The Level of IT Skills during the Distance Learning Period among Students of Al-Balqa Applied University - Princess Rahma University College

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ABSTRACT
This study aimed to identify the level of Al-Balqa Applied University students in computer and Internet skills at the distance education stage, especially among Princess Rahma University College students, and to find the relationship of that level to some demographic variables such as gender, academic year, and academic specialization. To collect the data, an electronic questionnaire consisting of several axes was prepared and answered by the college students, and it was analyzed using the SPSS program. It was found that the level of skills of Princess Rahma University College students is high in using the Internet and other computer applications, with a rate exceeding 71%, and this is due to several factors, including enrollment in previous training courses that raised students' abilities within the fields of the Internet, dealing with Windows and Office applications, joining in computer skills course as main request in university raised their skills in using the Moodle e-learning framework , and the nature of the specialization, as it was clear that the students of social work have high skills compared to the rest of the students in the specializations of special education, delinquency and crime and applied psychology.

Keywords
E-Learning, Computer Skills, Distance Learning Effectiveness, COVID-19

1. INTRODUCTION
Recently the region was exposed to the Covid-19 virus, this emergency forced employees in various sectors to work from home, the most important one is the educational sector, where face-to-face education in the classroom is not applicable considering the health situation, which prompted universities, colleges, institutes, schools, and centers to depend completely on the Internet to continue carrying out all its educational activities with ease and ease. Thus, traditional education or blended education has been replaced by electronic education so that the educational material is presented and accessed using the Internet. Hence, the basic and effective role of the computer and the Internet in the educational process and in the development of students' skills during this period emerged.

Our research paper focuses on 6 important skills: (1) The ability to interact with a Windows computer system, (2) Using the Internet, (3) Interacting with learning framework which provided by the university to their students (Moodle), (4) Dealing with the system team through lectures, (5) Preparing presentations using Microsoft PowerPoint and, finally, taking documents and working with them in Microsoft Word.

1.1 Traditional Instructional Delivery System
The traditional education system occupied a relatively long period in universities, colleges, and schools, and it took the form of a classroom in which students meet with the lecturer, the lecture is given, and the students listen and take notes. The interaction between students and their professor is considered as being a crucial learning ingredient in this delivery platform.

Fig 1: Traditional learning system process

The figure shows that the total dependence on the teacher in the process of delivering information, guidance, and education in the classroom, while the students' role is limited to understanding, comprehension and solving the duties required of them only.

If the information is not properly received by a student, he can communicate directly with the teacher and receive support and assistance from him. [1]

Another definition of traditional education is education that depends on the presence of lecturers and students in the same place and the same time specified for the lecture and direct communication between them in the classroom and the delivery of information to them through the lecturer who is the basis of the educational process using the method of indoctrination of information and knowledge and with the help of educational aids such as books, pens and blackboard, Emphasis is placed on the reach of this information and knowledge by guiding students to do homework.[2].

Since the current era is the age of information technology and the Internet, trends have emerged to harness and invest computer and Internet services to serve the educational process, which led to competition for the use of these

technologies and services, especially the use of the Internet, especially in light of this circumstance that led to the complete dependence on the use of computers and the Internet for the success of the educational process This led to the emergence of the term E-learning[3].

1.2 Distance Learning and E-Learning

It is a flexible educational system that connects students and educational resources, allowing teaching and learning without being restricted to a specific place or time in the classroom, allowing students to control when, how and where they communicate with the educational resources available to them while saving time and cost when going to the university. [4]

As for the researcher (Sagarmay Deb), he refers to electronic education as improving the level of printed educational material to make it electronic and increasing interaction between students and teachers by making use of the Internet, but it goes beyond creating virtual classrooms in which students from all over the world meet.[5]

The definition of e-learning from Cambridge dictionary is "learning done by studying at home using computers and courses provided on the internet"[6].

1.3Types of E-Learning

- Synchronous E-learning: It is implemented by setting a specific time for the lecture, then students and lecturers can enter the classroom or discussion room, virtual conversation and Live communication is done between all of them at the same time and the same place. Such as using the Microsoft team program that used in the universities [7].
- Asynchronous E-learning: It means self-learning for the student by himself using electronic learning techniques such as CD-ROM-based, Network-based, or Internet-based. Students can communicate with their teachers through on-line discussion groups and e-mail, or online bulletin boards such as using the e-learning system Moodle that used in the universities [7].

2. LITERATURE REVIEW (RELATED WORK)

Literature review aims to know the efforts that spend in the field of this study and mention them to be aware about all of researchers.

So, in this section a brief idea of the research definitions and suggestions which are followed by previous studies, and the most important results that were reached and knowing the similarities and differences between the previous studies are presented.

Many of researchers discussed the different between the definitions of e-Learning, online learning, and distance teaching JL Moore et al. (2011).

E-learning become the subjects of number of research, learner motivation and e-learning design are studied by Keller & Suzuki (2004) the results of their experimental studies agreed with the validity of their model for the systematic design of motivational reinforcement learning in e-learning.

On other hand Tarans' (2005) suggest 10 motivations techniques to attract and keep students' attention, which are considered the most important Elements of getting motivated while learning online.

Shire et al (2006) examines the use of the e-learning course at ENSIC in France. The results of their study show that this new teaching does not reduce teaching time but encourages more activity learning, as well as a better understanding of technology for students to advance their own capabilities.

Liaw, Huang & Chens' (2007) research's point was to look at learners' approach toward e-learning frameworks they accepted that learners' approaches can be classified four distinctive variables.

Rovai et al (2007) examined on understudy Inspiration in Conventional Classroom and E-Learning Courses, their consider comes about grant prove that understudies who are instructed by e-learning are more naturally propelled than understudies who go to Conventional Classroom, they found that there were no contrasts in three outward inspiration measures or an inspiration. Additionally, the results appeared that graduate understudies were more naturally persuaded than undergrad understudies in e-learning and traditional instruction.

Pale et al(2008) in their consider accepted that having involvement with information and communication technologies and virtual competence were two critical components that influenced e-learning and had a positive impact on its comes about, They tried their theories on a test of 383 understudies sharing in online courses, Their discoveries endorsed the effect of virtual capability and uncovered a nuanced component by which encounters with information and communication technologies impacted e-learning comes about.

Paechter& Maier (2010) examined around Austrian students' favorite viewpoints of e- learning courses that empower them for learning and approximately the time understudies select online or face-to-face learning, the result of their think about appeared that Understudies chose online learning since of giving an obvious structure of learning fabric and they chose face-to-face learning for communication objectives in which a shared comprehension has got to be extricated.

Yengina et al (2009), considered approximately the parts of instructors in e-learning, in their paper a show of teachers' part within the e-learning framework has been talked about, concurring to the model they provide pathways for instructors to create online courses that include understudies into e-learning more effectively.

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Mateo et al. (2010) accepted Advances and particularly data and communication advances are impediment breaking within the existing social situation and their utilize is becoming vital for any talented individual, and their scope of utilize is getting to be particularly broad in education due to the presence of communication out of the course through e-learning gadgets.

Abdelaziz et al (2011) intheir consider they give a demonstrate where understudies from first-world colleges get prepared and alter course substance for utilize in instructive teach in creating nations. The finding of Evaluation of E-learning program versus conventional address instruction appears Need of computer abilities of students' influences their capacities to communicate viably with the educators and fizzled to take part in a variety of online communication

strategies. Understudies within the ponder bunch were satisfied with the e-learning program as an educating strategy, but they did not need to require another e-learning program but on the off chance that they had computer and Web at domestic.

The part of status variables in E-learning appeared that organizational availability variables have a basic impact on E-Learning comes about; too teachers' inspiration and instruction are the basic variables in E-Learning Keramati, et al (2011). Comes about approximately utilize of e-learning to improve restorative students' understanding appeared that most of understudies were idealistic approximately the learning involvement (O'Neill et al., 2011).

Kim & W. Frick (2011) centered on changes in students Inspiration amid Online Learning, the comes about of their consider appeared that inspiration during self-directed e-learning was the leading forecaster of positive alter in inspiration, which estimate learner agreement with.

Bhuasiri et al (2012) accept that fundamentals for implementing successful e-learning in creating nations are innovation mindfulness, inspiration, and changing learners' behavior.

Yacoba et al (2012) search about students' mindfulness towards e-Learning in education their discoveries demonstrate that males and female are more mindful towards e-learning in instruction at TATIUC.

Bataineh&Atoum (2021) pointed toward researching the viability of distance schooling in Jordanian colleges considering the COVID pandemic and recognizing the impediments looked by college understudies. To arrive at the exploration goals, a poll was created by the scientists followed by semi-organized meetings. An example of 1000 understudies was chosen haphazardly from public furthermore, private colleges. The outcomes uncovered that most of the Jordanian college understudies are not satisfied with this distance learning experience as the vast majority of the understudies experienced a few snags.

3. METHODOLOGY

3.1 Introduction

Due to the tendency of universities to rely mainly on e-learning considering the Corona pandemic, this study was conducted on students of Al-Balqa Applied University, and on students of Princess Rahma University College, the study problem was identified in answering the following main question: What is the effect of the electronic distance learning period in improving students' individual skills in their use of computer and Internet applications and services.

And when it was initially noted that there are several taxonomic variables that could modify the students' level of computer skills, as in: gender, enrollment in a computer training course, completion of computer skills 101, and specialization, and university year, the study tried to answer the following research questions:

First: What is the level of effectiveness of distance learning strategy and the use of computer and internet programs among students at Princess Rahma University College?

Second: Are there statistically significant differences at the level of (α=0.05) in the degree of effectiveness of the distance learning strategy on computer and internet skills and programs in the students of Princess Rahma University College attributable to the sex variable?

Third: Are there statistically significant differences at the level of (α=0.05) in the degree of effectiveness of the distance learning strategy on computer and internet skills and programs in the students of Princess Rahma University College attributable to the university year?

Fourth: Are there statistically significant differences at the level of (α=0.05) in the degree of effectiveness of the distance learning strategy on computer and internet skills and programs in the students of Princess Rahma University College attributable to the enrolling in computer courses?

Fifth: Are there statistically significant differences at the level of (α=0.05) in the degree of effectiveness of the distance learning strategy on computer and internet skills and programs in the students of Princess Rahma University College attributable to the variable study of the computer course?

Sixth: Are there statistically significant differences at the level of (α=0.05) in the degree of effectiveness of the distance learning strategy on computer and internet skills and programs in the students of Princess Rahma University College attributable to the specialization?

3.2 The Importance of This Study

The importance of the study lies in its contemporary modern topic on the one hand, and in two other aspects on the other hand, which are the theoretical and practical side. In theory, the importance of the study is represented in its attempt to find the answer to the study (Six) questions that were previously raised, and in the same context, the importance of the applied study emerges considering the following observations and practical importance:

1. It can contribute to informing computer teachers of the importance of continuous focus on the practical side of computer skills subjects, and its positive reflection on their students.
2. It is expected that this study will pave the way for preparing special booklets for students to help them in the coming semesters, especially if distance education continues.
3. Support computer courses and keep up with the rapid development we are experiencing.
4. It is hoped that this study will open the way for other research and studies in the field of computer science and its teaching with variables related to the nature of programs used in distance education, for example, studying the relationship between students' understanding of applications used in teaching and the application of this knowledge in their educational behavior and their communication with their colleagues.

3.3 Methods and Procedures

3.3.1Study Population

The study community consisted of all the students of Princess Rahma University College in all its specializations (social service, sociology - delinquency and crime, special education, and applied psychology) in the bachelor's degree, by randomly distributing an electronic questionnaire to (517) students and collecting (323) responses with a rate of (80.6%), which is a high retrieval rate. Thus, the individuals of the study sample in their final form reached (323) male and female students, and statistical and inferential analyzes were performed on them.

3.3.2 Study Tool:

To collect the study data, the "electronic questionnaire" was

adopted as a study tool. It is an objective test of the multiple-choice type, which was divided into 7 sections, and each section contains several paragraphs whose answers range from (very high to very weak). It has been studied and developed. And review it to ensure accuracy and speed in response. Previous studies were also used such as: the study (SafiyehRajaee Harandi.2015) [8], and the study (Ayesh Mahmoud Zeitoun, 2012) [9].

To find the validity of the test, the apparent honesty of the respondent was relied upon, and the content was validated by presenting it to its specialized professors to express their views on the suitability and comprehensiveness of the test items to measure what they were designed to measure. Some paragraphs have been modified based on their opinions and observations.

To find the stability of the test, the Pearson correlation coefficient was applied to calculate the test reliability coefficient.

Table 1: Pearson Coefficient

Scale: ALL VARIABLES

Case Processing Summary

		N	%
Cases	Valid	317	98.1
	Excluded[a]	6	1.9
	Total	323	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
1.161E-006	60

As shown in Table (1), Pearson Coefficient is (1.161E-006), which is a high reliability coefficient that is significant and suitable for the aims and purposes of the study.

3.3.3 Study Procedures:

This study was prepared and implemented according to the following short procedures:

1. After determining the study population and selecting the sample members, the electronic questionnaire was distributed among the study sample members with the help of some teachers in the college.
2. The collected statistical data were classified into two clusters (Computer and Internet), and the rest of the sections fall under them.
3. The SPSS statistical analysis program was used to define the variables and enter the results in preparation for conducting the appropriate statistical and inferential analyzes for the content of the study.

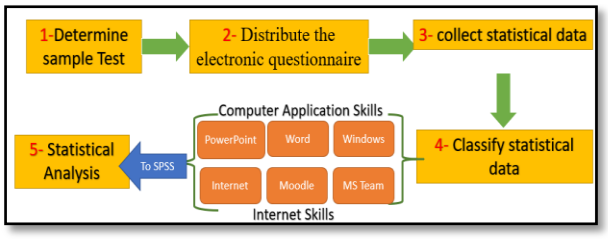

Fig2: Study Procedure.

According to the above figure our questionnaire was classifies **into two main parts**:

A. Computer Application Skills include:

1- Skills to deal with Windows.

2- Skills to deal with Microsoft Word Processing.

3- Skills to deal with Microsoft PowerPoint Presentation.

B. Internet Skills include:

1- Skills to deal with Internet programs.

2- Skills to deal with the e-learning system (**Moodle**).

3- The ability to deal with the (**Microsoft team**) program.

3.3.3.1 Computer Application Skills:

The most common types of files in the distance learning environment such as Microsoft Word processor and Microsoft PowerPoint presentations are not dealt with easily unless the student has a skilled enough in dealing with the window system, these files are necessary for students where they are used to solve their duties and prepare reports and research and prepare presentations to be in contact with the teacher and hand over these files.

Computer Application skills are divided into **3 basic parts**, and each part includes a set of necessary cognitive and practical skills.

A) Windows Skills includes the ability to:

1- Find files and folders on the computer.

2- Create Files and Folders.

3- Rename Files and Folders.

4- Compress Folders.

5- Change the way files, folders, and images appear in large or medium icons.

6- Retrieve deleted files or folders.

7- Transfer files from one place to another on the computer.

B) Microsoft Word Processor skills includes the ability to:

1- Create, edit, save, and print documents.

2- Format a WordPress file and modify the type, color, and size of the text.

3- Change the direction of the page from vertical to

horizontal and vice versa.

4- Preview a WordPress file before printing it.

5- Create tables in WordPress.

6- Save the word file on the USB.

7- Save your WordPress file as a pdf file.

8- Rename the word file.

9- Insert photos on the word file and make appropriate formats for these pictures.

10- Inserting numbers for pages in the word file.

11- Take a picture of the active screen and adding it to the file and saving it.

C) Microsoft PowerPoint Presentation skills includes the ability to:

1- Create slides on PowerPoint presentations and change the background and formats for these slides.

2- Insert a text box into the slides and change the color, size, and type of font for it.

3- Change the direction of the slide from vertical to horizontal and vice versa.

4- Add photos and videos to slides.

5- Add slide movements.

6- Control the movement of slide components such as text box or images.

7- Preview slide movements and show them to the public.

8- Insert numbers or texts into the appendix of the presentation slides.

9- Save the presentation file.

3.3.3.2 Internet Skills

Internet and communication skills are divided into 3 basic parts, and each part includes a set of necessary cognitive and practical skills.

A) Internet use skills includes the ability to:

1- Use other internet browsers other than the one used.

2- Download files.

3- The ability to find downloaded Internet files and transfer them to another location or save them to flash.

4- The ability to upload files from your personal computer to the Internet.

5- The ability to search for specific topics on search engines.

B) The ability to use the Moodle system includes:

1- Ability to download files from Moodle page.

2- The ability to send pictures/images via the Moodle system.

3- The ability to send files via the Moodle system.

4- The ability to send a group of files at once via the Moodle system.

5- The ability to send a zip file via the Moodle system.

6- The ability to send an audio file via the Moodle system.

7- The ability to send a message to the subject teacher / or another student through the Moodle system.

C) The ability to use Microsoft Team includes:

1- The ability to access the lecture.

2- The ability to send / receive an invitation to colleagues in a lecture.

3- The ability to turn off the sound and the camera.

4- The ability to use the hand lift tool.

5- The ability to record the lecture.

3.4Study Design

This study included, according to its design, the following (independent and dependent) variables:

The independent (demographic) variables, which are:

1- Gender (Social Gender), and it has two classes: male and female.

Table 2: Gender Statistics.

Statistics

Gender

N	Valid	323
	Missing	0

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	55	17.0	17.0	17.0
	Female	268	83.0	83.0	100.0
	Total	323	100.0	100.0	

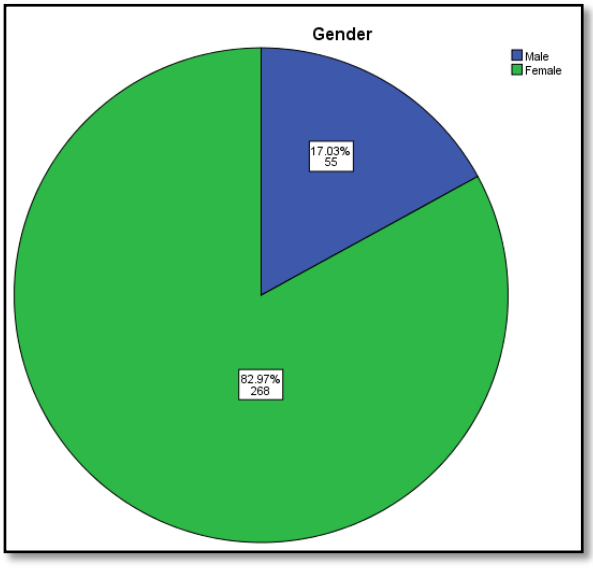

Fig3: Gender Pie chart

Based on the previous table 2 and figure 3, female students constitute the largest percentage of those who answered the questionnaire, as the number of females reached (268) students, or (82.97%), while the number of male students reached (55) students, or (17.03%) of the total number of students who answered this questionnaire.

2- Academic Year, it has four categories: the first year, the second year, the third year, and the fourth year.

Table 3: Academic Year statistics

Statistics

Academic_Year

N	Valid	323
	Missing	0

Academic_Year

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First	84	26.0	26.0	26.0
	Second	81	25.1	25.1	51.1
	Third	91	28.2	28.2	79.3
	Fourth	67	20.7	20.7	100.0
	Total	323	100.0	100.0	

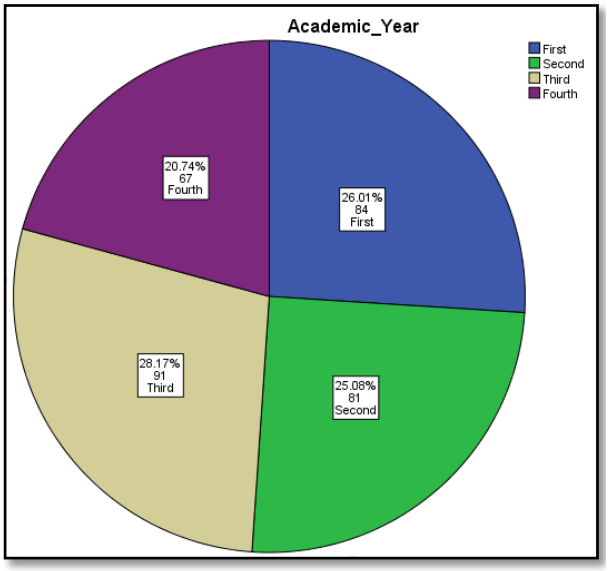

Fig4: Academic Year pie chart

It is noticed that there is a diversity of students from different school years, and somewhat converging.

The previous table 3 shows the number of students from each academic year: the first year (84) students with (26.0%) percent, the second year (81) students with (25.10%) percent, the third year (91) students with (28.20%) percent, and the fourth year (67) students with (20.70%) percent.

2- Enrolling in a Computer Training Course, which has two categories: Yes and No.

Table 4: Enrolling training course statistics.

Statistics

Enrolling_Training_Course

N	Valid	323
	Missing	0

Enrolling_Training_Course

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	259	80.2	80.2	80.2
	Yes	64	19.8	19.8	100.0
	Total	323	100.0	100.0	

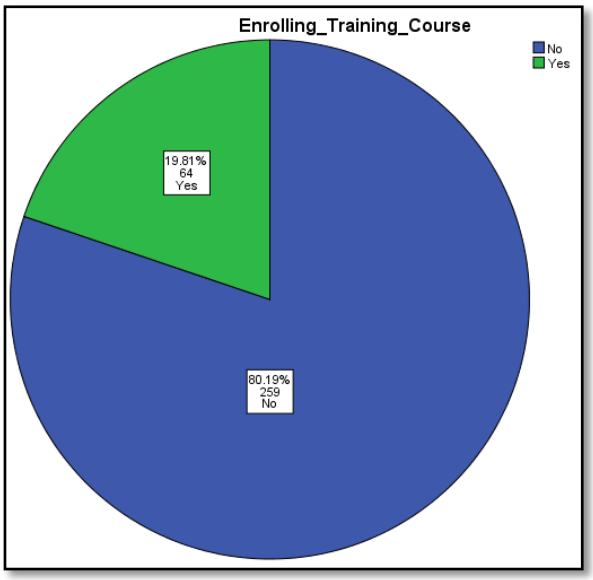

Fig 5: Enrolling training course pie chart.

Based on the statistics in the previous table 4 and the figure 5, it turns out that there is a big and clear difference between the number of students who did not take a training course in the field of computer and the number of students who enrolled in a computer training course. Where the number of students not registered in any training course was (259), at a rate of (80.19%), while the number of students who completed the requirements of the computer training course was (64), at a rate of (19.81%).

3- Specialization, and it has four categories: Special Education, Delinquency and Crime, Social Work, and Applied Psychology.

Table 5: Specialization statistics.

Statistics

Specialization

N	Valid	323
	Missing	0

Specialization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Social Work	77	23.8	23.8	23.8
	Delinquency and Crime	69	21.4	21.4	45.2
	Applied Psychology	25	7.7	7.7	52.9
	Special Education	152	47.1	47.1	100.0
	Total	323	100.0	100.0	

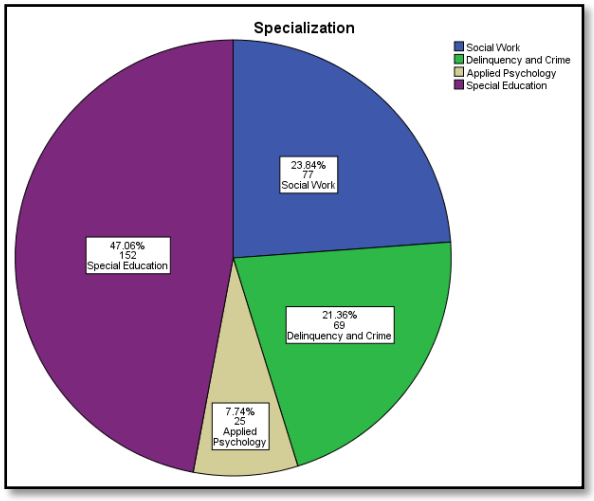

Fig6: Specialization pie chart

It is clear, according to the table 5 and figure 6 of the specialization, that special education students formed the largest percentage (47.06%) of the students who answered the questionnaire, as they numbered (152) students, while social service students constituted (23.84%) of the students, as their number reached (77) male and female students, while sociology students - delinquency and crime constituted (21.36%), or (69) male and female students, while the fewest number of students who answered the major were students of applied psychology at a rate of (7.74%) by (25) male and female students.

5- The Variable Related to The Student's Status In Relation To The Subject Of Computer Skills 101:And Has Three Cases: passing the course with success in the level test or registering the subject in the university and succeeding in it, or he has not registered the course yet.

Table 6: Computer skills 101 statistics

Statistics

computer_skills_101

N	Valid	321
	Missing	2

computer_skills_101

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	exempted from it	119	36.8	37.1	37.1
	finished as a course	124	38.4	38.6	75.7
	not register the subject yet	78	24.1	24.3	100.0
	Total	321	99.4	100.0	
Missing	System	2	.6		
Total		323	100.0		

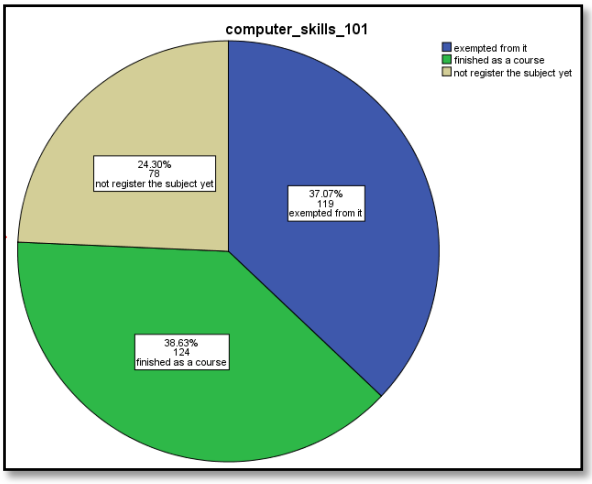

Fig 7: Computer skills 101 pie chart.

Computer skills (101) is considered one of the college's compulsory requirements, meaning that all students must register and pass it successfully, as it includes the basic skills to deal with various computer programs and applications, but the student is exempt from registering this subject and is automatically considered successful in it if he passes the level test that is presented before Students upon admission to the university. Accordingly, the students were divided for this subject into three groups: The first group is the students who passed the placement test and were considered successful automatically in this subject and will not register it. The number of these students has reached (119) and (37.07%) of the total students who completed this questionnaire.

As for the second group, they are students who did not pass the placement test and registered the subject and successfully passed its requirements during the academic process. Their number reached (124), with a rate of (38.63%). As for the third and last group, they are the students who have not registered the course until now, their number is (78) and the percentage is (24.30%).

3.5 Results

After applying the study procedures, and conducting the appropriate descriptive and inferential statistical analyzes, the following results were obtained:

- **First: The Results Related To The First Question**

The first question in this study states the following:What is the level of effectiveness of distance learning strategy and the use of computer and internet programs among students at Princess Rahma University College? To answer this question, Average arithmetic, standard deviation, relative importance (Was calculated manually by Dividing the value of the mean per area by the number of alternatives, then multiply the result by 100%), and skill level were calculated for the basic skills (Internet, Moodle system, MS Team, MS PowerPoint, MS Word, Windows) that the student must master in the academic stage.

Table 7: Computer and Internet software skills for students at Princess Rahma University College.

Areas of computer skills	Mean	Std. Deviation	Relative importance (Percent)	Skill Level
Using the	3.6910	.96755	73.82 %	High

Internet				
Moodle System	3.5865	.94796	71.73 %	High
MS Teams	3.9015	.90990	78.03 %	High
MS PowerPoint	3.5545	1.14702	71.09 %	High
MS Word	3.7464	1.05278	74.928 %	High
Using windows	3.7690	1.00633	75.38 %	High

Table (7) shows a high Level in Computer and Internet software skills for students at Princess Rahma University College.

From the values in the previous table, it can be concluded that students have the highest percentage of skill in using Microsoft Team and with relative importance of (78.03%), due to the repeated use of this application in the distance learning period in attending lectures (Being the application adopted by teachers), which led students to acquire the necessary skills necessary each time they use the application.

While the lowest percentage was (71.09%) in the use of MS PowerPoint, which were less used in the distance learning period than the recent learning period where students designed presentations and presented them in front of their fellow students and teachers.

Second: The Results Related To the Second Question

The second question in this study states the following: Are there statistically significant differences at the level of (α=0.05) in the degree of effectiveness of the distance learning strategy on computer and internet skills and programs in the students of Princess Rahma University College attributable to the sex variable? To answer this question, T-Test was applied to examine the differences in the average effectiveness of the distance learning strategy on computer and internet skills and software depending on the gender variable.

Table 8: T-Test to examine the differences in the average effectiveness of the distance learning strategy on computer and internet skills and software depending on the gendervariable.

Area	Gender	Number	Mean	Std. Deviation	T value	F	Sig.
Using the Internet	**Male**	55	3.7891	.97557	.825	321	.410
	Female	268	3.6709	.96650	-----	-----	-----
Moodle System	**Male**	55	3.7091	.92335	1.053	321	.293
	Female	268	3.5613	.95266	-----	-----	-----
MS Teams	**Male**	55	4.0364	.90275	1.207	321	.228
	Female	268	3.8739	.91056			
MS PowerPoint	**Male**	55	3.4404	1.11501	-.810	321	.419
	Female	268	3.5779	1.15412	-----	-----	-----
MS Word	**Male**	55	3.7372	1.09464	-.071	321	.943
	Female	268	3.7483	1.04609	-----	-----	-----
Using windows	**Male**	55	3.8659	.94919	.784	321	.434
	Female	268	3.7491	1.01821	-----	-----	-----

Based on the results of the analysis in table (3), it is found that there are no statistically significant differences at the level of (α=0.05) in the effectiveness of the distance learning strategy on computer and internet skills and programs depending on the gender variable.

- **Third: The Results Related To the Third Question**

The third question in this study states the following: Are there statistically significant differences at the level of (α=0.05) in the degree of effectiveness of the distance learning strategy on computer and internet skills and programs in the students of Princess Rahma University College attributable to the university year variable? To answer this question, Mean and standard deviations of the effectiveness of the distance learning strategy on computer and internet skills and programs depending on the change of the university year was calculated.

Table 8: Mean and standard deviations of the effectiveness of the distance learning strategy on computer and internet skills according to the variable of the university year.

Area	University Year	Number	Mean	Std. Deviation
Using the Internet	**First Year**	84	3.6500	.88188
	Second Year	81	3.6494	.95944
	Third Year	91	3.6879	1.00497
	Fourth Year	67	3.7970	1.03952
	Total	323	3.6910	.96755
Moodle System	**First Year**	84	3.4405	.94532
	Second Year	81	3.4832	.90902
	Third Year	91	3.7174	.96138
	Fourth Year	67	3.7164	.95783
	Total	323	3.5865	.94796
MS Teams	**First Year**	84	4.1714	.72885
	Second Year	81	3.8198	.85358
	Third Year	91	3.7516	1.01602
	Fourth Year	67	3.8657	.97321
	Total	323	3.9015	.90990
MS PowerPoint	**First Year**	84	3.5251	1.12658
	Second Year	81	3.4362	1.07881
	Third Year	91	3.7277	1.14027
	Fourth Year	67	3.4992	1.25550
	Total	323	3.5545	1.14702
MS Word	**First Year**	84	3.7814	1.03384
	Second Year	81	3.5814	1.07187
	Third Year	91	3.7882	1.05506
	Fourth Year	67	3.8453	1.05140
	Total	323	3.7464	1.05278
Using windows	**First Year**	84	3.8408	1.01279
	Second Year	81	3.5648	1.04585
	Third Year	91	3.7802	.98290
	Fourth	67	3.9104	.96403

	Year			
	Total	323	3.7690	1.00633

Table 9: Results of One-Way ANOVA of the averages of the degrees of effectiveness of the distance learning strategy on computer and internet skills and programs based on the variable of the university year.

Area		**Sum of Squares**	**df**	**Mean Square**	F	Sig.
Using the Internet	**Between Groups**	1.035	3	.345	.366	.777
	Within Groups	300.409	319	.942		
	Total	301.444	322			
Moodle System	**Between Groups**	5.345	3	1.782	2.001	.114
	Within Groups	284.010	319	.890		
	Total	289.356	322			
MS Teams	**Between Groups**	8.791	3	2.930	3.626	.013
	Within Groups	257.798	319	.808		
	Total	266.589	322			
MS PowerPoint	**Between Groups**	4.141	3	1.380	1.050	.371
	Within Groups	419.500	319	1.315		
	Total	423.642	322			
MS Word	**Between Groups**	3.124	3	1.041	.939	.422
	Within Groups	353.766	319	1.109		
	Total	356.890	322			
Using windows	**Between Groups**	5.162	3	1.721	1.710	.165
	Within Groups	320.925	319	1.006		
	Total	326.087	322			

There are no statistically significant differences at the level (α=0.05) in internet usage skills, Moodle system usage, MS PowerPoint presentations, MS Word Processing, and using windows) due to the university year.

There are statistically significant differences at the level of (α=0.05) in the skills of using MS Teams due to the change of the university year, and to know the sources of differences between averages was conducted a Tukey test for dimensional comparisons, as shown in the table (11) below.

Table 10: Tukey's Post hoc multiple comparison test results to examine the differences between the average of using Ms. Teams skills considering the University year variable.

University Year	**Second Year**	**Third Year**	**Fourth Year**
1st Year	.35168	.41978*	.30576
2nd year	-	.06810	-.04592
3rd year	-	-	-.11402

***** Statistically, it is at the level (α =0.05).

The difference between the average Team skills of first year and third year students is statistically significant, and for first-year students, suggests that teams' skills are better for first-year students than third-year students.

The rest of the binary differences between averages are not statistically significant.

- **Fourth: The Results Related To The Fourth Question**

The fourth question in this study states the following: Are there statistically significant differences at the level of (α=0.05) in the degree of effectiveness of the distance learning strategy on computer and internet skills and programs in the students of Princess Rahma University College attributable to the enrolling in computer courses? To answer this question, T-Test was applied to examine the differences in the mean of the effectiveness of the distance learning strategy on computer and Internet skills and programs according to the variable of enrollment in courses in the computer field.

Table 11: Results of the (T) test to examine the differences in the average effectiveness of the distance learning strategy on computer and internet skills and programs depending on the variable of enrollment in computer courses.

Area		Number	Mean	Std. Deviation	T	F	Sig.
Using the Internet	No	259	3.6093	.97483	-3.095	321	.002
	Yes	64	4.0219	.86858			
Moodle System	No	259	3.5256	.94629	-2.336	321	.020
	Yes	64	3.8326	.92146			
MS Teams	No	259	3.8641	.92480	-1.491	321	.137
	Yes	64	4.0531	.83665			
MS PowerPoint	No	259	3.4260	1.15681	-4.152	321	.000
	Yes	64	4.0747	.94945			
MS Word	No	259	3.6539	1.05773	-3.222	321	.001
	Yes	64	4.1207	.95168			
Using windows	No	259	3.6728	1.02154	-3.516	321	.001
	Yes	64	4.1582	.84287			

There are statistically significant differences in average skills (internet usage, e-learning MOODLE, PowerPoint presentations, Word Processor, windows) depending on the variable in attending computer courses, and for computer course holders, and this indicates the role of computer courses in improving internet usage skills, the use of the e-learning system, presentations, word processor and Windows.

The field of MS Teams skills is not statistically significant.

- **Fifth: The Results Related To the Fifth Question**

Are there statistically significant differences at the level of (α=0.05) in the degree of effectiveness of the distance learning strategy on computer and internet skills and programs in the students of Princess Rahma University College attributable to the variable study of the computer course? To answer this question,Means and Std. Deviations are applied to examine the effectiveness of the distance learning strategy on computer and internet skills and programs depending on the variable of the study of the computer course.

Table 12: Computational averages and standard deviations of the effectiveness of the distance learning strategy on computer and internet skills and programs depending on the computer course study variable.

Area		Number	Mean	Std. Deviation
Using the Internet	exempted from it	119	3.7849	.96556
	finished as a course	124	3.6952	.96658
	not registered yet	78	3.5128	.95650
	Total	321	3.6841	.96645
Moodle System	exempted from it	119	3.7215	.92055
	finished as a course	124	3.6325	.92603
	not registered yet	78	3.2784	.96366
	Total	321	3.5794	.94670
MS Teams	exempted from it	119	3.9697	.95408
	finished as a course	124	3.8613	.90461
	not registered yet	78	3.8513	.86095
	Total	321	3.8991	.91188
MS PowerPoint	exempted from it	119	3.5873	1.19120
	finished as a course	124	3.6855	1.15294
	not registered yet	78	3.3034	1.03268
	Total	321	3.5562	1.14595
MS Word	exempted from it	119	3.8067	1.10884
	finished as a course	124	3.7911	1.01550
	not registered yet	78	3.5851	1.01440
	Total	321	3.7468	1.05159
Using windows	exempted from it	119	3.8015	1.07940
	finished as a course	124	3.8327	.94741
	not registered yet	78	3.6218	.97929
	Total	321	3.7699	1.00630

Table 13: Results of the analysis of the ANOVA of the averages of the degrees of effectiveness of the distance learning strategy on computer skills and programs and the Internet light variable study of the computer course.

Area		Sum of Squares	df	Mean Square	F	Sig.
Using the Internet	Between Groups	3.512	2	1.756	1.890	.153
	Within Groups	295.377	318	.929		
	Total	298.889	320			
Moodle System	Between Groups	9.819	2	4.910	5.637	.004

	Within Groups	276.976	318	.871		
	Total	286.796	320			
MS Teams	**Between Groups**	.950	2	.475	.569	.566
	Within Groups	265.140	318	.834		
	Total	266.090	320			
MS PowerPoint	**Between Groups**	7.172	2	3.586	2.761	.065
	Within Groups	413.050	318	1.299		
	Total	420.222	320			
MS Word	**Between Groups**	2.710	2	1.355	1.227	.295
	Within Groups	351.159	318	1.104		
	Total	353.869	320			
Using windows	**Between Groups**	2.318	2	1.159	1.146	.319
	Within Groups	321.727	318	1.012		
	Total	324.045	320	1.756	1.890	.153

- There are no statistically significant differences at the level (α=0.05) in internet usage skills, MS teams, presentations, word processor system, and windows) due to a computer-based study variable.

- There are statistically significant differences at the level of (α=0.05) in Moodle skills due to a computer course study, and to know the sources of differences between averages was conducted a Tukey's Post hoc test for dimensional comparisons, as shown in the table (9)

Table 14: Tukey's Post hoc multiple comparison test results to examine the differences between the average of using Moodle skills considering the studying computer subject variable.

Studying computer subject	finished as a course	not registered yet
exempted from it	.08900	.44310*
finished as a course	-	.35410*

* Statistically, it is at the level (α =0.05).

- There is a difference between the average Moodle skills of students (who passed the computer skills course in the level exam), the average skills of students (not yet passed) and the benefit of the students who passed it on the level exam.

- There is a difference between the average Moodle skills of students (who passed the computer skills course as a course of study), the average skills of students (not yet passed) and the benefit of the students who passed it as a course.

- **Finally: The Results Related To the Final Question**

Are there statistically significant differences at the level of (α=0.05) in the degree of effectiveness of the distance learning strategy on computer and internet skills and programs in the students of Princess Rahma University College attributable to the specialization? To answer this question,Means and Std. Deviations are applied to examine the effectiveness of the distance learning strategy on computer and internet skills and programs depending on the variable of the specialization.

Table 15: Computational averages and standard deviations of the effectiveness of the distance learning strategy on computer and internet skills and programs depending on the specialization variable.

Area		Number	Mean	Std. Deviation
Using the Internet	**Social Work**	77	4.0831	1.00386
	Delinquency and Crime	69	3.6203	.88991
	Applied Psychology	25	3.2960	1.06006
	Special Education	152	3.5895	.91486
	Total	323	3.6910	.96755
Moodle System	**Social Work**	77	3.9870	.93797
	Delinquency and Crime	69	3.4348	.94203
	Applied Psychology	25	3.3086	1.15888
	Special Education	152	3.4981	.86452
	Total	323	3.5865	.94796
MS Teams	**Social Work**	77	4.1610	.97010
	Delinquency and Crime	69	3.8551	.87507
	Applied Psychology	25	3.7120	1.00678
	Special Education	152	3.8224	.85925
	Total	323	3.9015	.90990
MS PowerPoint	**Social Work**	77	3.8874	1.14389
	Delinquency and Crime	69	3.2496	1.22258
	Applied Psychology	25	3.2400	1.11604
	Special Education	152	3.5760	1.07707
	Total	323	3.5545	1.14702
MS Word	**Social Work**	77	4.0803	1.03862
	Delinquency and Crime	69	3.5402	1.06496
	Applied Psychology	25	3.1491	1.30079
	Special Education	152	3.7691	.95133
	Total	323	3.7464	1.05278
Using windows	**Social Work**	77	4.0990	.97129
	Delinquency and	69	3.6159	1.03152

	Crime			
	Applied Psychology	25	3.2850	1.14708
	Special Education	152	3.7508	.94395
	Total	323	3.7690	1.00633

Table 16: Results of the analysis of the ANOVA of the averages of the degrees of effectiveness of the distance learning strategy on computer skills and programs and the Internet light variable specialization.

Area		Sum of Squares	df	Mean Square	F	Sig.
Using the Internet	**Between Groups**	17.652	3	5.884	6.614	.000
	Within Groups	283.792	319	.890		
	Total	301.444	322			
Moodle System	**Between Groups**	17.058	3	5.686	6.661	.000
	Within Groups	272.297	319	.854		
	Total	289.356	322			
MS Teams	**Between Groups**	7.185	3	2.395	2.945	.033
	Within Groups	259.404	319	.813		
	Total	266.589	322			
MS PowerPoint	**Between Groups**	17.493	3	5.831	4.580	.004
	Within Groups	406.148	319	1.273		
	Total	423.642	322			
MS Word	**Between Groups**	20.516	3	6.839	6.485	.000
	Within Groups	336.374	319	1.054		
	Total	356.890	322			
Using windows	**Between Groups**	15.910	3	5.303	5.454	.001
	Within Groups	310.177	319	.972		
	Total	326.087	322			

- There are statistically significant differences at the level of (α=0.05) in internet usage skills, Moodle (e-learning) system, MS Teams, presentations, MS word, and windows) due to the variable of the student's specialization.

- To find out the sources of differences between averages, a Tukey's Post hoc test for dimensional comparisons was conducted, as shown in the table (17).

Table 17: Tukey's Post hoc multiple comparison test results to examine the differences between the average of using Moodle skills considering the student's specialization variable.

Area		Delinquency and Crime	Applied Psychology	Special Education
Using the Internet	**Social Work**	.46283*	.78712*	.49364*
	Delinquency and Crime		.32429	.03082
	Applied Psychology			-.29347
	Total	.55223*	.67844*	.48889*
Moodle System	**Social Work**		.12621	-.06334
	Delinquency and Crime			-.18955
	Applied Psychology	.30597	.44904	.33867*
	Total		.14307	.03270
MS Teams	**Social Work**			-.11037
	Delinquency and Crime	.63785*	.64745	.31142
	Applied Psychology		.00960	-.32643
	Total			-.33602
MS PowerPoint	**Social Work**	.54010*	.93119*	.31114
	Delinquency and Crime		.39109	-.22895
	Applied Psychology			-.62005*
	Total	.48308*	.81403*	.34820
MS Word	**Social Work**		.33094	-.13488
	Delinquency and Crime			-.46582
	Applied Psychology	.46283*	.78712*	.49364*
	Total		.32429	.03082
Using windows	**Social Work**			-.29347
	Delinquency and Crime	.55223*	.67844*	.48889*
	Applied Psychology		.12621	-.06334
	Total			-.18955

* Statistically, it is at the level (α =0.05).

It is noted from the results in the table (18) above and according to the (Tukey) test for dimensional comparisons that the average differences in the skills of using the Internet and (Moodle) tend in favor of the specialization of social work compared to the specializations of delinquency and crime, applied psychology, special education) and this difference is significant Statistically at the level of significance (α≤ 0.05), As for the average differences in the skills of using (MS. Teams), it is noted that it tends in favor of the specialization of social work compared with the specialization of special education only, and this difference is statistically significant at the level of significance (α≤ 0.05). It was noted that there was

no significant difference in the use of the (teams) skill between other disciplines, as for the average differences in the skills of using the presentations, it is noted that it tends to favor the specialization of social work compared to the specialization of delinquency and crime only, and this difference is statistically significant at the level of significance ($\alpha \leq 0.05$). It was noted that there was no significant difference in the use of the skill the (presentations) among other disciplines.

As for the average differences in the skills of using the (MS. Word), it is noted that it tends in favor of the specialization of social work compared to the specializations of delinquency, crime and applied psychology, as well as a significant difference in the average difference between the specialization of applied psychology and special education in favor of the specialization of applied psychology. The difference in both cases referred to, it was related to the skill of using the (MS. Word) with a statistical significance at the level of significance ($\alpha \leq 0.05$).

As for the average differences in the skills of using Windows, it is noted that it tends to favor the specialization of social work compared to the specializations of delinquency, crime and applied psychology, and this difference is statistically significant at the level of significance ($\alpha \leq 0.05$).

4. Conclusion

In this study, the results related to studying the level of computer skills among students of Al-Balqa Applied University, specifically students of Princess Rahma University College, revealed that first-year students have the highest level of skills in using Microsoft Teams software, higher than second-, third and fourth-year students, followed by third-year students.

The study also indicated a high level of skills of students who received training courses in the use of the Office suite (Word, PowerPoint, Windows) and Internet programs (Internet browsers, Moodle), while these courses had no effect on the use of Microsoft Teams.

The study showed that the effect of passing the computer skills course as a course was on students' skills in using the Moodle e-learning system.

As for the specialization, the results showed the superiority of the students of the social work specialization in the skills of using: Windows, the Internet, Moodle, and Microsoft Teams, presentations, compared to the specializations of delinquency, crime, special education, and applied psychology, which are somewhat equal in the level of skills of their students. As for Word skills, it is noted that Students of applied psychology and social work have more skills than students of special education, delinquency, and crime.

5. REFERENCES

[1] HaverilaMatti, Barkhi Reza, (2009), "The Influence of Experience, Ability and Interest on e-learning".

[2] https://www.easy-lms.com/knowledge-center/lms-knowledge-center/online-learning-vs-traditional-learning/item12530

[3] [3] Khaled zboun, (2020). "The effectiveness of distance learning compared to direct education in the collection of secondary first-grade students in Arabic language in Jordan."13 المجلة العربية للتربية النوعية المجلد الرابع, العدد

[4] Clements and Z. Xu, ELCAT: an e-learning content adaptation toolkit, Campus-Wide Information Systems, vol. 22(2), pp.108-122, 2005

[5] XiaoliHuan, Ronald Shehane," Teaching computer science courses in distance learning ". Journal of Instructional Pedagogies.

[6] Sagarmay Deb., (2011). "Effective Distance Learning in Developing Countries Using Mobile and Multimedia Technology).

[7] https://dictionary.cambridge.org/dictionary/english/e-learning.

[8] Iqrar Ahmad, M.U. Bokhari. (2013) "The Combine Effect of Synchronous and Asynchronous E-Learning on Distance Education ". IJCSI International Journal of Computer Science Issues, Vol. 10, Issue 1, No 1, January 2013.

[9] SafiyehRajaeeHarandi. (2015). "Effects of e-learning on Students' Motivation".

[10] Ayesh Mahmoud Zeitoun (2012). " مستوى فهم طبيعة المسعى العلمي في ضوء المشروع (2061) لدى معلمي العلوم في الأردن وعلاقته ببعض المتغيرات الديمغرافية"

[11] "The level of understanding of the nature of the scientific endeavor in light of the project (2061) among science teachers in Jordan and its relationship to some demographic variables".

[12] Joi L. Moore, Camille Dickson-Deane, Krista Galyen (2011) e-Learning, online learning, and distance learning environments: Are they the same. The Internet and Higher Education 14 (2), 129-135.

[13] Keller John & Suzuki Katsuaki, (2004), published: (2010), Learner motivation and e-learning design: A multinationally validated process, Journal of Educational Media, Vol 29, No 3, Page(s) 229-239.

[14] Taran Carmen (2005), Motivation Techniques in eLearning, International Conference on Advanced Learning Technologies.

[15] Schaer. E, Roizard. C, Christmann. N, Lemaitre. A, (2006), development and Utilization of an E-learning Course on Heat Exchangers at ENSIC, Education for Chemical Engineers, Vol 1, Issue 1, Page(s) 82-89.

[16] Liaw Shu-Sheng, Huang Hsiu-Mei, Chen Gwo-Dong, (2007), An activity-theoretical approach to investigate learners' factors toward e-learning systems, Computers in Human Behavior, Vol 23, Issue Pages 1906-1920.

[17] Rovai Alfred, Ponton Michael, Wighting Mervyn, Baker Jason, (2007), A Comparative Analysis of Student Motivation in Traditional Classroom and E-Learning Courses, Vol 6, Issue 3, Page(s) 413-432.

[18] Wan Zeying, Wang Yinglei, Haggerty Nicole, (2008), Why people benefit from e-learning differently: The effects of psychological processes on e-learning outcomes, Information & Management, Vol 45, Issue 8, Page(s) 513-521.

[19] Yenginaİlker, KarahocabDilek, KarahocabAdem, Yücelb Ahmet, (2009), Roles of teachers in e-learning: How to engage students & how to get free e-learning and the future.

[20] Paechter Manuela, Maier Brigitte, (2010), Online or face-to-face Students' experiences and preferences in e-

learning, The Internet and Higher Education, Vol 13, Issue 4, Page(s) 292-297.

[21] Mateo JesúsMartínez, Pérez del Rey David, Muñoz Hernández Susana, (2010), Student motivation and cross-curricular development through e-learning applied to cooperation, The Future of Global Learning Engineering Education (EDUCON), Page(s) 913 – 920.

[22] Abdelaziz Magda, SamerKamelSalwa, Karam Omar, AbdelrahmanAsmaa, (2011), Evaluation of E-learning program versus traditional lecture instruction for undergraduate nursing students in a faculty of nursing, Teaching and Learning in Nursing, Vol 6, Issue 2, Page(s) 50-58.

[23] Keramati Abbas, Afshari-MofradMasoud, Kamrani Ali, (2011), "The role of readiness factors in E-learning outcomes: An empirical study, Computers & Education", Vol 57, Issue 3, Page(s) 1919-1929.

[24] O'Neill E., Stevens N.T., Clarke E., Cox P., O'Malley B., Humphreys H., (2011), Use of e-learning to enhance medical students' understanding and knowledge of healthcare-associated infection prevention and control, Journal of Hospital Infection, Vol 79, Issue 4, Page(s) 368-370.

[25] Kim Kyong-Jee and W. Frick Theodore, (2011), Changes in Student Motivation during Online Learning, Journal of Educational Computing Research, Vol 44, Page(s) 1 – 23.

[26] BhuasiriWannasiri, XaymoungkhounOudone, Zo Hangjung, Jeung Rho Jae, P. Ciganek Andrew, (2012) Critical success factors for e-learning in developing countries: A comparative analysis between ICT experts and faculty, Computers & Education, Vol 58, Issue 2, Page(s) 843-855.

[27] Yacoba Azliza, Zuriyati Aini, Kadirb Abdul, Zainudinc O, Zurairahc A, (2012), Student Awareness Towards E-Learning In Education, 3rd International conference on e-learning,Vol 67, Page(s) 93–101.

[28] Khaleel Bataineh , Mohammed Salem Atoum (2021) ,A Silver Lining of Coronavirus: Jordanian Universities Turn to Distance Education , Vol 17, page(s) 1-11.