Effects of using e-learning as a substitute for traditional education in the time of Corona

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Abstract

  The current research aims to: identify the effects resulting from the use of e-learning as a substitute for traditional education in the time of Corona from the perspective of the teachers of the University of Basra. It also aims to identify the statistically significant differences in their opinions in the light of their specialization (Scientific – Humanities).The research sample consisted of (1000) teaching specializations (Scientific, Humanities). An open electronic questionnaire was presented to a number of teachers in different universities and different disciplines to elicit the pros and cons of e-learning. In light of their answers and review of the literature, a questionnaire composed of (45) items was prepared. This questionnaire was presented to a number of arbitrators to determine its validity whereby some of the paragraphs were deleted and modified. Therefore, the questionnaire in its final form consisted of (38) paragraphs. The internal consistency of its paragraphs was also determined, and its stability was established by re-testing, where the stability reached (0.84). After that, the questionnaire was applied to the basic research sample. The research reached a number of results, the most important of which are the following:

1- There are many negative effects that resulted from the use of e-learning as a substitute for traditional education in the time of Corona. The most severe effects were concentrated in paragraph No. (25) on the scale (Equating between the levels of students (good, average and poor) because of the quality of the questions used, the ease of cheating, and the lack of monitoring with the open time.) which came first with a weighted mean of (1.90) and a weight percentage of (95%).

2- There are no statistically significant differences at the level (0.05) between the teachers' views on e-learning in terms of its negative and positive effects according to the specialization (Scientific – Humanities).

Keywords: effects, e-learning, traditional education, corona.

1. **Research problem**:

    The Corona pandemic (Covid-19) is one of the most serious crises that threaten the education sector at the present time as it has kept students away from their schools and universities. It has also shaken one of the main pillars of university work —teaching, which represents one of the most important criteria of identifying the efficiency and development of universities. Throughthis, it is possible to raise awareness of educated generations capable of creativity in all fields of science. Teaching and its efficiency must take into account everything that would make the teaching system a strong and effective one. It would also help it to keep pace with technological developments and educational changes and achieve its goals, mission and vision.This can only be achieved by conducting research that investigates the achieved levels of university teaching, and determinei) what are the most prominent problems facing the academic and applied teaching process, and the extent of the faculty member's ability to follow modern teaching methods that stimulate students' motivation towards learning and research?, ii)what is its ability instimulating students' thinking, expanding their mental awareness, and increasing their abilities to analyse, understand, create and solve problems in the face of renewed circumstances and variables?

Among these problems are the ones that accompanied the imposition of e-learning and the employment of its systems in the field of university teaching. With the suspension of attendance studies in Iraqi universities, faculty

members took their role steadily and insistently in overcoming the difficulties that emerged as a result of the outbreak of the Corona pandemic (Covid-19) through the use of e-learning, whereby they embarked on teaching their students and followingthem up online through various available software and applications such as (FCC, ZOOM, Google Meet, etc.). This is in order to continue the educational process and mitigate the catastrophic results that emergedfrom the rapid spread of the Corona pandemic. However, this teaching process generated a number of educational problems due to the direct transition from the presence interaction to the interaction through electronic platforms without prior preparation, as well as due to the previous problems of Corona from which teaching in universities was suffering.

Teaching in universities still depends on imitation, indoctrination, the use of ready-made paper copies, and the focus on the theoretical rather than the practical side. It is still far from the developments witnessed in teaching methods and the age of technology (Al-Kanaani & Al- Mulla, 2017, pp. 41-42). Therefore, the sudden and forced change hasbrought about significant effects, including the aforementioned negative ones as well as positive ones, as sometimes the crisis can be an opportunity for individuals and institutions to invest in development.

In order to identify those effects, take advantage of the positives and enhance them, and detect and modify the negatives, we found that there is an urgent need to conduct this research. In light of this, the research problem can be summarized by answering the following two questions:

1- What are the effects of using e-learning as a substitute for traditional education in the time of Corona?
2- Are there statistically significant differences in the opinions of teachers about the effects of using e-learning as a substitute for traditional education in the time of Corona in the light of specialization (Scientific – Humanities)?

2. Research Aim:
The aim of the research is to identify the effects resulting from the use of e-learning as a substitute for traditional education in the time of Corona in the light of the views of a sample of faculty members in Iraqi universities and according to the variable of specialization (Scientific – Humanities).

2.1 The Significance of the study:
The importance of the current study stems from the following:

1- The necessity of developing a conception of the effects resulting from e-learning by identifying the most prominent effects that accompanied its use in teaching university courses for the purpose of development.
2- The need to evaluate modern experiences in education, especially the electronic one, because the transition has become a reality with (or without) the continuation of the epidemic.
3- The importance of discerning the opinion of a faculty member (the implementer) on the matter of e-learning.
4- Ending the current controversy and giving accurate results to those responsible for making a decision on whether to continue or stop, find alternatives or modify and move to mixed education.
5- The importance of developing educational programs at all levels in order to improve educational outcomes and community development.
6- Providing the necessary recommendations and proposals to address the negative aspects that accompanied the use of e-learning in teaching university courses.
7- To the best of ourknowledge, thisis the first study that tackles the effects of e-learning.

2.2 Limitations of the study:
Limitations of itsobjective: The research was limited in its objective to revealing the effects resulting from the use of e-learning as a substitute for traditional education in the time of Corona.
Spatial limitations: The research was limited in its spatial domain to a sample of male and female teachers at the University of Basra.
TemporalLimitations: The research was applied in the first semester of the academic year 2020/2021.

2.3 Keyterminologies in this study.

1- The effects of e-learning: the researchers define it as all the positives and negatives that emerged from the application of e-learning at the level of university teaching and play a role in the outcomes of that teaching.
2- E-learning: we define it as the process of presenting university academic syllabus by achieving constant communication between the teaching staff and their students using the Internet, computers, mobile devices, media and their applications, in a way that enables students to access learning resources in every place and time.
3- Corona time: we define it as the time when the Corona pandemic (Covid-19) spread from Wuhan Province in China to most countries of the world, causing the interruption of direct social communication between individuals, and disrupting the lives of the inhabitants of the world by closing official institutions and curfews.

3. **Theoretical background**:

3.1 The origin and concept of e-learning

Educational literatureagrees on the modernity of electronic educationas it indicates that this type of education began to appear in the past fifty years when electronic means were used to deliver lessons in regular classes. However, it differs in the exact definition of itshistory (Al-far, 2003, p. 15). Aside from setting a specific date in archiving e-learning, there are three stages that can be presented as follows:

1- 1984-1993:

It began with the emergence of operating systems such as Windows and Macintosh and the beginning of the use of compact discs (CDs) as main tools for developing education and transferring electronic educational content to students in a traditional way, where communication and management of the educational process is done via mail and fax, and the interaction was individual between the teacher and the student.

2- 1994-2000:

This began with the beginning of the use of the international network "the Internet" through search enginesas a method of transferring content and the emergence of the process of interaction and electronic communication that provided advanced services affected the process of communication and interaction between teachers and students, and between students themselves. So, communication turned from an individual process to a collective one. It also came about with the emergence of many advanced electronic programs although the educational administration at this stage did not abandon the traditional means.

3- 2001-present:

In this period, the international network services took new forms through the design of websites, the smoothness and speed of information transfer, the emergence of the e-book, the ease of communication through chat and messaging programs, and the progress of multimedia technologies. This expanded the horizons of the educational environment (Salim, 2004, pp. 291-295).

At the beginning of the third millennium, the concept of the second generation of e-learning emerged. This was characterized by the same interactive features of the second generation of the web in which software, applications and services such as blogs, media sharing services and site abstracts have spread. This enabled managing the educational process via the Internet and giving Internet users the opportunity to participate actively and interactively in building academic content (Hantouli, 2016, p. 17).

3.2 The concept of e-learning

The theoretical literature did not provide a comprehensive definition of e-learning that covers the significance of the concept and its many aspects, whether in abstract termsor interms of content. There are different labels related to this concept, which indicates the integration of modern technology in the field of education.It has embraced the nature of modern education in reference to the change in traditional methods and means of education. These labels include: e-learning, interactive education, distance education, and other unidirectional labels (Al-Halfawi, 2011, p. 17). It has also been called non-traditional, home or alternative education as it came as an alternative to formal education (HRDOCentre, 2017, p. 9).

Therefore, we will present some of the definitions contained in each of the three stages of e-learning development to state the reason for not agreeing on a single name for the concept, and to arrive at a formulation that is close to the general content.

E-learning was defined as:"Providing the students with educational content (electronic) through computer-based media and networks in a way that allows them to interact actively with this content, with the teacher and with their peers, whether synchronously or asynchronously. It also means the possibility of completing this learning in a time and place and at a speed that suits the student's circumstances and abilities as well asmanaging this learning through these media" (Zaytoun, 2005, p. 24).

Another definition by Al- Halfawi (2011) also states the following:"That type of interactive education that depends on the use of electronic media to achieve educational goals, and the delivery of electronic educational content to students without considering temporal and spatial barriers." (Al-Halfawi, 2011, p. 17).

Rabiei (2017, p. 24) defined it as follows: A set of procedures, methods and activities that are designed, prepared and programmed by computer, which lead the student to achieve an educational goal or master a subject, unit or lesson with the least number of errors. During these procedures, the student is provided with appropriate feedback and reinforcement.

The concept of e-learning was based in its early days on the teaching staff to display educational means and achieve integration between tools, as well as maintain interaction between them and the student. Today, it has developed after the spread of the use of computers and the Internet, and it no longer stops at the limits of transferring educational content from the paper medium to the electronicone. This is because electronic educational programs have become educational systems that are planned and implemented digitallywith the aim of providing educational content, including information, experiences, skills, concepts and activities through interactive educational media. This is in order to reach an educational environment that is rich with applications based on the integration of computer innovations and advanced communication systems thereby enabling teachers and students to achieve objectives with the least time and effort and the maximum benefit.

3.3 Principles on which e-learning is based:

These can be presented as follows:

1 – Taking into account individual differences by creating various opportunities from alternatives offered by modern computer and communication systems that take into consideration the students' capabilities and support various educational activities.

2 – Equal opportunities and the democracy of education in a way that provides fair opportunities in education and learning to students without discrimination based on social, economic and other grounds.

3- Transparency and flexibility in the educational process by creating learning opportunities for students by transferring knowledge to them and interacting with them without the limitations of place, time and social and economic aspects.

4- Individual education, which depends on the interaction of students within the educational process by relying on their aptitudes, tendencies and skills.

5- Self-learning, which is based on students' abilities in research, discovery, investigation and access to knowledge or information (Salim, 2004, p. 295).

We conclude that the principles on which e-learning is based were crystallized within the efforts of educational systems to keep pace with the successive developments and innovations in computer technology and modern information and communication technology. Information and knowledge have become flowing in a way that does not allow the current curricula to absorb or contain it. This made employing advanced computer and communication systems a necessity that helps in developing the educational process and facilitates student access to information and knowledge from its sources. This is in orderto develop the student's knowledge structure, experiences and skills through active interaction with the electronic educational content with the teachers and fellow students, whether at the university or outside it.

3.4Characteristics of e-learning:

E-learning is characterized by unique features that distinguish it from traditional education. The most prominent and obvious of these characteristics are:

1- Flexibility: The use of various media as the most important characteristic of e-learning allows the student to use flexibility because it combines more than one element (written text, audio, still and moving images, video...) just as the availability of alternatives in the presentation of educational content increases the efficiency of the educational process.

2- Interactivity: this means that this education allows interaction between the student and other parties (the teacher, or his/her peers in education), or between the student and the tool that carries the educational content. This is one of the characteristics that is unique to modern communication technology, and is compatible with the nature of the contemporary generation that seeks freedom in controlling the sources of its information and avoiding linearity and monotony in its flow.

3- Individuality: this means giving the student the opportunity to rely on him/herself in learning (self-learning), or (cooperative learning) with his/her colleagues in small or large groups in the classroom. It also means extending the student's hand on the educational material, whether in choosing the method of presentation and explanation or in terms of the time that suits him/her for learning. In addition to being not restricted to a specific age, it is not limited to one group and encourages lifelong education.

4- Integration: e-learning interconnects its components and parts with each other in an integrated and sequential manner, with which it is easy to move from one part to another or refer to it again smoothly.

5- Modernity of information: this means its diversification, and its presentation in the form of digital formats through which the program can be converted into other programs developed in a manner commensurate with the abilities and needs of the students.

6- Open storage limits: The availability of more than one technology or tool that carries educational content such as the use of the International Information Network, gives the student the freedom to choose from many alternatives.

7- Ease of updating: The available technologies have provided the opportunity to update and develop educational programs.

8- Contributing to the development of thinking:this is manifested in the sense of developing the student's thinking and self-reliance, actively and effectively as well as their ability to communicate.

9- Taking into account individual differences: this means that it takes into account the developmental and cognitive differences among students, as each student has his/her own device.

10- Feedback: this is one of the most prominent characteristics in the communicative process. Although it is available in face-to-face contact, it is e-learning that increases the interaction in the educational process, whether remotely or in attendance (Samir, 2019, pp. 25-38).

We believe that some of the characteristics of e-learning originally represent some of the characteristics of the computer, advanced communication technology and their tools, such as flexibility, interactiveness and integration in educational media. This is reflected positively in meeting the student's needs and desires, developing his/her skills and abilities, and urging him/her to be creative.However, it is not necessary to have all these characteristics in e-learning as the educational situation must take into account the characteristics of students and the nature of the study material and the formulation in an easy and appropriate manner that takes into account the determinants of the best educational environment, as well as the time allocated for learning (Nasr, 2007, p. 223).

3.5 E-Learning Strategies:

The application of e-learning allows employing a number of strategies, including the following:

1- E-lectures

Electronic lectures are one of the most important and most prevalent ways of presenting information and facts asthese can be presented via audio files, video files and text files, or through multimedia presentation systems that help in preparing these lectures and making them available to students in the classrooms.

2- E-cooperative learning

This is achieved through simultaneous communication of students with each other through the international information network using computer software and technologies such as audio and video conferences, texts and remote discussions. It is also achieved by employing news boards, forums, e-mail, web pages, and other means that encourage cooperation and its principles in education (Al-Shamrani, 2019).

3- E-programmed instruction

Programmed education depends on dividing educational content into small interconnected educational units. It is a method of e-learning that helps students acquire experiences and knowledge through positive interaction with electronic educational programs and organization of the educational environment that allows students to learn together in small groups (Mahasnah, 2015).

4- E-group discussion

In this strategy, a participatory and interactive learning environment is created toallow students to present opinions, ideas, interpretation, analysis and information processing. This is achieved in light of the flexibility of time available for the students to think more deeply about what theywrite and presenttheir ideas in a way that others can understand through electronic discussion using e-mail or mailing lists and electronic forums. This enables saving the learners' posts and makes it easier for all students to review (Kadhum *et al.*, 2019, pp. 279-280).

5- E-brainstorming

It is the result of integrating one of the usual education strategies called brainstorming with one of the e-learning models, which is distance education. It helps in enhancing the students' self-confidence by supporting them with complete freedom in proposing productive ideas. This is done with the help of computers, internet, forums and electronic programs that support interaction and direct automated response (Abdul-Samie, 2015, p. 560).

6- Blended learning

It is a kind of learning that combines traditional education and e-learning as it depends on integrating the roles of teachers in the university and virtual classrooms. It also depends on creating an appropriate learning environment for the exchange of experiences and knowledge through learning resources, activities and group and electronic meetingsin a way that enriches the educational process (Al-Aswad, 2019). For the application of blended learning, there are four strategies:

  A- The first strategy: in which lessons are divided between traditional education and e-learning according to the nature of the lessons. It also depends on the calendar.

  B- The second strategy: in which one lesson is divided between traditional education and e-learning, so that the beginning of traditional education is followed by e-learning. The calendar is done in one of the two ways.

  C- The third strategy: in which one lesson is divided between traditional education and e-learning, so that the beginning of e-learning is followed by traditional education. The calendar is done in one of the two ways.

  D- The fourth strategy: in which the use of both traditional education and e-learning is exchanged several times in one lecture (Zaytoun, 2005, pp. 174-177).

4. **Research Methodology**:

We followed the descriptive research method given its relevance to the nature of this study.A questionnaire was used as a tool to collect data from faculty members at the University of Basra.

4.1 Research community:

The research community consisted of all teaching staff members at the University of Basra. The basic research sample, which was drawn in a random way, consisted of (100) members of teaching staff at the University of Basra distributed according to the variable of specialization (Scientific / Humanities) as illustrated in Table (1).

Table (1) Distribution of the research sample according to the variable of specialization.

Specialization	Number	Percentage
Scientific	50	50%

Humanities	50	50%
Total	100	100%

4.2 Research tool:

For the purpose of achieving the aim of this research, a questionnaire was builtaccording to the following steps:

1- Determining the paragraphs of the questionnaire:

This is done by benefiting from previous studies related to e-learning, as well as contacting members of the teaching staff specialised in various disciplines in Iraqi universities to get their views on e-learning.

2- Drafting the paragraphs of the questionnaire:

From the foregoing, we built the questionnaire after taking into account the opinions of faculty members and previous studies in its formulation, where the number of paragraphs in its initial form reached (45) bearing in mind that each paragraph is clear and includes one idea.

3- Preparing alternatives:

In preparing the questionnaire alternatives, we took into account that the answer should be by choosing one suitable alternative, which is (yes, to some extent, no) assigning degrees (3, 2, 1) for positive items, and (3, 2, 1) for negative items.

4.2.1 Virtual validity:

In order to verify the validity of the paragraphs of the questionnaire, it was presented, in its initial form consisting of (45) paragraphs, to a group of experts specialized in curricula and teaching methods to judge their validity and to elicit their views on each paragraph of the questionnaire. We developed arbitration alternatives (valid, invalid, and need to be modified). We adopted (80%) or more of the experts' opinions in approving the paragraph, and in light of this, (7) paragraphs were deleted, which are the paragraphs that obtained less than (80%), i.e., the percentage of experts' agreement on the paragraphs of the questionnaire.

4.2.2Validity of internal consistency:

For the purpose of verifying the internal consistency of the questionnaire, the Pearson Correlation Coefficient was used to measure the relationship between the degree of each paragraph and the total degree of the questionnaire. All correlation coefficients between the degree of the paragraph and the total degree of the questionnaire were positive and statistically significant at the level (0.05) and this indicates that all paragraphs are true and can measure what they are designed for.

4.2.3 Resolution stability:

To verify the stability of the questionnaire, we used the (re-testing) method, as it was applied to a random sample of teachers at the University of Basra rather than to the main research sample. The sample consisted of (50) teachers: (25) males and (25) females. The time interval between the two applications was two weeks. Then, the Pearson Correlation Coefficient between them was calculated and this reached (0.84), which is high and acceptable.

4.2.4 Resolution description:

The questionnaire in its final form, consisted of (38) items, including (13) positive items, namely (3, 5, 7, 11, 14, 17, 18, 22, 23, 26, 29, 30, 33) and (25) negative paragraphs (1, 2, 4, 6, 8, 9, 10, 12, 13, 15, 16, 19, 20, 21, 24, 25, 27, 28, 31, 32, 34, 35, 36, 37, 38).Taking into account the random arrangement of the paragraphs of the questionnaire, it became ready to be applied to the research sample.

5. Research results:

This section reviews the results of the research, according to the two research questions:

1- Results related to the first question, which states: (What are the effects of e-learning as an alternative to traditional education in the time of Corona?

In order to answer this question, the weighted mean and percentage weight of the questionnaire items and the rank obtained by each item were calculated according to the mentioned statistical indicators. Table (2) shows the results.

Table (2) The weighted mean and percentage weight of the questionnaire items and the rank obtained by each item according to those statistical indicators.

Rank obtained by the paragraph according to statistical indicators	The sequence of the paragraph in the resolution	Paragraph content	Weight percentage	The middle Likelihood
1	25	Equating between the levels of students (good, average and poor) because of the quality of the questions used, the ease of cheating, and the lack of monitoring with the open time.	95	1.90
2	24	The role of the teacher in the ethical and emotional aspect has completely declined, which led to the students crossing to other stages of study without achieving this educational goal, which led to the weakness of the ability to distinguish between right and wrong, and cheating in the exam became a right.	92.50	1.85
2 (duplicate)	37	Decline in the role of the teacher as an educational influencer.	92.50	1.85
3	6	Lack of non-verbal communication (body language) especially (eye contact) and its reflection on spiritual communication with students.	91.50	1.83
4	31	The assessment lost its credibility due to the lack of supervision and the exchange of answers between students on social media.	90.50	1.81
5	27	Empowered students ashamed of their capabilities, which demoralized them, relegated them, and changed their goals.	90	1.80
6	20	Most of the decisions and instructions were working to limit the achievement of the goal and not to develop the tool or means that	88.50	1.77

		achieve the goal.		
7	16	Weakness of the skill and kinetic side of the students.	88	1.76
7 (duplicate)	36	It represented an additional burden on the teacher with the work assigned to him.	88	1.76
8	29	Contributed to increasing the level of achievement of students.	87.50	1.75
9	9	The adoption of the open book prevented most students from continuing to read the assignments in the daily or final exams.	86	1.72
9 (duplicate)	15th	Students crossing a certain subject without achieving its objectives.	86	1.72
10	13	Students' crossing to a later stage of study without achieving the objectives of the previous stage reflected negatively on the future of education and its effects will appear in the future	85	1.70
11	4	Its results are unreliable because the test tool is often inaccurate.	84	1.68
12	32	Weakness of students in the good use of devices approved in e-learning.	83.50	1.67
13	8	Determining the structure of the questions by the Ministry of Higher Education weakened the role of the teacher in achieving the goal and the ability to correctly assess the level of students.	83	1.66
14	1	Difficulty distinguishing between students in light of individual differences and the dominant part of the brain according to the latest learning theories.	80.50	1.61
15	28	The certificate loses its prestige.	80	1.60
16	34	The presence of teachers and students for a long time in front of their electronic devices has harmed their health.	78.50	1.57
17	2	The difficulty of distinguishing between students in the light of the theory of multiple intelligences.	78	1.56
		Weakened the role of the teacher in		

17 (duplicate)	10	front of the students, especially with the granting of grades and facilities by the higher authorities that allow students to cross without achieving the goal.	78	1.56
18	19	Students finished at the time required to occupy them, which led to the change of their goals and the tendency of some of them to smoke or fo uncalculated communication, or some of them may turn to the use of psychotropic substances.	77.50	1.55
19	38	Its adoption is frequently the cause of boredom and lack of seriousness on the part of students.	76.75	1.53
20	21	There is no clear philosophy for higher education since the start of the Corona pandemic.	70.50	1.41
21	12	The students' dependence on free success led to their memory fragility and thus weakened their ability to think, contrary to what modern trends emphasize in the development of thinking	62.50	1.25
22	35	Multimedia in e-learning contributed to distracting the attention of the teacher and his/her students.	58.50	1.17
23	33	Promote the transition of the educational process from teaching to learning based on students' own efforts.	57.50	1.15
24	17	It was allowed to cover the entire vocabulary of the educational material due to the large amount of time available for its presentation.	56.50	1.13
25	7	Solve the problem of classroom overcrowding in attendance education.	53.50	1.07
26	3	Ease of communication between the teacher and his/her students at any time and place.	52	1.04
27	22	The use of multimedia helped to present the educational material in a more enjoyable way.	38.50	0.77

28	30	Developed the time management skill of the teachers as well as the students.	36	0.72
29	23	It helped fill the shortage in the number of teachers.	24.50	0.49
30	14	The possibility of carrying out laboratory experiments that are difficult to conduct due to their risk.	19	0.38
31	5	Enhance students' abilities in inquiry, exploration and research.	13	0.26
31 (duplicate)	26	Enhance opportunities for communication and interaction between the student and his/her colleagues.	13	0.26
32	11	Provide students with immediate feedback.	12	0.24
33	18	Establishing the principle of equality between students in participating in discussions and exchanging opinions about the educational material	6	0.12

It is clear from Table (2) that the negative paragraphs of the questionnaire got the highest rank in terms of weighted mean and percentageweight.Paragraph (25) obtained the highest weighted mean (1.90), and the weighted percentage (95), while the positive items of the questionnaire obtained the lowest rank in terms of the weighted mean and the percentage weight. Paragraph (18) obtained the weighted mean (0.12), and weight percentage of (6). We attribute this result to one or more of the following reasons:

1- The sudden shift from traditional education to e-learning did not allow teachers plenty of time to plan well for the use of e-learning.
2- The theoretical and practical subjects, whether technical or educational, are not based on the requirements of e-learning.
3- The regulations and instructions in force in Iraqi universities do not include the necessary directives to work in times of crises and natural disasters to reduce the difficulties of using e-learning as an alternative to traditional education.

Now we move to the results related to the second question, which states: (Are there statistically significant differences in the opinions of teachers about the effects of using e-learning as a substitute for traditional education in the time of Corona in the light of specialization (Scientific – Humanities)?

To answer this question, a t-test for two independent samples was used to find out the differences in the responses of the sample members to the items of the questionnaire according to their specialization (Scientific – Humanities), and the results can be shown in Table (3).

Table (3) The results of the T-test for two independent samples to identify the effects resulting from the use of e-learning according to the specialization of the teaching staff (Scientific – Humanities).

Specialization	T value		standard deviation	Arithmetic mean	Statistical Significance (0.05)
	tabular	calculated			
Scientific			0.61	1.32	The differences
	2.00	0.47	0.54	1.26	are not

Humanities					statistically significant

It is noted from Table (3) that the arithmetic mean value of the responses of the sample members from the scientific disciplines amounted to (1.32) with a standard deviation of (0.61), while the arithmetic mean of the responses of their peers in the Humanities was (1.26) with a standard deviation of (0.54). When testing the difference between the two means, the calculated t-value reached (0.47), which is less than the tabular t-value of (2.00).This result indicates that there are no statistically significant differences at the level of significance (0.05) between the teachers' perspectives on e-learning in terms of its negative and positive effects according to the specialization variable (Scientific - Humanities). We attribute this result to the convergence of the view of this type of education, which has become a necessity in light of the outbreak of the Corona pandemic, as an alternative to traditional education to preserve the health of teachers and students. The application during the closure of university educational institutions made teachers of all disciplines aware of its negatives and positives.

5.1 Recommendations:
1- Applying multiple strategies in e-learning so that it does not become e-learning in a traditional style.
2- Focusing on the methods and techniques that make the emotional side present in teaching.
3- Working on developing educational systems to ensure that urgent circumstances and successive developments are met with greater flexibility to bridge the gaps in the application of e-learning.
4- The need to adopt blended education after overcoming the Corona pandemic, so that teachers and students are ready for the real effective practice of this type of education.

5.2 Suggestions:
In line with the findings of our study, we suggest the following:
1 – Working on good planning for the use of e-learning in all educational institutions.
2- Conducting research and studies on e-learning and its uses employing other samples and at different educational levels.

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