

# Attitudes of Jordanian Private School Teachers Towards Virtual Education

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**Abstract:** The study aimed to identify the attitudes of Jordanian private school teachers towards virtual education and its relationship to their educational performance. The descriptive survey method was used in the current study, and the questionnaire was applied as a tool for collecting information. The study sample consisted of (250) special education teachers. The results showed that the attitudes of special education teachers towards virtual education were moderate. The results also showed that there were statistically significant differences in the attitudes of special education teachers due to the educational qualification variable. Years of experience, number of training courses, to an average degree.

**Keywords:** Attitudes, Private School, Virtual Education

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## 1. Introduction

Today, the world is witnessing renewed and rapid technological developments in the field of education, which have contributed to facilitating the educational process and improving its outcomes, In order to ensure that it keeps pace with global changes in all fields, improving the social, environmental and health conditions that result from emergency variables such as pandemics, wars, disasters and others. Educational institutions give great attention by linking technology in education; to keep up with the rapid changes and developments at this time, this is by introducing technical innovations and making them available in the educational environment, and urging teachers to gain experience and enroll them in many training courses that help them develop their practical skills. To enable them to deal with all devices and applications specialized in the field of education, to develop academic content and help learners to understand the mechanism of dealing with these innovations.

Education is one of the priorities of life. It is a right for all individuals. The education sector is one of the most important sectors affected by rapid developments, where pointed out that education at the present time tends to the absence of direct interaction that depends on the presence of the teacher and

learners in the classroom, this means that there is a need for an alternative to direct education; To be able to face this crisis and deal with its effects, using many technical applications that serve the educational process in light of this pandemic [3]

And educational institutions in all countries of the world hastened to employ technological tools and means in education, after the crises the world has gone through imposed preventive measures represented by closures and social distancing. It stimulated the emergence of virtual education as a suitable alternative in this period for the continuation of the educational process, without having an impact on the teacher, the learner and the entire educational system. As virtual education has become an urgent necessity that has imposed itself forcefully in all societies, and in a way that contributes to meeting the needs of learners to achieve their educational requirements, through virtual education, the teacher is connected to the learner anywhere in the world, based on this type of education [11].

Virtual education is a real response by educational institutions to technological and health developments that have swept the world, as it directly depends on the use of computers, tablets and smart phones, the means of virtual education are available to individuals everywhere, regardless of time and place, As the tools, methods and methods used in traditional education no longer meet the requirements of the

current stage, nor the cognitive needs of teachers and learners. It is necessary to employ modern methods that depend on the Internet and its various media, to make virtual education successful in a way that enables the management and control of the educational process. In order to measure and evaluate the performance of learners and teachers, the success of any virtual education effort depends on the ability and competence of the teachers responsible for providing this modern type of education [1]

For this, the role of teachers in creating a balanced and effective learning environment that contributes to achieving the goal of the educational process, regardless of the surrounding circumstances, emerges. Through the use of teaching methods that are attractive to students, affect them positively and motivate them to receive information and benefit from it in the required manner, On the other hand, it is necessary for teachers to develop their performance, improve their teaching methods, and take advantage of modern technological methods to serve the educational material. The willingness of teachers towards virtual education in teaching subjects has become one of the issues that draw the attention of educators; this is primarily due to the importance of the study materials and their need for systematic, organized and innovative teaching methods. On the other hand, it is also attributed to the positive and important role of the teacher in the success of virtual education, as it is one of the most prominent elements of the educational process, without which it is not possible to talk about the success of the educational system no matter how developed the rest of its elements and inputs [2]

### **1.1. The Study Problem**

The need for this study arose after the changes brought about by the global crises at the international level, especially their repercussions on the education sector, and the negative effects of these crises on the teacher, the learner, and the entire educational system. Since Jordanian private education schools were not isolated from the world, it was decided to suspend schools and direct education in them, in order to preserve the continuity of the educational process. The Ministry of Education considered the necessity of implementing the virtual education system to ensure the continuity of education and to preserve the safety and health of all parties to the educational process.

Hassan's study [17] recommended the necessity of providing modern tools that allow the use of interactive programs to explain lessons by default in order to develop the education process and achieve its goals and to deliver information to learners in a systematic manner that allows the material to be given easily and smoothly. The necessity of providing training courses for teachers to enable them to use these interactive electronic programs and tools. Faraj's study also recommended the necessity of developing teachers' skills and providing them with the necessary competencies to play their role in virtual education during crises, so the trends related to virtual education are very important during this period; the teacher and the learner must have the preparation

and the desire to develop their performance, teaching educational lessons by default requires many electronic software that simplifies the material for students.

On the other hand, and according to the important role that special education teachers play for students in the intermediate stage, considering that it constitutes a transitional stage that establishes the educational stage that follows, especially in light of virtual education, As virtual education needs a teacher who has the ability to learn modern methods of teaching, and apply their tools in the educational process, Because most of the study subjects are considered semi-applied subjects that require focus, detailed explanation, and great effort from the teacher to develop his educational performance, Therefore, this study came to reveal the importance of virtual education and its effectiveness in communicating information to students through the perspective of a sample of middle school teachers.

### **1.2. Study Questions**

The current study seeks to identify the attitudes of special education teachers towards virtual education and its relationship to their educational performance by answering the following questions:

1. The first question: What are the attitudes of special education teachers towards virtual education from their point of view?
2. The second question: Are there statistically significant differences at the significance level ( $\alpha \leq 0.05$ ) in the attitudes of special education teachers towards virtual education due to the variables (qualification, years of experience, number of training courses)?

### **1.3. Objectives of the Study**

The current study aims to achieve the following:

1. Theoretically; identifying the attitudes of special education teachers towards virtual education.
2. practically; Helping those in charge of the educational process to create the environment of the educational system for the intermediate stages to ensure raising the level of virtual education.

### **1.4. Terminology of Study**

The current study included the following terms:

1. Attitude (terminally): It is a state of mental or nervous readiness organized through personal experiences that directs the individual's responses to all those things and situations related to this readiness" [4]
2. Attitude (procedural): It is the attitude of special education teachers in the middle school towards virtual education, negatively and positively, which will be determined by estimating the teacher's grade on the trend scale prepared for this purpose; To know their negative and positive opinions about virtual education.
3. Virtual education (terminally): It is a method of education based on the use of technology (internet, satellite) in giving lectures to students, With the teacher

being in a place far from the students using multimedia” [8]

4. Virtual education (procedural): It is a method of education that has been widely used in the age of technology, and which countries have resorted to in our present time in light of crises as an alternative to direct traditional education.

### 1.5. The Limits of the Study

The limits of the study included the following:

1. Human limits: teachers of Jordanian private education schools.
2. Time limits: the first semester of the academic year (2021-2022).
3. Spatial limits: Jordanian private education schools.

## 2. Related Previous Studies

This part includes a presentation of the previous studies that were reviewed, arranged historically from the oldest to the most recent, as follows:

Al-Khalidi [10] conducted a study aimed at revealing the attitudes of male and female teachers in the State of Kuwait towards the effectiveness of using virtual education and the impact of the variables of gender, educational qualification, and educational stage. To achieve the objectives of the study, the researcher followed the descriptive analytical approach, and 400 male and female teachers were randomly selected. The researcher reached results: those teachers' attitudes came to a medium degree, and the results showed that there were statistically significant differences due to the gender variable, in favor of teachers in the use of virtual education.

The study of Al-Awaysa [19] aimed to reveal the impact of virtual education and traditional education on the academic achievement of students of the first third grades in Amman schools from the point of view of teachers and parents. The study sample consisted of 157 male and female teachers and 235 parents of students. The results showed that there were statistically significant differences between teachers and parents regarding the extent of the ability of virtual and traditional education to deliver information to the student and the student's ability to perceive it in the first third grades stage. The results also showed statistically significant differences at the level of significance of the effectiveness of virtual education due to the gender variable between teachers and parents in the delivery of information to the student in favor of the parents. There were no statistically significant differences at the level of the function of the effectiveness of traditional education due to the gender variable between teachers and parents in communicating information to the student.

Mostafa [20] conducted a study aimed at identifying the most important obstacles to virtual education in light of the Corona pandemic from the point of view of teachers and parents of students in Giza District schools, To achieve the objective of this study, a questionnaire tool was developed, which consisted of 42 items, and the researcher verified the validity and reliability of the questionnaire. The study sample

consisted of 141 male and female teachers. Among the 143 guardians of students in Giza District schools, the results of the study concluded that the obstacles to virtual education in light of the Corona pandemic, from the point of view of the teachers of Giza District schools, were high. The study recommended the development of training programs and workshops for teachers and parents together, and the development of electronic educational platforms to overcome the problems and obstacles facing students.

Al-Raqb [6] conducted a study aimed at revealing virtual learning difficulties from the point of view of teachers and principals of schools in Khan Yunis Governorate in the Gaza Strip in Palestine. To achieve the objectives of the study, the descriptive approach was used, and the study sample consisted of 51 principals and 164 teachers working in Khan Yunis schools. Those who were forced to move to virtual education, apply it and employ it in order to maintain the continuity of the educational process in the governorate. A questionnaire was prepared to achieve the objectives of the study. The results of the study showed agreement between the views of both principals and teachers about the assessment of difficulties.

Ahmed's study [16] also revealed the reality of virtual education in secondary schools in light of the Corona pandemic in Sharkia Governorate from the point of view of students and teachers, It also aims to reveal the obstacles that hinder the implementation of the virtual education system, The research relied on the descriptive analytical method, and the sample of the research consisted of 250 male and female students of general secondary education and 130 male and female teachers were chosen randomly. The research found that the application of virtual education in secondary schools in Sharkia Governorate, from the point of view of the student and teachers, is hampered by a number of obstacles, the most important of which is the lack of virtual education in interaction and direct communication between the teacher and the learner. The neglect of virtual education for educational and recreational activities, as well as the high Internet subscription fees, In addition to the fact that virtual education does not take into account the individual differences between learners, the research also found a set of recommendations to overcome the obstacles that hinder the application of virtual education and the mechanisms for achieving them.

Faraj [13] conducted a study that aimed to identify the experience of virtual education in the light of crises as seen by male and female teachers in the Kingdom of Saudi Arabia. The study was applied to male and female teachers in the main regions in the Kingdom of Saudi Arabia, which are 13 regions, from each region a male and female teacher, so that the sample size is 26 male and female teachers. The study adopted the phenomenological approach, and a questionnaire was used, which was applied to the study sample. The results of the study came up with a proposal for a vision represented in a set of themes, the most important of which came about the development of teachers to face disasters and crises, And the competencies necessary for teachers to play their role in virtual education during crises, and to play their role in the aspect of employing virtual

education technology in education.

Hanawi and Najm [21] conducted a study aimed at identifying the degree of readiness of teachers of the first basic stage in government schools in the Nablus Education Directorate to employ e-learning by researching the degree of their orientation towards e-learning, And the level of their sufficiency in using it, as well as the degree of obstacles to its application from their point of view. The study adopted the descriptive analytical approach. The study sample consisted of 617 male and female teachers. The results of the study concluded that the total degree of the three domains of the questionnaire was high, and there were no statistically significant differences in the field of trends and obstacles due to the variables of age, the rate of daily use of the Internet and the number of courses in the field of information technology.

*Commentary on Previous Studies and the Location of the Current Study, Including:*

The previous studies varied in terms of objectives, curriculum, sample and grades in which virtual education was used as follows:

Some studies aimed to identify the attitudes of female teachers towards virtual education, such as the study of Hamada and others [26], the study of Al-Faraj [13] and the study of Al-Khalidi [10]. Some studies dealt with revealing the obstacles facing classroom management in the experience of virtual education, such as the study of Al-Hamad [11] Some of them aimed to find out how teachers can manage their virtual classes professionally in light of the Corona pandemic, such as the study of Abu Adl [12], and the study of Bayoumi et al. [19] identified the reality of classroom teaching practices for mathematics teachers. Most studies have used the descriptive method, such as the study of Hamada, et al. [26] which used the descriptive and inductive method, such as the study of Abu Adel [23]. And the descriptive-analytical-association as in the study of Bayoumi et al [19], the quantification method, as in the study of Al-Hamad [11], and the descriptive-analytical approach, as in the study of Al-Khalidi [10] The previous studies varied in terms of the use of tools, as most of the studies used the questionnaire tool, such as the study of Faraj [13] While the structured interview tool was used as in the study of Al-Hamad [11]. As for the study community and its sample, it varies based on the nature of the study. Most of the previous studies were applied at the university level, such as the study of Al-Hamd [11] and some of them were applied in the primary stage, The current study agrees with previous studies in measuring the study community's trends towards virtual education, such as the Faraj study [13], the Abu Adel study [8], however, it differs from previous studies in choosing the sample population, which includes teachers of Jordanian private schools.

The current study also differs from previous studies in its tool, which is represented in the trend scale, which has been divided into two areas: the first is the importance of virtual education and the second is the enjoyment of teaching through virtual education.

### 3. Study Methodology

The descriptive survey method was used as a method for the study, due to its relevance to its nature. The descriptive approach is defined as a method that describes the phenomenon as it is on the ground without introducing variables or studying the factors of change that occur. It studies what is and does not address how [13].

#### 3.1. Study Community

The study population consisted of all private education teachers in the intermediate stage for the academic year 2021/2022, and their number was (1165), According to statistics issued by the Ministry of Education for the year 2020/2021.

#### 3.2. The Study Samples

According to Steven Thompson's equation, calculating the minimum size of the stratified random sample representative of the community at the significance level ( $\alpha \leq 0.05$ ) was (250) teachers, The Jordanian private education schools were divided into three regions (the North region, the central region, and the South region). Two schools were chosen from each region as a representative sample of Jordanian private education schools using a random lottery. (250) questionnaires were retrieved out of (300) questionnaires, where the final sample of the study constituted (12%), And tables 1 to 4 show the distribution of the study sample according to the study variables according to the Steven Thompson equation.

**Table 1.** Distribution of study sample members according to the educational qualification variable.

variable	Category	Repetition	percentage
Qualification	BA	233	93.2
	Graduate Studies	17	6.8
	total	250	100

It is evident from Table 1 that (233) of the sample members represent (93.2%) of the total study sample members who have a bachelor's degree, and they are the largest group. Against (17) of the respondents who obtained postgraduate studies, and their percentage was (6.8%).

**Table 2.** Distribution of study sample members according to the variable years of experience.

variable	Category	Repetition	percentage
Years of Experience	less than 5 years	44	17.6
	5-10 years	34	13.6
	More than 10 years	172	68.8
	total	250	100

It is evident from Table 2 that (172) of the study sample members have experience of more than 10 years, a rate of (68.8%), and that (44) of the sample members (17.6%) have experience of less than 5 years, And (34) of the study sample members have experience from 5-10 years, and a percentage of (13.6%).

**Table 3.** Distribution of study sample members according to the number of training courses variable.

variable	Category	Repetition	percentage
Number of training courses	Less than 3 courses	62	24.8
	3-5 training courses	48	19.2
	More than 5 training courses	140	56
	total	250	100

It is evident from Table 3 That (140) of the study sample members and (56%) of the study sample obtained more than 5 training courses, and that (62) of the study sample members, representing (24.8%) have less than 3 training courses, and that (48) of the study sample received 3-5 training courses, or 19.2%.

### 3.3. Study Tools

In their research, the researchers used the following tools: the questionnaire as a tool for collecting data and information, because it is one of the most widely used tools in the descriptive approach, Al-Raqb [6] indicated that it is one of the tools that are characterized by ease of management and organization, and low cost. In addition, it enables researchers to collect large data in a short time and analyze it by means of a computer program.

The study tools were developed, represented by two scales:

1. Trend Scale.
2. A measure of educational performance for teachers of special education.

#### 3.3.1. Trend Scale

The researchers used a scale of attitudes towards virtual education, based on previous studies, such as the study of Al-Thaqafi [2] and Hamadna et al. [3] The scale, in its initial form, consists of (28) items divided into two domains, and each domain contains items that represent a specific idea for which the parameters have a specific position, The wording of the study tool paragraphs has been modified as follows:

1. In modifying the study paragraphs, the researchers took into account that these paragraphs serve the objectives to be achieved, which are in line with the objectives of the study.

**Table 4.** The stability coefficients of the tool for the attitudes of special education teachers towards virtual education during the Corona pandemic.

The number	The field	Cronbach's Alpha
1	The importance of virtual education	0.98
2	Enjoy teaching through virtual education	0.92

Table 4 shows that the stability coefficients were high, ranging (0.92-0.98).

After obtaining these high values, the Teacher Attitudes Scale is ready in its final form to be applied to the study sample.

#### 3.3.4. Final Picture of Scale

After presenting the scale to the arbitrators, and

2. Paragraphs of the study tool have been modified so that they are clear, understandable and suitable for all study samples.
3. The study tool was prepared in its initial form, as the study tool included two main parts:
  - 1) Primary data: educational qualification, years of experience, number of training courses, educational district.
  - 2) Dimensions of the scale: The second part included two dimensions:
    - a. The field of the importance of virtual education and it consists of (18) paragraphs.
    - b. The field of enjoyment of teaching through virtual education and it consisted of (10) paragraphs.
  - 3) Diversity was taken into account in the selection of the study tool paragraphs, and that each paragraph should have a specific goal that measures a specific field in each of the dimensions of the study.

Based on the previous steps, the scale consisted of 28 items in its initial form.

#### 3.3.2. Authenticity of the Tool

The study tool was presented in its initial form to a group of specialized arbitrators, and their number was (8) arbitrators, They were asked to express their opinion on the paragraphs of the study tool in terms of the wording of the paragraphs, and the degree of their relevance to the field for which they were developed, either by approving them, modifying their wording, or deleting them because they are not important, Their comments were taken regarding the amendment, deletion, addition and merging of paragraphs, until the number of its paragraphs became (28) paragraphs. The opinion of what was agreed upon by 80% or more of the arbitrators has been taken into consideration in the arbitration process.

#### 3.3.3. Tool Stability

To calculate the tool's stability coefficient on an exploratory sample of (20) parameters from the study population and the scale was distributed to them, and then they were collected, and the scale's stability was calculated, and the results came as shown in Table 4:

calculating its validity and stability, it became in its final form. The number of its phrases reached (28) phrases, distributed over its two dimensions. The first dimension included (18) phrases.

And the second dimension (10) expressions, between positive and negative and the following table shows the final picture of the distribution of the scale expressions:

Table 5. The final picture of the distribution of the scale's expressions on its main dimensions.

Scale dimensions	Paragraph type		Total	percentage
	positive	negative		
The importance of virtual education	13	5	18	78%
Enjoy teaching through virtual education	5	5	10	22%
total	18	10	18	100%

3.3.5. Rating Scale

Scale scores were estimated by calculating inverse scores for positive and negative statements.

The positive expression starts with (5) degrees, and the negative expression starts with one degree. Table 6 shows this:

Table 6. Calculating scores on a scale of special education teachers' attitudes toward social software.

	Degree	Appreciation		Degree	Appreciation
Negative Directions Phrases	5	Strongly agree	Positive direction phrases	5	Strongly agree
	4	agree		4	agree
	3	neutral		3	neutral
	2	disagree		2	disagree
	1	Strongly disagree		1	Strongly disagree

3.3.6. Judgment Standard

The judgment criterion for the trend scale was determined by estimating the length of time during which the paragraph could be judged; accordingly, the judgment criterion

represented by the weighted and weighted averages was determined according to the five-graded levels of the tool, and the table 8 illustrates this.

Table 7. Weighted averages according to the five-step graduated scale of the trend scale.

Level of response to positive statements	weighted averages	Degree	level of response to negative statements	weighted averages	Degree
Strongly agree	1-1.8	very low	Strongly agree	1-1.8	very low
agree	1.9-2.6	low	agree	1.9-2.6	low
neutral	2.7-3.4	medium	neutral	2.7-3.4	Average
disagree	3.5-4.2	high	disagree	3.5-4.2	high
Strongly disagree	4.3-5	Very high	Strongly Disagree	4.3-5	Very high

3.3.7. Correction Tool

The method of answering the first tool of the positive paragraphs was represented by the adoption of the five-point

Likert scale, which included the following answer alternatives: very large, large, medium, few, very few, in degrees (5, 4, 3, 1, 2), respectively.

Table 8. Scale correction key.

Strongly agree	agree	neutral	disagree	Strongly Disagree
5	4	3	2	1

Based on the foregoing, the values of the arithmetic averages that were reached were dealt with as follows, according to the following equation:

- The upper limit of the alternative (5) - the minimum of the alternative (1) / the number of categories, i.e.:

$$5-1/3 = 1.33$$

So the low score is from 1.00 - 2.33

And the average score is from 2.34-3.66

The high score is from 3.67 - 5.00

The method of answering the first tool for negative paragraphs was also represented by the adoption of the pentagonal Likert scale, which included the following answer alternatives: very large, large, medium, few, very few.

Table 9. Scale correction key.

Strongly agree	agree	neutral	disagree	Strongly Disagree
5	4	3	2	1

Based on the foregoing, the values of the arithmetic averages that were reached were dealt with as follows, according to the following equation:

- The upper limit of the alternative (5) - the minimum of the

alternative (1) / the number of categories, i.e.:

$$5-1/3 = 1.33$$

So the low score is from 1.00 - 2.33

And the average score is from 2.34-3.66

The high score is from 3.67 - 5.00

Second: the educational performance measure

This tool was developed by referring to the theoretical literature and studies related to the subject of the study, such as the study of Miqdadi [30], The tool, in its initial form, consisted of (28) paragraphs distributed over three areas, as shown in Appendix No. (4), which are as follows:

1. The field of skills for implementing study materials under virtual education, and it consists of (9) paragraphs.
2. The domain of students' assessment skills in academic subjects under virtual education, and it consists of (9) paragraphs.
3. The field of special education teachers' skills in dealing with virtual education with electronic applications. It consists of (10) paragraphs.

**3.3.8. Validity of the Tool**

The researchers followed the same steps and procedures that they took in measuring the validity and stability of trends.

*Table 10. The stability coefficients of the educational performance level tool for special education teachers towards virtual education during the Corona pandemic.*

The number	The field	Cronbach's Alpha
1	Implementation skills of study materials under virtual education	0.96
2	Assessment skills of students in academic subjects under virtual education	0.94
3	Skills of dealing with special education teachers under virtual education with electronic applications	0.91

Table 6 shows that the stability coefficients were high, ranging (0.91-0.96).

**3.3.10. The Final Form of the Scale**

After presenting the scale to the arbitrators, and calculating its validity and stability, it became in its final form, and the number of its phrases reached (28) phrases.

They are divided into three axes. The first axis included (9) phrases, and the second axis included (9) phrases. The third axis contains (10) phrases, and thus the scale is ready to be applied to the basic sample.

**3.3.11. Judgment Standard**

The judgment criterion for the educational performance measure was determined by estimating the length of time during which the paragraph could be judged. Accordingly, the judgment criterion represented by the weighted and weighted

These steps were as follows:

The study tool was presented in its initial form to a group of specialized arbitrators, who are the same arbitrators of the direction scale, They were asked to express their opinion on the paragraphs of the study tool in terms of the wording of the paragraphs, and the degree of their relevance to the field for which they were developed, either by approving them, or modifying their wording, or deleted for lack of importance, and their comments were taken regarding modification, deletion, addition, and merging of paragraphs, Until the number of its paragraphs became (28), and the opinion of what was agreed upon by 80% or more of the arbitrators was taken into account in the arbitration process.

**3.3.9. Tool Stability**

To verify the stability of the second tool, the internal consistency method was used according to the Cronbach's Alpha equation, and Table 9 shows the stability coefficients of the study tool as follows:

averages was determined according to the five graduated levels of the tool, and the following table illustrates this.

*Table 12. Weighted averages according to the five-graded scale of the educational performance scale.*

Degree	weighted averages
Very low	1-1.8
Low	1.9-2.6
medium	2.7-3.4
High	3.5-4.2
Very high	4.3-5

**3.3.12. Tool Correction**

The method of answering the educational performance tool for the positive paragraphs was represented by the adoption of the pentagonal Likert scale, which included the following answer alternatives: very large, large, medium, few, very few.

*Table 13. Scale correction key.*

Strongly agree	agree	neutral	disagree	Strongly Disagree
1	2	3	24	5

Based on the foregoing, the values of the arithmetic averages that were reached were dealt with as follows, according to the following equation:

The upper limit of the alternative (5) - the minimum of the alternative (1) / the number of categories:  $5-1/3 = 1.33$

So the low score is from 1.00 - 2.33

And the medium score is from 2.34-3.66

The high score is from 3.67 - 5.00

The method of answering the educational performance tool for negative paragraphs was also represented by the adoption of the pentagonal Likert scale, which included the following answer alternatives: very large, large, medium, few, very few.

*Table 11. Scale correction key.*

Strongly agree	agree	neutral	disagree	Strongly Disagree
5	4	3	2	1

Based on the foregoing, the values of the arithmetic averages that were reached were dealt with as follows, according to the following equation:

The upper limit of the alternative (1) – the minimum of the alternative (5) / the number of categories:  $1-5/3 = - 1.33$

Thus, the high degree is from 1.00 - 2.33

And the medium score is from 2.34-3.66

And the lowest score is from 3.67 - 5.00

### 3.3.13. Study Results and Discussion

Results related to answering the first question, which states: What are the attitudes of special education teachers towards virtual education from their point of view?

To answer this question, arithmetic means, standard deviations, and order were calculated, in general, for each field of study, and Table 14 shows that.

**Table 14.** Arithmetic averages, standard deviations, order, and degree of special education teachers' attitudes towards virtual education from their point of view.

the number	the field	SMA	standard deviation	Rank	Degree
1	The importance of virtual learning	3.82	0.77	1	High
2	Enjoy teaching through virtual education	3.72	0.81	2	High
total		3.10	0.76	-	medium

It is noted in Table 7 that the degree of special education teachers' attitudes towards virtual education from their point of view was high, with the arithmetic mean (3.77) and the standard deviation (0.71), The domains were high, and the arithmetic averages ranged between (3.82 - 3.72), and the "importance of virtual learning" field came in the first rank, with an arithmetic mean (3.82) and a standard deviation (0.77), And in the last rank came "the enjoyment of teaching through virtual education" with an arithmetic mean (3.72) and a standard deviation (0.81).

As for the paragraphs of each field, the results were as

follows:

## 4. Area of Importance of Virtual Learning

Arithmetic means, standard deviations, order, and degree of special education teachers' attitudes towards virtual education from their point of view were calculated for the paragraphs of this field, and table 15 illustrates this.

**Table 15.** Arithmetic averages, standard deviations of special education teachers' attitudes towards virtual education from their point of view, and the rank, and the degree in the field of the importance of virtual learning, arranged in descending order.

The number	The field	SMA	standard deviation	Rank	Degree
7	Virtual education provides the ability to return to class lectures regardless of time and place	3.88	0.92	1	high
10	Virtual education contributes to increasing the academic achievement of learners	3.88	0.89	2	Low
6	Virtual education reduces the opportunity for group learning	3.87	0.92	3	low
16	Virtual learning reduces the opportunity for dialogue and discussion	3.86	1.03	4	high
5	Virtual education reduces positive competition between learners	3.81	0.87	5	high
3	Virtual learning develops learners' self-learning skills	3.87	0.91	5	high
1	Virtual learning provides a variety of teaching methods	3.85	1.03	7	high
8	Virtual education contributes to solving the problem of individual differences	3.83	1.05	7	high
9	Virtual learning increases learners' motivation	3.81	0.94	9	high
2	Virtual education adapts to the conditions of the learners	3.79	0.88	10	high
14	Virtual learning develops learners' thinking skills	3.76	0.95	11	high
12	Virtual teaching increases learners' interaction with each other	3.76	0.97	11	high
13	Virtual learning develops the skills to search for information on subjects from different sources	3.72	0.97	13	high
11	Virtual education adjusts the process of student attendance and absence	3.72	0.95	13	high
18	Virtual learning develops learners' problem-solving skills during the virtual session	3.7	1.00	15	high
4	Virtual education helps learners not to forget the educational material	3.69	0.88	16	high
17	Virtual teaching reduces learners' participation in the lesson topic	3.64	0.99	17	Medium
15	Virtual learning reduces the opportunity for contact and communication between learners	3.59	1.18	18	Medium
total		3.83	0.95	-	high

It is noted in Table 12 that the degree of special education teachers' attitudes towards virtual education from their point of view regarding the importance of virtual learning was high, the arithmetic mean was (3.82) and the standard deviation was (0.95), and the paragraphs of the field were high, with the exception of paragraph (12) and paragraph (9). The arithmetic averages ranged between (3.87-3.59), and Paragraph No. (5)

came in the first place in this field, which states: "Virtual education provides the ability to return to class lectures regardless of time and place" This result may be attributed to the presence of positive attitudes among special education teachers towards virtual education, As they realize that virtual education has many advantages that raise the level of the educational process and improve its outcomes, As it is

considered one of the types of education that has many advantages for the teacher and the learner and allows the possibility of providing the material for students in printed and organized form, while providing it on the websites and applications of virtual education so that they can be easily consulted at any time. Especially in light of the Corona pandemic, which forced all countries of the world to resort to

this type of education, and this result is consistent with the study of Al-Thaqafi [2], Thus, virtual education is considered the best solution that ensures the continuity of the educational process, which has led to a change in the culture of teaching and learning and the renewal of educational practices by linking virtual education with educational goals.

**Table 16.** Arithmetic averages, standard deviations, rank, and degree of special education teachers' attitudes towards virtual education from their point of view regarding the enjoyment of teaching through virtual education, arranged in descending order.

The number	The field	SMA	Standard deviation	Rank	Degree
4	I see that virtual learning saves the teacher's time and effort	3.81	0.92	1	high
6	I feel annoyed while teaching via the virtual learning system	3.79	0.89	2	low
9	I would like to read about everything related to virtual learning	3.76	0.92	3	high
1	I want to use traditional teaching methods and methods	3.75	1.03	3	low
10	I feel happy when my colleagues praise the virtual learning system	3.75	0.87	3	high
2	I feel that my love for the virtual learning system made me attend the courses related to it	3.7	0.91	6	high
7	I see that virtual education increases the burden on the teacher	3.69	1.03	7	low
8	I hope the virtual learning system ends as soon as possible	3.69	1.05	7	low
3	I find it difficult to deal with electronic applications used in virtual learning	3.61	0.94	9	medium
5	I am attracted by the educational methods available through electronic applications used in virtual learning	3.76	0.95	10	medium
total		3.75	0.95		high

It is noted in Table 16 that the degree of special education teachers' attitudes towards virtual education from their point of view regarding the enjoyment of teaching through virtual education was high, The arithmetic mean was (3.72) and the standard deviation was (0.95), and the paragraphs of the field were high, with the exception of paragraph (6) and paragraph (5), The arithmetic averages ranged between (3.81-3.61), and this result indicates that virtual education provides many new, unconventional and important methods in the process of teaching subjects. Because it allows the use of virtual education that is stable and uses one style with all students, This makes it easier for the teacher to know the extent to which the student benefits, and to provide solutions to him through the electronic messages provided by the platforms used in education Which makes the process of interaction permanent and effective between the teacher and the learner and improves the educational process, and this result is consistent with Ahmed's study [16] which indicates the importance of virtual education and its provision of many advantages that facilitate the process of linking the practical and theoretical side of the educational process. Paragraph No. (7) came in the first place, which states, "I believe that virtual education saves the teacher's time and effort" with a mean of (3.81), The researchers attribute this result to the fact that teachers have awareness and knowledge that virtual education requires many preparations by the teacher and the learner, Such as technical and economic requirements and the availability and interruption of the Internet. This result indicates the presence of positive attitudes among teachers, as teachers must be able to keep pace with the changes that occur in the

educational process. And their role in contemporary learning, which has become represented by guidance, direction and assistance to the learner, in addition to working on preparing students To be able to face the rapid changes and developments in all social, economic and technology fields that the world is witnessing and prepare it to deal with them properly, Hinnawi and Najm [21] stress the importance of raising the teacher's attitudes towards virtual education through awareness of the importance of virtual education And the necessity of involving them in training courses on how to use the educational electronic platforms used in this type of education. Paragraph No. (5) Came in last place, which states, "The educational methods used through electronic applications used in virtual education attract me with an average of (3.61)."

Results related to the answer to the second question, which states: Are there statistically significant differences at the significance level ( $\alpha = 0.05$ ) in the attitudes of special education teachers towards virtual education due to the variables (educational qualification, years of experience, number of training courses)?

To answer this question, the researchers calculated the differences according to each variable separately, as follows:

#### 4.1. Qualification Variable

Arithmetic averages and standard deviations of special education teachers' attitudes towards virtual education and the t-test were calculated according to the educational qualification variable, and Table 17 shows that.

**Table 17.** Arithmetic averages and standard deviations of special education teachers' attitudes towards virtual education and the t-test according to the educational qualification variable.

The field	Qualification	The number	SMA	Standard deviation	T value	Indication level
The importance of virtual learning	BA	233	3.42	0.55	1.52	0.02
	Postgraduate	17	3.36	0.53		
	Total	250	3.39	0.54		
Enjoy teaching through virtual education	BA	233	3.81	0.71	1.71	0
	Postgraduate	17	3.59	0.84		
	Total	250	3.71	0.78		
Total	BA	233	3.39	0.54	1.36	0.03
	Postgraduate	17	3.71	0.78		
	Total	250	3.57	0.67		

It is noticed from Table 17 that there are apparent differences between the arithmetic averages of the attitudes of special education teachers towards virtual education according to the educational qualification variable. Those from the postgraduate category got the highest arithmetic average of (3.71) compared to those from the bachelor's category. The arithmetic mean for this group was 3.57, and to determine whether the differences between the means are statistically significant at the significance level ( $\alpha \leq 0.05$ ), the t-test was applied. The results in Table 8 indicated that there were statistically significant differences at the significance level ( $\alpha \leq 0.05$ ) for the attitudes of special education teachers towards virtual education according to the educational qualification variable based on the calculated (T) value, It

reached (1.36) with a significance level of (0.03) for the total score, and in favor of female teachers who have a graduate degree, This result differs with Shehata's study [32] which showed that there are no statistically significant differences between special education teachers towards virtual education, according to academic qualification.

#### 4.2. Variable Number of Training Courses

Arithmetic means, standard deviations, of special education teachers' attitudes towards virtual learning, and (t-test) were calculated according to the variable number of training courses, and Table 18 shows that.

**Table 18.** Arithmetic averages, standard deviations of special education teachers' attitudes towards virtual learning, and t-test according to the variable number of training courses.

the field	number of training courses	the number	SMA	standard deviation	T value	Indication level
The importance of virtual learning	Less than 3 training courses	62	3.34	0.52	-0.74	0.36
	3-5 training courses	48	3.59	0.46		
	More than 5 training courses	140	3.46	0.54		
	Total	250	3.45	0.49		
Enjoy teaching through virtual learning	Less than 3 training courses	62	3.55	0.72	-1.72	0.05
	3-5 training courses	48	3.84	0.66		
	More than 5 training courses	140	3.68	0.79		
	Total	250	3.71	0.75		
Total	Less than 3 training courses	62	3.52	1.56	-1.02	0.13
	3-5 training courses	48	3.59	1.61		
	More than 5 training courses	140	3.51	1.39		
	Total	250	3.55	1.45		

It is noticed from Table 18 that there are apparent differences between the arithmetic averages of the attitudes of special education teachers towards virtual learning, according to the variable number of training courses, The number of training courses ranging between 3-5 training courses obtained the highest arithmetic average of (3.63) compared to courses that exceed 5 training courses, as the arithmetic average for this category reached (3.55). To determine whether the differences between the arithmetic averages are statistically significant at the significance level ( $\alpha \leq 0.05$ ), the (t) test was applied. The results in Table 18 indicate that there are no statistically significant differences at the significance level ( $\alpha \leq 0.05$ ) for the attitudes of special education teachers towards virtual learning, according to the variable number of training courses in favor of teachers who own (3-5 training

courses). This is based on the calculated (T) value, which amounted to (-1.02), with a significance level of (0.13) for the total score. This result can be explained by the fact that teachers with higher degrees and training courses are aware of developments in the field of education and are more familiar with the latest developments in the field of education. This finding is consistent with the study of Bayoumi et al. [19] which indicated that teachers' attitudes towards e-learning are affected by teacher preparation by involving them in workshops and training courses, and in turn, this result differs with the study of Hamadna et al. [3].

#### 4.3. Years of Experience Variable

The arithmetic averages, and standard deviations, of special education teachers' attitudes towards virtual learning were

calculated, according to the years of experience variable, and Table 19 shows that.

**Table 19.** Arithmetic averages, and standard deviations, of special education teachers' attitudes towards virtual learning according to the variable years of experience.

the field	years of experience	the number	SMA	standard deviation	T value	Indication level
The importance of virtual learning	less than 5 years	44	3.51	0.65	0.79	0.34
	5-10 years	34	3.42	0.60	0.68	
	More than 10 years	172	3.39	0.51	0.61	
	Total	250	3.42	0.58		
Enjoy teaching through virtual learning	less than 5 years	44	3.76	0.60	0.67	0.00
	5-10 years	34	3.85	0.89	0.83	
	More than 10 years	172	3.71	0.81	0.77	
	Total	250	3.77	0.77		
Total	less than 5 years	44	3.56	1.59	1.02	0.18
	5-10 years	34	3.58	1.73	0.59	
	More than 10 years	172	3.39	1.61	0.71	
	Total	250	3.55	1.44		

It is noted from Table 19 that there are apparent differences between the arithmetic averages of the attitudes of special education teachers towards virtual learning, according to the variable years of experience, as those with (5-10) years of experience got the highest arithmetic average of (3.58), while in the last rank came those with experience (more than 10 years), as the arithmetic mean reached (3.39), and to determine whether the differences between the arithmetic means were statistically significant at the significance level ( $\alpha \leq 0.05$ ) a (t) test was applied. The results in Table 13 indicate that there are no statistically significant differences at the significance level ( $\alpha \leq 0.05$ ) for the attitudes of special education teachers towards virtual learning. According to the variable years of experience, based on the calculated (t) value, which amounted to (0.79), with a significance level of (0.18) for the total score, and it was found that there are no statistically significant differences in all fields.

## 5. Conclusion

1. The attitudes of special education teachers towards virtual education were positive and high, and this indicates that teachers have awareness of the importance of distance education and the multiplicity of its teaching resources in school subjects. It also indicates that teachers possess minimal knowledge of the requirements of virtual education.
2. There are statistically significant differences in the attitudes of special education teachers towards virtual education due to the variable number of training courses., which indicates the importance of training and preparing teachers by giving them training courses that make them able to keep pace with all developments in the field of education and employ them optimally.
3. The level of teaching performance of special education teachers under virtual education was average; this indicates that teachers have multiple skills in implementing and explaining study materials through the applications provided by virtual education.

4. There are statistically significant differences in the teaching performance of special education teachers under virtual education due to the educational qualification variable.
5. There is a strong correlation between the attitudes of special education teachers towards virtual education, and their educational performance.

## 6. Recommendations

After reviewing the results of the study, the researchers recommend the following:

1. Preparing and training teachers before and during the service on the use of modern electronic technologies and applications, and training them in designing electronic lessons.
2. The necessity of activating electronic technologies and applications in the field of teaching.
3. Encouraging teachers to use innovative teaching methods and methods that are compatible with virtual education.

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## Conflicts of Interest

The author declares no conflicts of interest.

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