

# *The Role of Electronic Courses in Providing Students of Technology Colleges in the Gaza Strip with The Skills of The Twenty-First Century*

Dr. Monir Said Awad

Associate Professor of Technology and Education

Al-Aqsa University, Gaza



**Abstract** – The study aimed to reveal the role of electronic courses in providing students of technological colleges in the Gaza Strip with the skills of the twenty-first century, and to achieve the objectives of the study, the researcher used the descriptive analytical approach. The questionnaire was also used as a tool for collecting data necessary for the study, consisting of (60) skills distributed over four main axes, the first axis being creativity and innovation skills, the second axis dialogue and communication skills, the third axis cultural skills in the digital age, and the fourth axis skills of profession and life. The study sample consisted of (112) male and female students from colleges of technology in the governorates of Gaza, and they were chosen by stratified random method. The results of the study concluded that the percentage of the first axis: creativity and innovation skills reached (%69), which is the highest percentage in the acquiring skills axes, Then came the fourth axis: profession and life skills, which came in second place and their percentage (%67.21), and the third axis of culture skills in the digital age came in third rank and percentage (%67.21) and the second axis of dialogue and communication skills came in the fourth and last rank and percentage (%66), The results also showed that the role of electronic courses in providing students of technological colleges in the Gaza Strip with the skills of the twenty-first century was moderately at the level of the tool as a whole and its percentage was (%67.21), and the results of the study indicated that there were no statistically significant differences in the role of electronic courses in providing college students Technological skills in the Gaza Strip for the skills of the twenty-first century are attributed to the variables of gender, college, academic programs, and academic courses.

**Keywords** – Electronic Courses, Colleges Of Technology, Twenty-First Century Skills.

## I. INTRODUCTION

Our current reality, with all its various components, is wracked by painful external influences that have greatly affected a change in the course of tasks and requirements to achieve the goals entrusted to man in order to continue building, giving and excellence, especially as we live in the twenty-first century. We face those challenges and the changes we are in.

The twenty-first century is also witnessing cognitive and economic transformations that have directly and significantly affected the human being, in terms of his ability and various skills, in order to enable him to live and work in the era of the knowledge economy, which is concerned with higher-order thinking skills, and the management of life and technology skills (Khamis, 2017: 1). With the scientific and technological flow that we observe in the twenty-first century, new skills and knowledge are required, commensurate with learning skills in the twenty-first century. 2017: 21).

The Palestinian Ministry of Education seeks, through its Palestinian curricula, to employ the skills of the twenty-first century in its contents, as this was included in the general framework of the Palestinian curricula developed for the year “2016”, which

stressed that the student must acquire the skills of the twenty-first century, represented in effective communication and communication skills, and various thinking skills. It is represented in logical, critical and creative thinking, problem solving, and the use of modern digital technology in order to build a technological society based on the knowledge economy, in order to deal and open up to different human environments and cultures. The course, in particular, is the most important component of the educational and learning process, as it includes skills that help and prepare students for future requirements in real practical life (Palestinian Ministry of Education, 2016). Shalaby (2014) indicates that specialists in educational curricula need to include the skills of the twenty-first century, considering that these skills enable students to learn and achieve in different academic subjects, and also prepare students for innovation, leadership and effective participation in life, and this requires the availability of an integrated system that contributes to Engage learners in the learning process, in order to achieve goals that they have not been able to achieve for many years.

The skills of the twenty-first century are of great importance as they contribute to the integration and launch of the student in society. When the student finishes the educational stages, he must be familiar with all aspects of development and creativity that developed nations join in order to help him and the ability to face challenges, and how to effectively use technological tools, communication The activities in which we live because of the development and progress we are witnessing in this era (Abu Jazar, 2018: 4).

Universities are the institutions most interested in knowledge, research, teaching and application in order to prepare and qualify teachers. Therefore, the talk focuses on the role of universities in interpreting, adapting and keeping pace with these transformations and changes, whether they are shifts in demographics, academic, economic, social, political or democratic structures, all of which are transformations that cannot be avoided or ignored to understand and clarify the image of the future, and for universities to maintain their legitimacy And its pioneering role in a changing and transforming world (Al-Tobi and Al-Qawair, 2016: 2). The Partnership for Twenty-first Century Skills has defined it as: a set of skills necessary for success and work in the twenty-first century, such as learning and innovation skills, information, media and technology culture, and life and work skills (Al Watban, 2018). Abu Jazar (2018: 7) also defined twenty-first century skills: as a set of abilities, preparations, tendencies and trends, necessary for the requirements of the twenty-first century, according to specific skills represented in learning and creativity skills, information and media skills, and life and professional skills in order to build an individual's personality .While Khamis (2018: 152) defines it as: a set of skills that workers in various work environments need to be active, productive, and creative members in order to master the knowledge content necessary to achieve success, in accordance with the developmental and economic needs of the twenty-first century. Al-Fawair (2016: 517) defines the twenty-first century skills as a set of skills and knowledge that are compatible with the modern developments of the twenty-first century. These are five basic skills: "health and environmental culture, citizenship culture, openness, general to the world, entrepreneurship, education, and skills." Communication and cooperation skills, information technology skills, life and job skills, which will be measured through the responses of the sample members to the study tool used. It is defined by Shalaby (2014:6) as: a set of skills necessary to ensure that learners are prepared to learn, innovate, live, work, and make optimal use of information, media and technology in the twenty-first century.

With this change in century skills. Today's students' role has changed. They are looking for another kind of relationship with their teacher, classmates, and teaching materials. They learn in different ways. They are not strange creatures. They belong in their own world, and they must be taught about their age in their own ways. "They are no longer seen as a passive vessel for knowledge, but instead as an active participant in building knowledge" (Nasim et al., 2016, 29). ican & Deniz (2019) believes that many countries of the world have undertaken comprehensive reforms in their curricula, education and assessment to better prepare children for living, working and higher education conditions in the twenty-first century.

Today's students will graduate into a world where the demands of our professional, personal and public lives are becoming increasingly complex every year that students today must develop special skills to succeed in today's changing, interconnected and complex world, education must meet the demands of the future (Hamid, Ahmadi, Hosseinni, 2017: 35)

. Based on the strategic plan for the education sector in Palestine, which extends from (2017-2022), it indicated in its objectives "Developing student-centered teaching and learning methods and environment" in order to reform the curriculum at all levels by setting standards and reviewing curricula in order to ensure their quality and feasibility. The Palestinian context, including with regard to twenty-first century skills, competencies, values, culture and knowledge. This is achieved through

cooperation between universities, research institutions and civil society institutions related to education with the Ministry of Education and Higher Education (Education Sector Strategic Plan 2017: 113).

Most of the previous studies showed the degree to which the curricula and curricula included weak skills of the twenty-first century, such as the study of Abdul Qader (2019), the study of Sheikh Al-Eid (2019), while the study of Al-Omari (2019), the study of Melhem (2017), Al-Fawair (2016) and Sobhi (2016) 2016), the study of Al-Mansour (2018), and the study of Al-Khuzaim and Al-Ghamdi (2016), they showed between a medium degree to a large degree. As for the study of Atout (2017), and a study that showed its inclusion with a high degree (large), while the study of Al-Tobi and Al-Fawair (2016) showed And the study of Zamel (2016) as a medium degree.

The researcher believes that there is a need to conduct this study to know the role of electronic courses in providing students of technological colleges in the Gaza Strip with the skills of the twenty-first century, especially as we live in exceptional circumstances in light of the Corona pandemic, which greatly affected the course of educational matters at the general and university levels, including It is related to the educational and academic aspect.

## **II. THE STUDY PROBLEM**

Proceeding from the need and reality witnessed by academic education from electronic programs based on education and e-learning and distance learning for most academic disciplines and courses, the researcher sensed the lack of interest or focus on employing twenty-first century skills in university courses of all kinds, so the study came in response to the recommendations of many studies Previous, Including the Fateers study (2016), which indicates the need for universities to integrate and include the skills and knowledge of the twenty-first century and in their programs in general, and that there is a need to create a new educational system, whether at the level of higher education institutions such as universities and colleges, or at the level of The importance of knowledge and skills and the development of knowledge societies, and in line with rapid transformations and changes, this study also comes in response to the recommendations, She pointed to the need to pay attention to the skills of the twenty-first century and to include them in the content of public education curricula, as well as the study of Sheikh Al-Eid (2019), which indicated the need to direct the attention and attention of those in charge of planners and preparation of curricula towards integrating the skills of the twenty-first century in the academic and school curriculum plans. Students and providing them with twenty-first century skills that help them integrate into the external society and link the school with the local environment.

E-courses in providing students of technology colleges in the Gaza Strip with the skills of the twenty-first century?

From the main question, the following sub-questions emerge:

1. What is the role of electronic courses in providing students of technology colleges in the Gaza Strip with the skills of the twenty-first century from their point of view?
2. Does the role of electronic courses in providing students of technology colleges in the Gaza Strip with the skills of the twenty-first century differ according to the college (Deir Al-Balah Technical College, Al-Alou College and Technology Khan Yunis)?
3. Does the role of electronic courses in providing students of technology colleges in the Gaza Strip with the skills of the twenty-first century differ according to gender (student, male)?
4. Does the role of electronic courses in providing students of technology colleges in the Gaza Strip with the skills of the twenty-first century differ according to the different academic programs (bachelor's, diploma)?
5. Does the role of electronic courses in providing students of technology colleges in the Gaza Strip with the skills of the twenty-first century differ according to the academic course (university requirement, college requirement, specialization)?

## **III. OBJECTIVES OF THE STUDY**

The study seeks to achieve the following:

1. Unveiling the skills of the twenty-first century to be acquired by students of colleges of technology in the Gaza Strip?
2. To reveal the role of electronic courses in providing students of technological colleges in the Gaza Strip with the skills of the twenty-first century according to the difference in the gender variable (male and female)?

3. Revealing the role of electronic courses in providing students of technological colleges in the Gaza Strip with the skills of the twenty-first century according to the difference in the college variable (Deir Al-Balah Technical College, College of Science and Technology in Khan Yunis)?
4. Revealing the role of electronic courses in providing students of technological colleges in the Gaza Strip with the skills of the twenty-first century, according to the different variables of academic programs (bachelor's, diploma)?
5. Revealing the role of electronic courses in providing students of technological colleges in the Gaza Strip with the skills of the twenty-first century according to the difference in the academic course variable (university requirement, college requirement, specialization).

#### **IV. THE IMPORTANCE OF STUDYING**

The importance of the study lies in the importance of its topic, which stems from several considerations, the most important of which are:

1. The study is useful in clarifying and clarifying the real role of twenty-first century skills in learning from the academic courses of colleges of technology in the Gaza Strip.
2. The study is useful in reaching positive results in order to address the shortcomings in the twenty-first century skills areas in light of the e-learning existing in Palestinian universities and colleges.
3. The study assists faculty members in integrating and employing twenty-first century skills when preparing and designing lectures for electronic courses of all kinds.
4. The study helps students of technological colleges and universities to know the twenty-first century skills that are available when learning e-learning for university academic courses.
5. The study contributes to identifying the most acquired skills of the twenty-first century among students of colleges of technology in the e-learning process for academic courses.
6. The study contributes to identifying the least acquired skills of the twenty-first century among students of colleges of technology in the process of e-learning for academic courses.

#### **V. THE LIMITS OF THE STUDY**

The study is represented by the following limitations:

1. The objective limit: the role of electronic courses in providing students of technological colleges in the Gaza Strip with the skills of the twenty-first century.
2. Time limit: The study was implemented in the first semester of the academic year (2020/2021).
3. Spatial limitation: The study was limited to Deir Al-Balah Technical College and the Faculty of Science and Technology in Khan Yunis, in the Gaza Strip.

#### **VI. TERMINOLOGY OF STUDY**

1. Electronic courses: they are the various university courses, whether they are university requirements, student requirements, or specialization courses in university programs, which are taught electronically through e-learning systems.
2. Colleges of Technology: They are Palestinian academic colleges that grant their graduates bachelor's or diploma degrees. They are the College of Science and Technology in Khan Yunis, and Deir al-Balah Technical College.
3. Twenty-first century skills:

The procedural definition of the researcher: The skills of the twenty-first century: they are a set of important skills that the learner feels need, as they constitute a fundamental motive in the learning process through electronic courses offered in colleges of technology, which are creativity and innovation skills, dialogue and communication skills, and Culture in the digital age, career and life skills.

## **VII. METHODOLOGY**

In light of the nature of the study and the data to be obtained, the researcher used the descriptive approach as the most appropriate approach to the subject of the study, which deals with the study of events, phenomena, variables and practices, describing the educational phenomenon as it is in reality and expressing it expressly, quantitatively, and qualitatively, so that this leads to an understanding of the relationships of this phenomenon in addition To arrive at conclusions and generalizations

## **VIII. THE STUDY SAPLE**

The actual sample of the study includes a random sample of students from technological colleges (Deir Al-Balah Technical College and College of Science and Technology), and it consisted of (112) male and female students. The study sample was distributed on the following variables:

## **IX. STUDY TOOL**

To achieve the objectives of the study and to collect the data required to answer the questions of the study, the study tool was prepared, which is an electronic questionnaire specifically designed, to reveal the role of electronic courses in providing students of technological colleges in the Gaza Strip with skills of the twenty-first century, where the tools of previous studies related to the skills of the twenty-first century were taken advantage of. The twenty-first century, such as the study of Abdul Qadir (2019), the study of Sheikh Al-Eid (2019), the study of Al-Gadi and Al-Najem (2019), the Al-Omari study (2019), the Abu Jazar study (2018), the Melhem study (2017), the Al-Khuzaim and Al-Ghamdi study (2016). ), Sobhi study (2016), Shalabi study (2014), Batout study (2017), Toby and Fawair study (2016).

After its preparation, the researcher presented it to a group of arbitrators and experts to express their opinion and observations. In light of this, some paragraphs were reformulated, and other paragraphs were deleted and added so that the questionnaire in its final form, consisting of (60) paragraphs, was given a weight listed for each paragraph according to a five-graded scale. To measure the role of performance (very high, high, medium, low, very low).

## **X. STUDY RESULTS AND THEIR INTERPRETATION**

The results of the verification of the first question, which states: What is the role of electronic courses in providing students of technology colleges in the Gaza Strip with the skills of the twenty-first century from the point of view of students of technology colleges?

To answer this question, the researcher determined the criterion for the role of electronic courses in providing students of technological colleges in the Gaza Strip with the skills of the twenty-first century, to judge the significance of the arithmetic averages, which are: (1.33-2.33) low degree, (2.34-3.66) medium degree, (3.67 - 5) A high degree, (Zamel, 2016:15), then calculate the arithmetic averages, standard deviations, and percentage and arrange them in the tool as a whole, and table No. (2) shows this.

Table (2) Arithmetic averages, standard deviations, percentages, and arrangement of the role of electronic courses in providing students of technological colleges in the Gaza Strip with the skills of the twenty-first century

Rank	The number	Phrase	Arithmetic mean	Standard deviation	Percentage	Grade score
1	1.	The first axis: creativity and innovation skills.	3.45	.93	%69	medium
4	2.	The second axis: dialogue and communication skills.	3.30	.85	%66	medium
3	3.	The third axis: the skills of culture in the digital age.	3.36	.85	%67.21	medium
2	4.	Fourth Axis: Profession and life skills.	3.36	.86	%67.21	medium
overall average			3.36	.82	%67.21	medium

It is evident from Table No. (2) that the total score of the arithmetic averages for the estimation of the study sample members, for the role of the electronic courses in providing students of technological colleges in the Gaza Strip with the skills of the twenty-first century, at the level of the tool domains as a whole, has obtained a medium estimation degree, with an arithmetic average of (3.36). ), a percentage (67.21%), a standard deviation (.82), As for the arithmetic averages of the four main skill axes, they ranged between (3.45-3.30) and percentages ranged between (66%-69%), and standard deviations ranged between (.85-.93), as shown in Table No. (2) that the ratio The percentage of the first axis: creativity and innovation skills reached (69%), which is the highest percentage in the skill axes of acquisition, then followed by the fourth axis: professional and life skills, it came in second place and its percentage (67.21%), and the third axis of culture skills in the digital age ranked in the rank The third axis, and its percentage (67%, 21), and the second axis for the axis of dialogue, communication and communication ranked fourth and last, and its percentage was (66%).

The results of the current study agree with the results of the study of Al-Tobi and Al-Fawair (2016) and the Zamel study (2016) in terms of the average degree of appreciation in acquiring and ensuring the skills of the twenty-first century. Whereas, it differed with the results of the study of Abdul Qadir (2019) and the study of Sheikh Al-Eid (2019), which indicated the weak degree of availability and inclusion of twenty-first century skills in the curricula and curricula. Looking at Table No. (2), we find that the highest arithmetic average in the role of electronic courses in providing students of technological colleges in the Gaza Strip with the skills of the twenty-first century came in the first axis: creativity and innovation skills, which is (3.45), and perhaps this is due to the importance of creativity and innovation in learning Scientific knowledge and skills in various university courses, and this is what the educational and learning process aspires to in academic teaching, as it is clear from Table No. (2) that the lowest arithmetic average in the role of electronic courses in providing students of technological colleges in the Gaza Strip with the skills of the twenty-first century, It came to the second pillar: for the skills of dialogue, communication and communication, which is (3.30), and the reason may be due to a lack of electronic communication between the student and university courses, and this may indicate a lack of students in learning and communication to the required degree, given that university courses are uploaded to electronic pages through education systems The student must contact, research and review in a timely manner in technological colleges.

In order to reveal the role of electronic courses in providing students of technological colleges in the Gaza Strip with the skills of the twenty-first century at the level of the tool and the tool as a whole, arithmetic averages and standard deviations were calculated and arranged according to the role of electronic courses in providing students of technological colleges in the Gaza Strip with twenty-first century skills in the fields of study This is evident from the following tables:

Table (3) Arithmetic averages, standard deviations, percentages, and order for The first axis: creativity and innovation skills.

Rank	The number	Phrase	Arithmetic mean	Standard deviation	Percentage	Grade score
<b>The first major skill: creativity and innovation.</b>						
7	1.	The electronic courses provide students with different ways of inventing purposeful ideas.	3.28	1.08	%65.6	medium
12	2.	The electronic courses focus on using the local environment materials to implement the required innovations and works.	3.14	1.12	%62.8	medium
10	3.	There are paragraphs in the electronic courses that increase the students' ability to produce new ideas and unique and original expressions.	3.20	1.16	%64	medium
11	4.	The electronic courses include situations and illustrative examples to develop the decision-making skill.	3.16	1.07	%63.2	medium



8	5.	The electronic courses include the skill of analyzing ideas in order to improve and understand them.	3.28	1.05	%65.6	medium
6	6.	The electronic courses direct students towards interpreting and developing ideas for others.	3.31	1.09	%66.2	medium
4	7.	The electronic courses develop the skill of students' ability to plan and manage time effectively and independently.	3.38	1.12	%67.6	medium
9	8.	The e-courses include examples illustrating the different points of view on a topic.	3.26	1.07	%65.2	medium
	9.	The electronic courses urge students to solve problems from multiple points of view.	3.16	1.07	%63.2	medium
3	10.	The electronic courses give students the ability to change their state of mind by changing the desired situation.	3.39	1.07	67.8%	medium
2	11.	The electronic courses develop the skill of curiosity, inquiry and questioning.	3.47	1.02	%69.4	medium
5	12.	The electronic courses encourage students to calmly reflect on the presented ideas.	3.35	1.14	%67	medium
1	13.	The electronic courses include situations that help students build new solutions by linking previous information with the current one	3.54	1.03	%70.8	medium
<b>overall average</b>			<b>3.30</b>	<b>.85</b>	<b>66%</b>	<b>medium</b>

It appears from Table (3) that the highest arithmetic average for the paragraphs that measure the first axis: creativity and innovation skills came to paragraph No. (13) which states, "The electronic courses include situations that help students build new solutions by linking previous information with the current" with an arithmetic average ( 3.54) and a standard deviation ((1.03 and a percentage of (70.8%), then came paragraph (11) which states that "electronic courses develop the skill of curiosity, investigation and questioning" with an arithmetic mean of 3.47) and a standard deviation (1.02) and a percentage of (69.4%), While paragraph No. (2) obtained the lowest arithmetic average of (3.14) and standard deviation (1.12) with a percentage of (62.8%), for the paragraph that states "electronic courses focus on using the materials of the local environment to implement the innovations and required works" as for the overall level of the axis The first is for creativity and innovation skills, as it came with an arithmetic mean (3.30) and a standard deviation (.85) and a percentage of 66%), and this indicates a medium degree in the role of electronic courses in providing students of technological colleges in the Gaza Strip with the skills of the twenty-first century.

Table (4) Arithmetic averages, standard deviations, percentages, and order for the second major skill: Dialogue, communication and communication

Rank	the number	Phrase	Arithmetic mean	Standard deviation	Percentage	Grade score
<b>The second main skill: dialogue, communication and communication.</b>						
15	1.	The electronic courses include different situations for developing verbal communication skills.	3.2232	1.13669	64.464%	medium
14	2.	The electronic courses include situations for developing non-verbal communication skills.	3.2411	1.14880	64.822%	medium

## The Role of Electronic Courses in Providing Students of Technology Colleges in the Gaza Strip with The Skills of The Twenty-First Century

1	3.	The electronic courses urge students to use various electronic means of dialogue, such as modern electronic applications.	3.6429	1.14575	72.858%	medium
7	4.	The electronic courses give students the communication skill to achieve several goals such as motivation and guidance.	3.4286	1.07983	68.572%	medium
12	5.	The electronic courses develop the skill of influencing others and being sensitive to their condition.	3.2857	1.15023	65.714%	medium
2	6.	The electronic courses urge students to deal effectively with the pressures of life and work.	3.5536	1.17664	71.072%	medium
9	7.	Electronic courses give th student an opportunity to accept ideas and appreciate information, concepts and values.	3.3571	1.08932	67.142%	medium
10	8.	The electronic courses direct the students towards participation to review their personal understanding and resources with other students.	3.3571	1.12191	67.142%	medium
6	9.	The electronic courses develop the skill of cooperation and good leadership in teamwork.	3.4375	1.16852	68.75%	medium
18	10.	The electronic courses include developing the skills and abilities of reading and managing the emotions and motives of the students themselves.	3.0982	1.15439	61.964%	medium
8	11.	Online courses require students to take advantage of cultural and social differences.	3.4196	1.10395	68.392%	medium
17	12.	Electronic courses motivate students to work actively in voluntary organizations.	3.1964	1.18428	63.928%	medium
4	13.	The electronic courses direct the students towards building positive developments in their society	3.4554	1.16161	69.108%	medium
13	14.	The electronic courses include situations that help integrating his personal, societal, family and work requirements.	3.2768	1.15634	65.536%	medium
3	15.	The electronic courses encourage students to communicate effectively in work groups.	3.4911	1.14684	69.822%	medium
11	16.	The electronic courses direct the students towards exposing the forensic sciences in social contexts because of their ethical aspects.	3.3571	1.09756	67.142%	medium
5	17.	The electronic courses urge students to adapt to different communication styles and cultures.	3.4554	1.08958	69.108%	medium
16	18.	The electronic courses develop the skill of leading others through example and self-denial.	3.2143	1.09403	64.286%	medium
<b>overall average</b>			<b>3.3606</b>	<b>.85144</b>	<b>67.21%</b>	<b>medium.</b>

It appears from Table No. (4) that the highest arithmetic average for the paragraphs that measure the second axis: of dialogue and communication skills came to paragraph No. (3), which states “electronic courses urge students to use various electronic means for dialogue such as modern electronic applications” with an average of (3.6429). A standard deviation of (1.14575 and a percentage of (72.858%), Then came paragraph (6), which stated that “electronic courses urge students to deal effectively with the pressures of life and work” with a mean of 3.5536) and a standard deviation of (1.17664) and a percentage of (71.072%), while paragraph No. (10) obtained the lowest average My calculation was (3.0982), and a standard deviation of (1.15439) and a



percentage of 61,964 (%) for the paragraph that states "The electronic courses include developing the skills and abilities of reading and managing the emotions and motives of the students themselves." As for the overall level of the second axis: for dialogue and communication skills, it came with an arithmetic mean (3.3606) and a standard deviation (.85144, and a percentage of (67.21%). This indicates a medium degree in the role of electronic courses in providing students of technology colleges in the Gaza Strip with the skills of the century. Twenty one.

Able (5) Arithmetic averages, standard deviations, percentages, and arrangement for the third axis: Culture skills in the digital age.

Rank	The number	Phrase	Arithmetic mean	Standard deviation	Percentage	Grade score
<b>The third key skill: Culture in the digital age.</b>						
8	1.	The electronic courses determine the students' needs for information, its forms and when it is needed.	3.3482	1.12073	66.964%	medium
6	2.	The electronic courses gain the students knowledge of scientific concepts.	3.5089	1.05690	70.178%	medium
12	3.	The electronic courses give the student an opportunity to ask and answer questions.	3.0714	1.20595	61.428%	medium
5	4.	The electronic courses develop the students' ability to read scientific articles.	3.5089	1.06539	70.178%	medium
1	5.	The electronic courses develop the skill of using digital technology as a tool for searching and accessing information.	3.7232	1.14852	74.464%	big
11	6.	Electronic courses gain students knowledge of optical products.	3.2321	1.04823	64.642%	medium
7	7.	The electronic courses include situations that enable the application of visual knowledge in visual media.	3.3839	1.04188	67.678%	medium
9	8.	The electronic courses enable students to communicate information visually, as a viewer and as a critic.	3.3214	1.10049	66.428%	medium
10	9.	The electronic courses include situations that enable students to design, produce and author visual information.	3.2946	1.12817	65.892%	medium
3	10.	The electronic courses enhance the positive trends towards the use of technology in learning.	3.6786	1.16414	73.572%	big
2	11.	The electronic courses include situations that require the employment and use of modern technologies.	3.7143	1.18115	74.286%	big
4	12.	The electronic courses include positions for the use of digital technology, such as computers, media players, and GPS.	3.6696	1.25482	73.392%	big
<b>overall average</b>			<b>3.4546</b>	<b>.91293</b>	<b>69.092%</b>	<b>medium.</b>

It appears from Table No. (5) that the highest arithmetic average for the paragraphs that measure the third axis: Culture skills in the digital age came to paragraph No. (5), which states "electronic courses develop the skill of using digital technology as a tool for searching and accessing information" with an arithmetic average (3.7232) and deviation normative (1.14852) and percentage (74.464%), Then came Paragraph (11), which states that "electronic courses include situations that require the employment and

use of modern technologies." With an arithmetic mean (3.71) and a standard deviation (1.18) and a percentage of (74.28%), while paragraph (3) obtained the lowest arithmetic mean of (3.2321) and a standard deviation (1.04823) and a percentage of (64.642) for the paragraph that states "give The electronic courses are an opportunity for the student to ask and answer questions. As for the overall level of the third main skill: culture in the digital age, it came with an arithmetic mean (3.07) and a standard deviation (1.20) and a percentage of (61.42 %).

Table (6) Arithmetic averages, standard deviations, percentages, and arrangement for the fourth axis: Occupational and life skills

Rank	The number	Phrase	Arithmetic mean	Standard deviation	Percentage	Grade score
<b>The Fourth major skill: career and life.</b>						
5	1.	The electronic courses include situations that enable students to work effectively in an atmosphere characterized by selecting the necessary priorities.	3.4464	1.16896	68.928%	medium
3	2.	The electronic courses urge students to adapt to new and changing circumstances.	3.5357	1.16965	70.714%	medium
12	3.	The electronic courses include situations that help students work physically with different work environments.	3.2857	1.06904	65.714%	medium
6	4.	The electronic courses develop the skill of independent assessment of students and knowledge of learning quality.	3.4196	1.13613	68.392%	medium
9	5.	The electronic courses contain situations that enable students to formulate its objectives with tangible success criteria.	3.3036	1.06407	66.072%	big
10	6.	The electronic courses include educational situations for managing purposeful projects.	3.3036	1.06407	66.072%	medium
8	7.	The e-courses direct students to efficiently utilize the time and workload assigned to them.	3.3750	1.11602	67.5%	medium
2	8.	The electronic courses develop the students' self-learning skill.	3.5536	1.26519	71.072%	medium
1	9.	The electronic courses include situations that help students complete tasks without direct supervision.	3.5625	1.25045	71.25%	medium
4	10.	The electronic courses give students the opportunity to go beyond the requirements of the curriculum, but rather to research and explore in order to expand the desired learning.	3.4643	1.14631	69.286%	medium
13	11.	The electronic courses include situations that enable students to face the obstacles and the pressure of competing work.	3.2768	1.10861	65.536%	medium

16	12.	The electronic courses explain the desired goals of the students and the ability to achieve them.	3.2232	1.07979	64.464%	medium
11	13.	The electronic courses promote positive attitudes towards cultural differences.	3.3036	1.01199	66.072%	medium
7	14.	The electronic courses enable students to respond with an open mind to various ideas, skills and values.	3.4107	1.05313	68."21"4%	medium.
14	15.	The electronic courses include situations that help to ask meaningful questions in the planning process	3.2679	.99532	65.358%	medium.
17	16.	The electronic courses urge students to improve human life through the use of natural resources that God has harnessed.	3.1875	1.06991	63.75%	medium.
15	17.	The electronic courses include situations that enable them to face challenges and complications with alternative plans.	3.2589	1.12102	65.178%	medium.
<b>overall average</b>			<b>3.3634</b>	<b>.86150</b>	<b>67.268%</b>	<b>medium.</b>

It appears from Table No. (6) that the highest arithmetic average for the paragraphs that measure the skills of the fourth axis: career and life skills came to paragraph No. (9) which states that “electronic courses include situations that help students complete tasks without direct supervision” with an average of (3.5623) standard deviation (1.25045) and a percentage of (71.25%), Then came paragraph (8), which stated that “electronic courses develop students’ self-learning skill” with an arithmetic mean of 3.5536 and a standard deviation of (1.26519) with a percentage of (71.072%), While paragraph No. (16) obtained the lowest arithmetic mean of (3.1875) and standard deviation (1.06991) with a percentage of 63.75%) for the paragraph that reads “The electronic courses urge students to improve human life through the use of natural resources that God has harnessed” As for the overall level of the fourth main skill: the profession and life, it came with an arithmetic mean (3.3634) and a standard deviation (.86150), with a percentage of (67,268%), and this indicates a medium degree in the role of electronic courses in providing students of technology colleges in the Gaza Strip with the skills of the twenty-first century.

The results of the verification of the second question, which states: Does the role of electronic courses in providing students of technology colleges in the Gaza Strip with the skills of the twenty-first century differ according to the college (Deir Al-Balah Technical College, College of Science and Technology in Khan Yunis)?

Table (7) The significance of the differences in the average responses of students of colleges of technology in the role of electronic courses in providing students of colleges of technology in the Gaza Strip with the skills of the twenty-first century for the college variable (Khan Younis College of Science and Technology - Deir al-Balah Technical College), using the T. Test.

The field	Variable/ college	The number	Arithmetic mean	Standard deviation	value t	Indication level
The tool as a whole	Khan Younis College of Science and Technology	26	3.42	1.05	.425	.672
	Deir al-Balah Technical College	86	3.35	.74		

It is clear from Table No. (7) that the value of the significance level ( $\text{sig} = .672$ ) is greater than ( $\alpha = 0.05$ ), as it is clear that there are no statistically significant differences in the average responses of students of technological colleges, the role of electronic courses in their acquisition of twenty-first century skills due to the variable The college (Khan Younis College of Science and Technology - Deir al-Balah Technical College) The researcher attributes this result to the similarity of the academic teaching methodology used in colleges of technology, especially in the electronic courses offered and directed to students through electronic portals and e-learning systems used in university colleges in Palestine.

Which did not indicate that there are differences among students in their acquisition of twenty-first century skills through university e-courses. The results of the current study agree with the result of the study of Al-Toby and Al-Fawair (2016), which indicated that there are no statistically significant differences in the role of higher education institutions in providing their graduates with skills and knowledge of the twenty-first century due to the variable of the university or college from which the student graduated. The results of Melhem's study (2017), which indicated that there are statistically significant differences attributable to the location of the school and in favor of the villages.

The results of the verification of the third question, which states: Does the role of electronic courses in providing students of technological colleges in the Gaza Strip with the skills of the twenty-first century differ according to gender (male, female)?

Table (8) The significance of the differences in the average responses of students of technology colleges in the role of electronic courses in providing students of technology colleges in the Gaza Strip with the skills of the twenty-first century due to the gender variable (student-student), T-test.

The field	variable/ gender	The number	Arithmetic mean	Standard deviation	value t	Indication level
The tool as a whole	male	69	3.47	.81	1.677	.779.
	female	43	3.20	.82		

It is clear from Table No. (8) that the value of the significance level ( $\text{sig} = (.779)$ ) is greater than ( $\alpha = 0.05$ ), as it is clear that there are no statistically significant differences in the responses of Al-Aqsa University students in the role of electronic courses in their acquisition of twenty-first century skills due to the gender variable (student) at the level of the tool domains as a whole, and the researcher attributes this result to the similarity of circumstances and capabilities related to twenty-first century skills that both sexes receive when studying and learning through courses

In addition, they live under the same conditions, which made them close in terms of their level of acquisition of twenty-first century skills. This is consistent with what was indicated in the study of Zamel (2016) and the study of Sheikh Al-Eid (2019) that there are no statistically significant differences attributable to the gender variable. While the results of the current study differed with the study of Tican & Deni (2019), Melhem study (2017), and Batout study (2017), which indicated that there were statistically significant differences due to the gender variable.

The results of the verification of the fourth question, which states: Does the role of electronic courses in providing students of technological colleges in the Gaza Strip with the skills of the twenty-first century differ according to the different academic programs (bachelor's, diploma)?

Table (9) The significance of the differences in the average responses of students of technology colleges in the role of electronic courses in providing students of technology colleges in the Gaza Strip with the skills of the twenty-first century due to the variable of academic programs (bachelor, diploma), T-test.

The field	Variable / academic programs	The number	Arithmetic mean	Standard deviation	value t	Indication level
The tool as a whole	Bachelor	88	3.3570	.74235	-.280-	.780
	diploma	24	3.4104	1.09355		

It is clear from Table No. (9) that the value of the significance level ( $\text{sig} = (.780)$ ) is greater than ( $\alpha = 0.05$ ), as it is clear that there are no statistically significant differences in the responses of Al-Aqsa University students in the role of electronic courses in their acquisition of twenty-first century skills due to the program variable Academic (Bachelor, Diploma), at the level of the tool's fields as a whole, and the researcher attributes this result to the similarity of education systems and policies used in academic programs in colleges of technology, which did not indicate the presence of any

There is a significant difference between undergraduate and diploma program students in acquiring twenty-first century skills through their study of approved electronic courses through their academic qualities. Scientific and in favor of the master's and doctoral degrees. While it differed with the results of the Zamel study (2016), which indicated that there are statistically significant differences in the variable of each job title.

The results of the verification of the fifth question, which states: Does the role of electronic courses in providing students of technological colleges in the Gaza Strip with the skills of the twenty-first century differ according to the academic course (university requirement, college requirement, specialization)?

Table (10) The significance of the differences in the responses of students of colleges of technology in the role of electronic courses in providing students of colleges of technology in the Gaza Strip with the skills of the twenty-first century due to the variable of the academic course, using one way analysis of variance (ANOVA).

Academic Course	Variance	Sum of squares	Degree of freedom	Mean squares	Value f	Indication level
The tool as a whole	between groups	3.000	2	1.500	2.255	.110
	within groups	72.503	109	.665		
	Total	75.503	111			

It is clear from Table No. (10) that the value of the significance level ( $\text{sig} = (.110)$ ) is greater than ( $\alpha = 0.05$ ), as it is clear that there are no statistically significant differences in the responses of Al-Aqsa University students to the role of electronic courses in providing students of technological colleges in the Gaza Strip with skills The twenty-first century is attributed to the academic course variable (university requirement, college requirement, specialization) at the level of the instrument fields as a whole. The researcher attributes this result to the similarity of learning methods and teaching strategies used through electronic courses in colleges of technology, which indicates that the skills of the twenty-first century are similar in All university courses, whether they are specialization courses, college requirements courses, or university requirements courses, which students receive in their studies regardless of their courses in academic programs.

## XI. CONCLUSION

- E-courses have a role in providing students of technological colleges in the Gaza Strip with the skills of the twenty-first century, with a medium grade at the general level.
- The highest arithmetic average in the role of electronic courses in providing students of technology colleges in the Gaza Strip with the skills of the twenty-first century came in the first major skill: creativity and innovation.
- The lowest arithmetic average in the role of electronic courses in providing students of technology colleges in the Gaza Strip with the skills of the twenty-first century, it came in the second main skill: dialogue, communication and communication.
- The highest arithmetic average for the paragraphs that measure the first main skill: Creativity and innovation came to the paragraph, which states, "The electronic courses include situations that help students build new solutions by linking previous

information with the current. The lowest arithmetic average for the paragraph that states "The electronic courses focus on Using the local environment materials to implement the required innovations and works.

- The highest arithmetic average for the paragraphs that measure the second main skill: dialogue, communication and communication came to the paragraph that states "electronic courses urge students to use various electronic means of dialogue such as modern electronic applications, and the lowest arithmetic average came for the paragraph that eavesdrops on." Electronic courses include developing reading skills and abilities. Managing the emotions and motivations of the students themselves.
- The highest arithmetic average for the paragraphs that measure the third main skill: Culture in the digital age came to the paragraph that states "electronic courses enable students to communicate information visually, as a viewer and critic, and the lowest arithmetic average for the paragraph that states "electronic courses gain students' knowledge of visual products".
- The highest arithmetic average for the paragraphs that measure the fourth main skill: the profession and life came to the paragraph that states "The electronic courses include situations that help students' complete tasks without direct supervision, and the lowest arithmetic average came for the paragraph that eavesdrops on" The electronic courses urge students to improve human life by utilizing the natural resources that God has harnessed."
- There are no statistically significant differences in the average responses of students of technological colleges. The role of electronic courses in providing them with the skills of the twenty-first century due to the variables of the college, gender, academic programs, and study courses.

## REFERENCES

- [1] Abu Jazar, Sabreen (2018) Enriching Palestinian Islamic Education Textbooks for the Secondary Stage in the Light of Twenty-first Century Skills, unpublished MA thesis, Islamic University, Gaza.
- [2] Abu Jazar, Sabreen. (2018) Enriching Palestinian Islamic Education Textbooks for the Secondary Stage in the Light of Twenty-first Century Skills. Unpublished Master's Thesis, The Islamic University, Gaza.
- [3] Batout, Safaa Abdel-Wahab Belkacem (2017). The extent of acquiring twenty-first century skills from the point of view of male and female graduates of the Department of Art Education at Taibah University. Arab Studies in Education and Psychology, (89), 331-348
- [4] Al-Toobi, Abdullah, and Al-Fawair, Ahmed (2016) The Role of Higher Education Institutions in the Sultanate of Oman in Providing Its Graduates with Twenty-First Century Skills and Knowledge, for february & Research Journal (GISR-J), Vo,2. No,2
- [5] Al-Khuzaim, Khaled, and Al-Ghamdi, Muhammad (2016) with a study with the aim of revealing the degree of availability of "21st century" skills in the content of mathematics books for the upper grades of the primary stage, Resala Education and Psychology Journal - Issue 53 - Riyadh.
- [6] Zamil, Magdi (2016) The roles that the Palestinian teacher practices in light of the requirements of the twenty-first century, and ways to activate them in the Nablus Governorate, Hebron University Journal for Research - B, Volume (11) No. (2), 156-124
- [7] Sabi, Nasreen (2016). The extent to which the skills of the twenty-first century are included in the developed science course for the first intermediate grade in the Kingdom of Saudi Arabia, Journal of Educational Sciences, Volume (1) , Number (1), pp. 9-42.
- [8] Shalaby, Nawal. (2014) with a study entitled A proposed framework for integrating twenty-first century skills in science curricula in basic education in Egypt, Specialized International Educational Journal, Volume (3), Issue (10), p. 1-33.
- [9] Sheikh Al-Eid, Soumia (2019). An analysis of the content of technology books for the basic stage in light of the skills of the twenty-first century and the extent to which tenth grade students have acquired them, an unpublished master's thesis, the Islamic University, Gaza.



- [10] Abdel-Kader, Ayman (2019) The availability of twenty-first century skills in developed mathematics textbooks for each grade of the primary stage in Egypt.
- [11] Al-Otaibi, Kholoud (2017). Competencies of educational technology required for postgraduate students at the Faculty of Social Sciences at Imam Muhammad bin Saud Islamic University in the digital age from their point of view, Taibah University Journal of Educational Sciences, Issue 1, 12 d. Taibah University Journal of Educational Sciences, p.19-38.
- [12] Ali, Karima (2019). The degree to which the science book for the fourth grade contains the skills of the twenty-first century and the extent to which science teachers possess these skills in the schools of Ramallah and Al-Bireh Governorate, an unpublished master's thesis, An-Najah National University, Palestine.
- [13] Al-Omari, Salha (2019) The role of female educational supervisors in developing the skills of the "21st century" among primary grade teachers and its impact on achieving Vision 2030 in Jeddah, Journal of Educational and Psychological Sciences, No. (3), Volume (3), pp. 27-49.
- [14] Al-Ghamdi and Al-Najim (2019). The skills of childhood teachers, the name of the second researcher: Early in the twenty-first century, the educational psychology of Islamic studies University M Vol 28, No 6, 2020, pp 546 - 572 and the educational psychology of Islamic studies University M
- [15] Al-Fawair, Ahmed (2016) The extent to which workers in early intervention programs in the Sultanate of Oman possess the skills and knowledge of the twenty-first century, in the light of some variables, The Jordanian Journal of Educational Sciences, Vol. 12, No. (4), pp. 513-523.
- [16] Melhem, Amani (2017) The degree of availability of twenty-first century skills in the technology course for the upper basic stage and the degree to which students possess these skills, unpublished master's thesis, An-Najah National University, Palestine.
- [17] Al-Mansour, Arien (2018) The degree to which science books for basic education in Jordan include skills for the twenty-first century, unpublished master's thesis, Al al-Bayt University, Jordan.
- [18] Al-Huwaish, Youssef bin Muhammad bin Ibrahim (2018). Professional development for teachers of the Kingdom of Saudi Arabia in the light of the skills of the twenty-first century. Journal of the College of Education in Educational Sciences, 42 (1), 246-282.
- [19] Hamid, A. Ahmadi, F. Hosseinnia, M. (2017) Integrating 21st Century Skills into Teaching English: Investigating its Effect on Listening and Speaking Skills, Journal on English Language Teaching, Vol. 7 No4, pp35-43
- [20] Motallebzadeh.K, Ahmadi.F, Hosseinnia.M (2018) Relationship between "21"st Century Skills, Speaking and Writing Skills: A Structural Equation Modelling Approach, International Journal of Instruction, Vol.11, No.3, pp. 265-276.
- [21] Tican, C., & Deniz, S. (2019). Pre-service teachers' opinions about the use of "21"st century learner and "21"st century teacher skills. European Journal of Educational Research, 8(1), 181-197. doi: 10.12973/eu-jer.8.1.181
- [22] Iris Talmi<sup>1</sup>, Orit Hazzan<sup>2</sup> & Reuven Katz<sup>3</sup> (2018) Intrinsic Motivation and "21"st-Century Skills in an Undergraduate Engineering Project: The Formula Student Projec, Higher Education Studies Vol. 8, No. 4; pp46-58.