pearson correlation coefficients were calculated between the items and the total degree and dimensions of the scale as shown in Table 2. This meant that the test instrument was honest, measured the aspects that were developed to measure it, and had a good degree of internal consistency, which assured the researcher in using it in the experiment.

Table 2: Pearson Correlation Coefficients Between the Item Score and Its Domains, The Item Score and The Total Score of The Instrument

Item	Corr. with:		Item	Corr. with:		Item	Corr. with:	
No.	domain	Instr.	No.	domain	Instr.	No.	domain	Instr.
1	0.60**	0.55**	**11**	0.66**	0.58**	**21**	0.46**	0.40**
2	0.56**	0.44**	**12**	0.54**	0.46**	**22**	0.64**	0.60**
3	0.36**	0.33*	**13**	0.62**	0.40**	**23**	0.65**	0.51**
4	0.45**	0.28*	**14**	0.30*	0.30*	**24**	0.70**	0.52**
5	0.39**	0.31**	**15**	0.52**	0.41**	**25**	0.41**	0.49**
6	0.60**	0.55**	**16**	0.64**	0.51**	**26**	0.43**	0.45**
7	0.56**	0.44**	**17**	0.62**	0.48**	**27**	0.50**	0.44**
8	0.63**	0.50**	**18**	0.38**	0.28*	**28**	0.53**	0.30*
9	0.68**	0.51**	**19**	0.54**	0.43**	**29**	0.41**	0.43**
10	0.43**	0.39**	**20**	0.33*	0.39**	**30**	0.45**	0.29*

** Sig. ($p \leq 0.05$)
* Sig. ($p \leq 0.01$)

It is noted from Table 2 that the values of the correlation coefficients between the score of each item and the domain to which it belongs ranged between (0.30-0.70), and that the values of the correlation coefficients between the score of each item and the total score of the instrument ranged between (0.28-0.60), and all of them are significant ($p \leq 0.05$). These values are acceptable for the purposes of the research, according to what was indicated by (Hinkle, Wiersma & Jurs, 2003).

3.5. Reliability of The Instrument

The instrument's reliability was verified using the internal consistency method, by Cronbach Alpha equation on the application data as a whole and each of its domains (Table 3).

Table 3: Internal Consistency Reliability Coefficients of The Instrument and Its Domains

Instrument and its domains	Int. con. reliability	No. of Items
The importance of employing virtual classrooms	0.70	15
The role of virtual classrooms in developing reflective thinking	0.74	15
Instrument (All)	**0.86**	**30**

Table (3) shows that the internal consistency reliability coefficient of the instrument as a whole reached 0.86, while the reliability coefficients for the domains ranged between (0.70-0.74); thus, the instrument has an acceptable degree of reliability according to what was indicated by (Hinkle, Wiersma & Jurs, 2003). After verifying the validity and reliability indications of the research instrument, it now consists of (30) items distributed equally across the two previous domains.

3.6. Standard of Research Instrument Correction

The research instrument consists of 30 items that are responded to according to a five-point Likert scale, namely: (very much, very much, moderately, weakly, very weakly), which are given weights (5, 4, 3, 2, 1), after statistically processing the negative items. To reach an objective judgment on the average responses of the research sample members, the range was calculated by subtracting the lower limit from the upper limit (5 - 1 = 4), then dividing it by 3 (4 ÷ 3 = 1.33), after which this value was added to the lowest value in the scale (1), in order to determine the upper limit for this category, and thus the length of the categories became as shown in Table 4.

Table 4: Standard of Research Instrument Correction

Means category	Degree/Level
1.00 – 2.33	Low
2.34 – 3.67	Medium
3.68 – 5.00	High

3.7. Statistical Processing

1. To answer the first and second questions, means and standard deviations were used to assess the role of virtual classrooms in developing reflective thinking in Islamic education among students.
2. To answer the third and fourth questions, a four-way ANOVA (without interaction) was used to determine the significance of differences in the role of virtual classrooms in developing reflective thinking in Islamic education among students according to the research variables, followed by the Scheffe test for post hoc comparisons.

4. RESULTS AND DISCUSSIONS

4.1. Results related to the first question which states: "What is the degree of importance of employing virtual classrooms in teaching Islamic education from the teachers' perspective"

To answer this question, the means and standard deviations of the responses of the research sample members to the items related to the degree of importance of employing virtual classrooms in teaching Islamic education were calculated, arranged in descending order according to their means, Table 5 shows that.

Table 5: Means and Standard Deviations of The Degree of Importance of Employing Virtual Classrooms in Teaching Islamic Education

Order	No.	Items	Mean	St. Dev.	Degree
1	**2**	Virtual classroom teaching mimics traditional classroom teaching.	4.64	.697	High
2	**10**	Virtual classrooms contribute to reducing educational loss in Islamic education among students.	4.55	.690	High
3	**5**	Virtual classrooms contribute to linking the theoretical and practical aspects of Islamic education.	4.48	.664	High
4	**12**	Virtual classrooms help employ modern strategies and technologies that facilitate learning Islamic education.	4.32	.693	High
5	**3**	Virtual classrooms contribute to achieving learning outcomes in Islamic education among students.	4.30	.657	High
6	**7**	Virtual classrooms help eliminate digital illiteracy among teachers and students.	4.05	.707	High
7	**9**	Virtual classrooms work to overcome the educational difficulties faced by students in the field of Islamic education.	4.01	.739	High
8	**14**	Virtual classrooms develop students' self-learning skills.	3.91	.532	High
9	**15**	I believe that virtual classrooms represent an integrated educational system.	3.86	.661	High

Order	No.	Items	Mean	St. Dev.	Degree
10	**1**	Teaching in virtual classrooms is a benchmark for scientific and educational progress.	3.73	.671	High
11	**11***	I believe that virtual classrooms do not meet students' needs in Islamic education.	3.64	.754	Medium
12	**13***	The classroom environment of virtual classrooms reduces students' motivation to learn Islamic education.	3.24	.694	Medium
13	**6***	Virtual classrooms hinder active interaction between teachers and students, and between students.	3.18	.652	Medium
14	**4***	I believe that virtual classrooms constitute an obstacle to the exchange of experiences and information between teachers.	2.99	.714	Medium
15	**8***	Virtual classrooms represent an unattractive and alienating environment for students.	2.87	.675	Medium
The importance of employing virtual classrooms			**3.85**	**.787**	**High**

* Negative Items

Table 5 shows that the degree of importance of employing virtual classrooms in teaching Islamic education (as a whole) was (high), with a mean of 3.85, and a standard deviation of 0.787. The means of the items ranged between (2.87-4.64), which were classified within the two degrees (medium and high). This indicates the awareness of Islamic education teachers of the importance of employing technology in general, and virtual classrooms in particular, in teaching Islamic education. This result partially agreed with the results of Naamneh's study (2022), which indicated that the degree of application of virtual classrooms in teaching the basic stage from the teachers' point of view was high.

Perhaps this result confirms what many experimental studies (Al Arood, Aljallad & Baioumy, 2020; Al-Saqa, 2020; Al-Kathiri & Al-Shaboul, 2023; Saad, Ghallab, & Hawa, 2021), have indicated regarding the effectiveness of virtual classrooms in developing reflective thinking among students. This confirms the existence of a clearer link between experimental findings and theoretical implications, particularly how reflective thinking is uniquely conceptualized in Islamic education.

This result is consistent with modern trends in teaching Islamic education, which call for the use of technology in the educational process. It also aligns with the general framework of Islamic education curriculum standards, which indicates that Islamic education, with its great goals, distinctive characteristics, comprehensiveness of all aspects of human behavior, idealism, realism, stability, and flexibility, always seeks to benefit from all the data of the era, respond to its requirements, and harness its tools, means, and methods to serve its universal goals and humanitarian objectives (MOE, 2017). The enormous potential provided by modern technology in communication, explanation, simplification, interaction, and assistance in teaching and learning makes it an important tool for learners. It opens up broad horizons for acquiring knowledge and skills through research, investigation, and information gathering, and the use of modern applications in all areas of Islamic education. This facilitates and simplifies methods of acquiring and understanding them, saving time, effort, and expense. By employing technology in a productive and positive manner in a scientifically correct manner, Islamic education serves the goals, objectives, and areas that Islamic education seeks to achieve and enable students to master.

This result may be attributed to the characteristics of virtual classrooms, including interactivity, where students can interact with each other, with instructors, and with online resources; synchronicity, where users are connected at the same time, allowing users to exchange emails with each other, as if they were talking face-to-face online; and asynchronous technologies, such as email, websites, and forums, which require a greater degree of independence and may be more demanding. Ease of use, where users become adept at using technology to satisfy their natural curiosity to explore the unknown, thus significantly reducing student frustration levels and facilitating a user-friendly learning environment (Parker & Martin, 2010).

This result may be due to the fact that teaching through virtual classes breaks the routine of the classroom, provides a reliable learning environment, and makes students feel more comfortable by changing the culture and notion of the wrong answer or that they are wrong. This is because there is always someone (a teacher, peer, or robot) to help them find the correct answer, provide them with immediate feedback and appropriate reinforcement, take into account individual differences, cater to their desires, tendencies, and tendencies, and provide them with opportunities to release their pent-up emotions. This enhances their self-confidence, increases their motivation to learn, and works to reduce their anxiety, fear, and depression, thus achieving educational balance and adaptation.

Table 5 shows that item (2), which states: "Teaching in virtual classrooms mimics teaching in traditional classrooms," ranked firstly with a (high) degree. Perhaps this result confirms what Tracy (2007) indicated, that the virtual classroom provides a convenient communication environment for remote students and is very similar to a traditional classroom. The virtual classroom is a simulated online classroom that provides a convenient communication environment for remote learners, just like a traditional

face-to-face classroom. It allows learners to attend a class from anywhere in the world and aims to provide a learning experience similar to a real classroom. It is a scheduled online training course led by the instructor, where teachers and learners interact together using computers connected to a network such as the internet. It enables learners from all over the world to gather online in highly interactive virtual classrooms, significantly reducing travel, time, and expenses. Thus, a virtual classroom can be conceptualized as a classroom where a lecture or session is conducted using the internet.

Table 5 also shows that item (10), which states: "Virtual classes contribute to reducing learning loss in Islamic education among students," ranked secondly with a "high" degree. This result indicates teachers' awareness and understanding of the negative effects of the COVID-19 pandemic on student learning. The disruption of students' learning and the sudden changes in teaching and learning patterns before and after the pandemic led to students losing the academic knowledge and skills they were supposed to acquire, as defined by the curricula. This is known as learning loss. Learning loss refers to the loss of specific or general knowledge and skills, or setbacks in academic progress resulting from extended gaps or interruptions in education (Thu Huong & Na Jatturas, 2020). In its simplest form, it is defined as the difference between what students are supposed to acquire and what they actually acquire (Pier et al., 2021).

This result can be explained in light of teachers' sense of responsibility for student learning and their efforts to address learning loss through various means and methods, the most important and prominent of which is the use of virtual classrooms in teaching. This is particularly true given that numerous studies have indicated the effectiveness of technology in general, and virtual classrooms in particular, in reducing student learning loss (Suwaidan, 2022).

This result may be due to teachers' awareness and understanding of the importance of the virtual world, which provides an active, interactive learning environment rich in stimuli and incentives that enhance the learning process. This environment places the student at the center of the teaching-learning process and works to develop their personality in all aspect's skills, intellectual, emotional, and social. This contributes to reducing and compensating for student learning loss through the fun and excitement that digital technology and its applications bring, the savings in time and effort, and the ability to engage and collaborate, as well as acquire knowledge, skills, values, and attitudes.

Table 5 also shows that item (5), which states: "Virtual classrooms contribute to linking the theoretical and practical aspects of Islamic education," ranked thirdly, with a "high" degree. This result may be attributed to the fact that the use of various software and applications during virtual classrooms, as a new experience for students, has given them a new perspective on curricula in general, and the Islamic education curriculum in particular. This perspective differs from the one they viewed as an abstract curriculum based solely on theory. This perspective is informed by practical applications, especially since the Islamic education curriculum is based on both theoretical and practical aspects.

This result can be explained in light of the many features of digital technology, the virtual world, augmented reality, virtual reality, and the simulation of phenomena, situations, and experiments that may be difficult, dangerous, or unimaginable to implement in laboratories, such as chemical reactions, nuclear experiments, and science fiction in general. This result may be due to the dynamic nature of modern technologies, which include process automation and interactive activities that simplify the core skill into parts, and train the student on it step by step, until he is able to perform the skill as a whole through simulation. Virtual classrooms act as an educational robot and a private tutor that enables the student to acquire the skill through training and practice, while taking into account the provision of immediate and continuous feedback, thus contributing to the realization of the process of linking the theoretical and practical aspects of Islamic education.

4.2. Results related to the second question which states: "What is the role of virtual classrooms in developing reflective thinking in Islamic education among students in UAE from the teachers' perspective?"

To answer this question, the arithmetic means and standard deviations of the responses of the research sample members to the paragraphs related to the role of virtual classrooms in developing reflective thinking in Islamic education among students in the United Arab Emirates were calculated, arranged in descending order according to their arithmetic means, and Table (6) shows this.

Table 6: Means and Standard Deviations of The Role of Virtual Classrooms in Developing Reflective Thinking in Islamic Education

Order	No.	Items	Mean	St. Dev.	level
1	30	Virtual classrooms contribute to developing self-reflection among students.	4.41	.594	High
2	23	Virtual classes contribute to developing a sense of conscious control over thinking about Sharia issues among students.	4.38	.602	High

Order	No.	Items	Mean	St. Dev.	level
3	27	Virtual classrooms contribute to developing students' observation and awareness skills.	4.29	.546	High
4	20	Virtual classrooms help students develop fluency in thinking about Sharia issues and matters.	4.24	.613	High
5	21	Virtual classrooms play a role in developing flexibility in reflective thinking.	4.23	.600	High
6	17	Virtual classrooms contribute to developing the ability to generate ideas through reflective thinking.	4.21	.684	High
7	19	Virtual classrooms help students develop insight into situations in their work, which leads to analyzing decisions and their consequences.	4.12	.712	High
8	28	Virtual classrooms help students draw conclusions about Sharia issues and provide convincing explanations for them.	4.07	.614	High
9	24	Virtual classrooms contribute to developing the skill of accurately defining a problem by distinguishing between information and variables related to the problem.	3.94	.601	High
10	16	Virtual classrooms play a role in highlighting reflective thinking patterns in Islamic education, which rely on objectivity and the principle of causality.	3.86	.667	High
11	29*	Virtual classrooms reduce students' opportunities to use high-level educational and teaching standards.	3.65	.690	Medium
12	22*	Virtual classrooms hinder the process of adding new and diverse details to solve a problem through reflective thinking.	3.63	.701	Medium
13	18*	Virtual classrooms weaken students' skills in analyzing a situation into its various components.	3.38	.682	Medium
14	25*	Virtual classrooms pose an obstacle for students. To provide explanations for legal issues in Islamic education.	2.95	.727	Medium
15	26*	Virtual classrooms enhance the skill of formulating hypotheses and proposing logical and realistic solutions to any religious issue through reflective thinking.	2.69	.750	Medium
The role of virtual classrooms in developing reflective thinking (All)			**3.87**	**.684**	**High**

* Negative Items

Table 6 shows that the role of virtual classrooms in developing reflective thinking in Islamic education among students (as a whole) was at a (high) level, with an arithmetic mean of 3.87 and a standard deviation of 0.684. The means of the items ranged between (2.69-4.41), which were classified within the (medium and high) levels. Perhaps this result confirms what was indicated by the results of studies (Al Arood, Aljallad & Baioumy, 2020; Al-Saqa, 2020; Al-Kathiri & Al-Shaboul, 2023; Saad, Ghallab, & Hawa, 2021(regarding the effectiveness of using e-learning and virtual classrooms in developing reflective thinking skills.

This result may be attributed to the fact that virtual classrooms help transcend geographical boundaries and foster scholarly discussions based on intellectual knowledge and shared interests, rather than on the basis of age or location, which forces students to befriend those they are discussing with. This develops written and oral communication skills, on the one hand, and reflects a deeper understanding of logical thinking, evaluation, and justification of discussions, on the other. Participation in various events and activities also helps foster a sense of community, encourages browsing websites, and searches for new content to support educational content. This, in turn, develops students' ability to examine and evaluate information and provides them with ample opportunities to develop reflective thinking, creativity, and innovation.

This result may also be due to the fact that employing virtual classrooms in teaching Islamic education, including presenting educational content in distinct and distinct ways that depart from the usual format, such as PowerPoint and educational videos, helps students engage in self-reflection and insight, analyze situations into their various components, and develop a sense of conscious control, flexibility in thinking, fluency, and the ability to generate ideas. Perhaps what confirms this is that the paragraphs related to these skills achieved first ranks, and at a high level.

The results also indicated that item (30), which states: "Virtual classes contribute to developing self-reflection among students," ranked firstly, followed by item (23), which states: "Virtual classes contribute to developing a sense of conscious control over thinking about Sharia issues among students," then item (27), which states: "Virtual classes contribute to developing students' observation and awareness skills," followed by items (20, 21, 17), which state: "Virtual classes help students to think fluently about Sharia issues and matters", "Virtual classes play a role in developing the flexibility in reflective thinking," and "Virtual

classrooms contribute to developing the ability to generate ideas through reflective thinking" respectively, and all of them came at a (high) level.

These combined results can be interpreted in light of what Al-Jallad (2011) indicated, that Islamic education is a fertile and rich place for developing reflective thinking skills among students, due to the topics and issues it contains that stimulate thinking at all levels. Islamic education aims to change various phenomena, understand their causes, how they occur, and study and analyze them with precise scientific analysis. Therefore, Islamic education is one of the most important subjects that contribute to developing many thinking skills among students, especially reflective thinking skills. There is nothing more effective than virtual classrooms, which provide an interactive environment rich in tools and activities that enhance students' learning and thinking, in an atmosphere of fun, attraction, and excitement.

These results may be due to the fact that the use of virtual classrooms helps organize and enrich educational content with many thought-provoking situations, which provides sufficient opportunities for students to practice a set of processes that depend on generating arguments and assumptions, and makes them feel the thinking processes they are performing, searching for evidence and reaching conclusions, and identifying connections and causal relationships, in addition to providing the necessary elements to extract logical results for the intended inferential relationships, which is positively reflected in mastering the skills of deduction and induction, which are the essence of reflective thinking, according to what Al-Atoum and Al-Jarrah (2017) indicated.

The role of virtual classrooms in developing these skills can be attributed to the fact that teaching using virtual classrooms emphasizes the need for students to understand the relationship between the new concepts and knowledge introduced at the beginning of the class, as well as linking them to concepts and knowledge already present in their cognitive structure; this makes learning meaningful. Furthermore, it emphasizes the importance of arriving at the solution on their own, not just answering yes or no, but delving deeper into knowledge to arrive at a concise generalization of the correct answer. Furthermore, students' implementation of asynchronous tasks and activities outside the classroom and via the educational platform, and the preparation of summaries, concept maps, and brochures during the active experimentation and tangible stages, led to increased motivation to learn, a keenness to understand the relationships between new knowledge, and linking it to previous knowledge.

The role of using virtual classrooms in developing the skill of providing convincing explanations (item 28) may be attributed to the fact that teaching procedures according to virtual classrooms focus on the learner's positivity through learning in small groups that are characterized by familiarity and cooperation, whether inside the classroom, or outside of it via the educational platform. This contributed to increasing the students' motivation during classroom situations, their eagerness to learn the educational content of the two units, their undertaking of activities to reach new knowledge, and their conducting purposeful discussions among them, synchronously and asynchronously, via the educational platform, about the results of these activities and their interpretation, and providing justifications for any answer provided by the student.

With regard to item (29) which states: "Virtual classrooms reduce students' opportunities to use high-level educational and teaching standards" this result may be attributed to the students' lack of experience with educational and teaching standards, especially since the use of such standards requires higher thinking skills, most importantly the skill of evaluation. Perhaps virtual classrooms, with their various means and activities, and with the elements of enjoyment, attraction, and suspense they provide, are one of the factors and strategies that contribute to the development and strengthening of higher thinking skills, including synthesis, analysis, and evaluation.

The role of virtual classrooms in developing the skill of developing proposed solutions (item 15) can be explained by the fact that this skill is a complex process in which the student combines his logic and imagination. Solutions do not come easily and directly; rather, they require the use of reason and unleashing the imagination. Therefore, this skill is considered one of the most stressful for the human mind. Furthermore, this skill is not a typical, mechanical process in which the learner records solutions regardless of their reasonableness or applicability. Rather, it is a critical process in which the learner excludes illogical solutions (Zaytoun, 2003). Nevertheless, the use of virtual classrooms has developed this skill by providing students with the opportunity to provide multiple answers, critique and refute those answers, and present non-routine problems involving authentic and realistic situations derived from the student's environment. Furthermore, the topics have been expanded upon through the various types of files attached to the educational platform.

4.3. Results related to the third question which states: "Are there a significant difference ($\alpha \leq 0.05$) in the degree of importance of employing virtual classrooms in teaching Islamic education due to the variables (gender, educational level, academic qualification, and experience)?"

To answer this question, the arithmetic means, and standard deviations were calculated for the degree of importance of employing virtual classrooms in teaching Islamic education to students according to the research variables (gender, educational stage, academic qualification, and experience), and Table 7 shows this.

Table 8: Means and Standard Deviations of The Degree of Importance of Employing Virtual Classrooms in Teaching Islamic Education According to The Research Variables

Variable	Variable levels	Mean	St. Dev.
Gender	Male	3.86	0.819
	Female	3.90	0.755
Educational Level	Cycle 1	3.85	0.771
	Cycle 2	3.90	0.806
	Cycle 3	3.89	0.784
Academic Qualification	BA	3.86	0.769
	Higher Diploma	3.85	0.803
	MSc	3.90	0.796
	PhD	3.91	0.780
Experience	Less than 5 years	3.87	0.894
	5- Less than 10 years	3.91	0.779
	10 years and more	3.86	0.788

Table 7 shows an apparent variation in the means and standard deviations of the degree of importance of employing virtual classrooms in teaching Islamic education resulting from the difference in levels of the research variables (gender, educational level, academic qualification, and experience). To demonstrate the significance of the statistical differences between the means, a four-way ANOVA (without interaction) was conducted according to the research variables individually, as in Table 8.

Table 8: Results of The Four-Way Variance Analysis (Without Interaction) for The Degree of Importance of Employing Virtual Classrooms in Teaching Islamic Education According to The Research Variables

Source of varience	Sum of squares	df	Mean squares	F	Sig.
Gender	.891	1	.891	1.687	.195
Educational Level	.722	2	.361	.684	.340
Academic Qualification	3.126	3	1.042	1.973	.118
Experience	.324	2	.162	.306	.821
Eror	241.824	458	.528		
Total	246.887	466			

Table 8 shows no significant differences in the degree of importance of employing virtual classrooms in teaching Islamic education due to any of the research variables (gender, educational level, academic qualification, and experience), where the values of (F) reached (1.687, 0.684, 1.973, 0.306) respectively, and all were not significant at the ($\alpha \leq 0.05$) level. This result indicates that Islamic education teachers, regardless of their gender, experience, qualifications, or educational level, are aware of the importance of implementing virtual classrooms in teaching. This is due to the dynamic and interactive nature of these classes, and the atmosphere of fun, excitement, and attraction they offer.

This result may be attributed to the fact that all Islamic education teachers, regardless of their gender, experience, qualifications, or educational level, are supervised by a single educational system that believes in the importance of using technology and its employment in the teaching-learning process. This system possesses the technical, artistic, and training capabilities, and has a clear and tangible impact in this field. In addition, they work in almost identical educational environments and conditions, and attend the same educational courses and workshops prepared and supervised by the Ministry of Education. All of this contributes to motivating teachers to employ virtual classrooms in teaching Islamic education, benefiting from their technologies and applications, and the tools and activities they include to enrich student learning.

4.4. Results related to the fourth question which states: "Are there a significant difference ($\alpha \leq 0.05$) in the role of virtual classrooms in developing reflective thinking in Islamic education among students due to the variables (gender, educational level, academic qualification, and experience)?"

To answer this question, the means and standard deviations of the level of the role of virtual classrooms in developing reflective thinking in Islamic education among students were calculated according to the research variables (gender, educational level, academic qualification, and experience), and Table 9 shows this.

Table 9: Means and Standard Deviations of The Level of The Role of Virtual Classrooms in Developing Reflective Thinking in Islamic Education According to The Research Variables

Variable	Variable levels	Mean	St. Dev.
Gender	Male	3.84	0.832
	Female	3.90	0.896
Educational Level	Cycle 1	3.84	0.895
	Cycle 2	3.88	0.831
	Cycle 3	3.89	0.866
Academic Qualification	BA	3.86	0.853
	Higher Diploma	3.83	0.881
	MSc	3.89	0.857
	PhD	3.90	0.865
Experience	Less than 5 years	3.97	0.882
	5- Less than 10 years	3.83	0.843
	10 years and more	3.81	0.867

Table 9 shows an apparent variation in the means and standard deviations of the level of the role of virtual classrooms in developing reflective thinking in Islamic education among students resulting from the difference in levels of research variables (gender, educational level, academic qualification, and experience). To demonstrate the significance of statistical differences between the means, a four-way ANOVA (without interaction) was conducted according to the research variables separately, as in Table 10).

Table 10: Results of The Four-Way Variance Analysis (Without Interaction) For the Level of The Role of Virtual Classrooms in Developing Reflective Thinking in Islamic Education According to The Research Variables

Source of variance	Sum of squares	df	Mean squares	F	Sig.
Gender	1.289	1	1.289	1.947	.068
Educational Level	1.562	2	0.826	1.248	.125
Academic Qualification	15.021	3	5.007	7.563*	.000
Experience	11.522	2	5.761	8.702*	.000
Eror	303.196	458	.662		
Total	332.59	466			

Table 10 shows no significant differences in the level of the role of virtual classrooms in developing reflective thinking in Islamic education among students, attributed to the variables (gender and educational level), where the values of (F) reached (1.947, 1.248) respectively, and all of them are not significant at the level ($\alpha \leq 0.05$). This result indicates the belief of teachers of both genders and their awareness of the significant role of virtual classrooms in developing reflective thinking in Islamic education among students, at all educational levels.

This result may be due to the similarity of the qualification, training, and job conditions in which they work. All male and female teachers are subject to educational programs that are almost identical in all institutes and universities, whose objectives are derived from the general framework of educational policies. They also all enroll in the same programs related to professional development, particularly those related to the use of technology in education and training. In addition, all males and females perform their work in a school environment that is almost identical in terms of capabilities, infrastructure, equipment, and prescribed curricula, and under conditions regulated and governed by unified laws and instructions. Therefore, the views of male and female teachers were in agreement regarding the role of virtual classrooms in developing reflective thinking in Islamic education, as no statistically significant differences were found between them.

It is also clear from Table 10 that there are significant differences ($\alpha \leq 0.05$) between the means of the level of the role of virtual classes in developing reflective thinking in Islamic education among students, attributed to the variables (academic qualification and experience). Since these variables are multi-level, Scheffe test was used for dimensional comparisons, as in Table 11.

Table 11: Results of Scheffe Test for The Level of The Role of Virtual Classrooms in Developing Reflective Thinking in Islamic Education among Students According to The Variables (Educational Level, Academic Qualification, And Experience)

	Variable levels	Mean	PhD	MSc	Higher Diploma
Academic Qualification	PhD	3.90			
	MSc	3.89	0.01		
	Higher Diploma	3.86	0.04	0.03	
	BA	3.83	0.07*	0.06*	0.03
	Variable levels	**Mean**	**Less than 5 years**	**5- Less than 10 years**	
Experience	Less than 5 years	3.97			
	5- Less than 10 years	3.83	0.14*		
	10 years and more	3.81	0.16*	0.02	

* Sig. (α≤0.05)

Table 11 also shows that there are significant differences (α≤0.05) between the means of the level of the role of virtual classrooms in developing reflective thinking in Islamic education among students due to the variable of academic qualification, in favor of postgraduate studies, i.e.: categories (PhD and MSc) versus category (MA). This result may be due to the fact that teachers with postgraduate studies are more aware and knowledgeable of the importance of e-learning in general, and distance learning in particular, and perhaps more informed, experienced, and practiced virtual classrooms during their relatively long university studies compared to bachelor's students, in addition to their knowledge of modern methods and approaches that would develop reflective thinking among students.

Moreover, Table (11) shows that there are significant differences (α≤0.05) between the means of the level of the role of virtual classrooms in developing reflective thinking in Islamic education among students due to the experience variable, in favor of less experience, i.e., the experience categories (less than 5 years, and 5-less than 10 years) versus the category (10 years and more). This result may be attributed to the fact that teachers with less experience are recent graduates compared to their peers with more experience. They are closer to and more contemporary with the technological revolution, and more likely to employ information and communication technology, which in turn constitutes virtual classrooms. They have perceived its importance, features, and significant benefits, as well as its prominent role in education and training compared to teachers with experience (10 years and more). Some of them still have many reservations about using technology in education on the one hand, and some lack the skills and strategies of virtual classrooms and the use of technology in education on the other hand, in addition to the high level of digital illiteracy among many teachers. Perhaps what confirms this is that many studies indicated that the level of digital illiteracy among teachers was medium (Atmojo, Ardiansyah & Wulandari, 2022).

5. CONCLUSIONS

According of the research findings, the researchers believe that for long-term integration of virtual classrooms into hybrid Islamic education programs after pandemic scenarios, emphasis should be placed on building an interactive virtual learning environment that is integrated with face-to-face learning. The necessary tools and platforms should be provided, interaction between students and teachers should be enhanced, and diverse and engaging educational content should be provided through the following steps:

1. Choosing the appropriate platform: Selecting an easy-to-use virtual platform that is appropriate for the needs of Islamic education programs. This platform can be multi-purpose or dedicated to Islamic education.
2. Providing the necessary training: Training teachers and students on how to use the platform and the various tools. Workshops or training courses can be organized to ensure everyone has fully grasped the information.
3. Building an interactive virtual environment: Creating a virtual environment that encourages interaction and collaboration between students and teachers. Interactive tools such as voice or video chat, collaborative spaces, and innovative activities can be used.
4. Providing diverse educational content: Providing a variety of educational materials, including written texts, graphics, films, and interactive content. These materials can be used to clarify key concepts, enhance religious awareness, and encourage students to reflect and explore.
5. Evaluate students remotely: Use appropriate tools and technologies to assess students remotely, such as online tests, written assignments, and collaborative activities. These tools should be effective in measuring students' understanding and demonstrating their progress.
6. Integrate virtual classrooms with face-to-face learning: Design a hybrid Islamic education program to integrate virtual classrooms with face-to-face learning. Virtual classrooms can be used to provide additional educational materials, facilitate communication between students and teachers, or organize collaborative activities.

7. Provide technical support: To facilitate the use of virtual classrooms, this support can include providing necessary tools, troubleshooting technical issues, and providing technical assistance.
8. Focus on personal interaction: Focus on building personal relationships between students and teachers, even in a virtual environment. Interactive tools can be used to enhance communication, provide opportunities for personal interaction, and provide necessary support.

5.1. Recommendations

According to these findings, the researchers recommend the following:

1. MOE officials should encourage teachers to continue using virtual classrooms in their teaching, even under normal circumstances, given their prominent role in developing reflective thinking.
2. Promote technical awareness among students and train them on the use of modern technologies in teaching Islamic education and other subjects, through the internet, search engines, virtual chat rooms, discussion forums, and educational forums.
3. Hold specialized educational and training workshops to encourage teachers to use contemporary teaching strategies based on virtual classrooms.
4. Conduct further future studies on virtual classrooms and their role in developing other variables, such as higher order thinking skills, and critical and creative thinking skills in Islamic education, so that they reach other segments, communities, and samples.

REFERENCES

Abu Alam, R. (2016). *Research methods in psychological and educational sciences*. (2nd ed.). Cairo: University Publishing House.

Al-Arabi, A. (2018). The reality of teaching reflective thinking skills by Islamic education teachers at the secondary level in the city of Makkah Al-Mukarramah. *Journal of Educational and Psychological Sciences,* 9(2), 159-202.

Al-Arood, M., Al-Jallad, M., & Baioumy, N. (2020). The effectiveness of a cloud-based learning program in developing reflective thinking skills in islamic education among students in UAE. *International Journal of Education and Practice,* 8(2), 158-173. Retrieved from https://eric.ed.gov/?id=EJ1249646

Al-Atoum, A. & Al-Jarrah, A. (2017). *Fundamentals of thinking skills: theoretical concepts and practical training*. Amman: Dar Al-Masirah for Printing, Publishing and Distribution.

Al-Jallad, M. (2011). *Teaching Islamic Education: Theoretical foundations and practical methods*. Amman: Dar Al-Masirah for Publishing, Distribution and Printing.

Al-Kathiri, T. & Al-Shabool, M. (2023). The effect of using the flipped learning strategy on developing reflective thinking skills. *Journal of Humanities and Social Sciences Studies,* 50(1), 488-514.

Al-Maqousi, Y. (2019). The degree of practicing reflective thinking skills in light of some variables among Islamic education teachers at the secondary level in Jordan. *Educational Sciences Studies,* 46(2), 456-473. Retrieved from https://jsrep.journals.ekb.eg/article_284402.html?lang=en

Al-Saqa, D. (2020). A program based on virtual learning in teaching history to develop reflective thinking skills among second-year secondary school students. *Journal of the Faculty of Education,* 78(2), 345-380.

Al-Shahrani, M. (2023). The degree of employment of reflective thinking skills by Islamic education teachers in secondary schools in light of some variables: an evaluative study. *Journal of the Faculty of Education,* 42(197), 99-139.

Al-Wadi'i, M. (2022). The reality of the contribution of distance education to developing critical thinking skills in the Islamic studies curriculum for middle school students from the perspective of Islamic education teachers. *Journal of Young Researchers,* (12), 171-198.

Atmojo, I., Ardiansyah, R., & Wulandari, W. (2022). Classroom teacher's digital literacy level based on Instant Digital Competence Assessment (IDCA) perspective. *Mimbar Sekolah Dasar,* 9(3), 431-445. Retrieved from https://files.eric.ed.gov/fulltext/EJ1363715.pdf

Basilaia, G. & Kvavadze, D. (2020). Transition to Online Education in Schools during a SARS-CoV-2 Coronavirus (COVID-19) Pandemic in Georgia. *Pedagogical Research,* 5(4), em0060. Retrieved from https://www.researchgate.net/deref/https%3A%2F%2Fdoi.org%2F10.29333%2Fpr%2F7937?_tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6InB1YmxpY2F0aW9uIiwicGFnZSI6InB1YmxpY2F0aW9uIn19

Chadha, A. (2018). Virtual Classrooms: Analyzing student and instructor collaborative experiences. *The Journal of Scholarship of Teaching and Learning, 18*(3), 55-71. Retrieved from https://files.eric.ed.gov/fulltext/EJ1192951.pdf

Creswell, J. & Creswell, J. (2018). *Research design: Qualitative, quantitative, and mixed methods approach*. (3rd ed.). Los Angeles: SAGE Publications, Inc.

Hanawi, M., & Najm, R. (2019). The readiness of primary school teachers in government schools in the nablus education directorate to employ E-Learning: Competencies, attitudes, and obstacles. *Journal of the Arab American University for Research,* 5(12), 12-138. Retrieved from https://digitalcommons.aaru.edu.jo/aaup/vol5/iss2/5/

Kember, D., Leung, D., Jones, A., Loke, A., McKay, J., Sinclair, K., Tse, H., Webb, C., Wong, F., Wong. M., & Yeung, E. (2010). Development of a questionnaire to measure the level of reflective thinking. *Assessment and Evaluation in Higher Education,* 25(4), 380-395. Retrieved from https://www.researchgate.net/publication/238398050_Development_of_a_Questionnaire_to_Measure_the_Level_of_Reflective_Thinking

Ministry of Education (MOE). (2017). *The General Framework for Islamic Education Curriculum Standards*. Dubai: Ministry of Education.

Naamneh, A. (2022). The degree of implementing virtual classrooms in teaching the lower elementary Stage in Bani Kinanah District from the Perspective of Female Teachers. *Scientific Journal of the Faculty of Education,* 38(1), 109-131.

Omran, S. (2003). The Ladder of Thinking in the Verses of God. *Ayat Magazine*, (1), First Year, October, Beirut, Lebanon.

Parker, A. & Martin, F. (2010). Using virtual classrooms: Student perceptions of features and characteristics in an online and a blended course. *MERLOT Journal of Online Learning and Teaching, 6*(1), 18-32.

Pier, L., Hough, H., Christian, M., Bookman, N., Wilkenfeld., B., & Miller, R. (2021). *COVID-19 and the Educational Equity Crisis: Evidence on Learning Loss from the CORE Data Collaborative*. California: PACE, Policy Analysis for California Education.

Radovan, M. & Kristl. N. (2017). Acceptance of Technology and its Impact on Teacher's Activities in Virtual Classroom: Integrating UTAUT and CoI into a Combined Model. *The Turkish Online Journal of Educational Technology*, 16 (3), 11-22.

Rayan, M. (2017). *Critical Thinking and Innovative Thinking: Learning and Teaching Them for Civilizational Advancement and Scientific Progress*. (2nd ed.) Kuwait: Al-Falah Library for Publishing and Distribution.

Saad, A., Ghallab, S., & Hawa, D. (2021). Designing Web Quest Based On E-Learning in Teaching Computer for Students to Develop Reflective Thinking and Academic Achievement During Covid-19. *Journal of Language and Linguistic Studies,* 17(4), 2560-2588.

Safar, A, & Agha, N. (2020). Obstacles to the employment of distance education and learning in public and higher education in the State of Kuwait During the Outbreak of the Novel Coronavirus (COVID-19) Pandemic from the perspective of teachers: A case study. *Arab Childhood Journal, 21*(84), 47-80.

Schullo, S., Hilbelink, A., Venable, M. & Barron, A. (2007). Selecting a Virtual Classroom System: Illuminate Live vs. Macromedia Breeze (Adobe Acrobat Connect Professional), *MERLOT Journal of Online Learning and Teaching,* 3(4), 22-35. Retrieved from https://jolt.merlot.org/documents/hilbelink.pdf

Suwaidan, R. (2022). The impact of using digital technology on educational and value loss among Palestinian school students from the perspective of faculty members. *Scientific Journal of the College of Specific Education*, (32), 447-468.

Thompson, S. (2012). *Sampling*. (3rd ed.). Hoboken, New Jersey John Wiley & Sons, Inc.

Thu Huong, L., & Na Jatturas, T. (2020, May 18*). The Covid-19 induced learning loss: What is it and how it can be mitigated?* UKFIET. Retrieved from https://www.ukfiet.org/2020/the-covid-19-induced-learning-loss-what-is-it-and-how-it-can-be-mitigated/.

UNESCO. (2020). *The education sector and COVID-19*. Paris, France: UNESCO, United Nations.

Vai, M. & Sosulski, K. (2016). *Essentials of online course design: A standards-based guide*. New York, NY: Routledge.