E-Learning Pattern between Effectiveness and Obstacles as Viewed by Secondary School Students during the COVID-19 Pandemic in Jordan

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Abstract: The aim of this study is to evaluate E-learning pattern between effectiveness and obstacles as viewed by the secondary stage students during the COVID-19 pandemic in Jordan. The study population consisted of 326 eleventh-grade students from private schools in Madaba, Jordan. In addition, a sample of 142 eleventh-grade students was purposefully selected from Al-Rashad Schools in Madaba during the second semester of 2020/2021. The study used the descriptive methodology approach represented by a questionnaire developed to achieve the study's objectives. The study concluded that the difficulties and barriers of e-learning were generally moderate. Similarly, the usefulness of e-learning activities and the effectiveness of e-learning activities were at a moderate level. The study also concluded that there were no statistically significant differences in the level of evaluation of e-learning activities as viewed by the secondary stage students during the COVID-19 pandemic in Jordan.

Keywords: effectiveness, obstacles, e-learning, Covid-19 pandemic.

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التعلم الإلكتروني بين الفعالية والعقبات؛ تصورات طلاب المدارس الثانوية في الأردن خلال جائحة كورونا -19

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الملخص: هدفت هذه الدراسة إلى تقييم نمط التعلم الإلكتروني بين الفعالية والمعيقات كما يراها طلاب المرحلة الثانوية خلال جائحة COVID-19 في الأردن. تكون مجتمع الدراسة من 326 طالبا وطالبة في الصف الحادي عشر من مدارس خاصة في محافظة مأدبا، الأردن. بالإضافة إلى ذلك، تم اختيار عينة قصدية من 142 طالبًا في الصف الحادي عشر من مدارس الرشاد في مأدبا خلال الفصل الدراسي الثاني 2020/2021. استخدمت الدراسة المنهج الوصفي المسحي، وتمثلت الأداة في استبانة تم تطويرها لتحقيق أهداف الدراسة. وخلصت الدراسة إلى أن صعوبات وحواجز التعلم الإلكتروني كانت متوسطة بشكل عام. وبالمثل، كانت فائدة أنشطة التعلم الإلكتروني وفعالية أنشطة التعلم الإلكتروني في مستوى متوسط. كما خلصت الدراسة إلى عدم وجود فروق ذات دلالة إحصائية في مستوى تقييم أنشطة التعلم الإلكتروني كما يراها طلاب المرحلة الثانوية خلال جائحة COVID-19 في الأردن.

الكلمات المفتاحية: الفعالية، المعيقات، التعلم الإلكتروني، جائحة كوفيد -19.

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Background and significance of the study.

Introduction:

E-learning is a type of learning that relies on electronic technologies and media to deliver and achieve learning objectives. (Wheeler, 2012). E-Learning is not confined to online learning; it includes any form of digital communication to deliver information (Abdallah, 2018). E-learning takes place through two types; The asynchronous type doesn't necessarily happen in the same place or at the same time for the instructor(s) and learner(s) learning. There are no geographical or temporal constraints. On the other hand, the synchronous type is where learner(s) and instructor(s) can meet, collaborate and interact virtually at the same time for learning to take place (Merzouk, Kurosinski, Kostikas, 2014).

This study aimed to evaluate secondary grade students' perceptions regarding e-learning resource activities during the COVID-19 pandemic; identify relevant factors that influence high school students' subjective experience and quality expectations during distance education activities in the form of quality of experience (QoE). It also highlighted the students' perception of the need for teachers' presence during e-learning recourses.

Due to the government's effort to contain the COVID-19 pandemic from infecting more people, certain operations had to be shut down through the Defense Orders by the Jordanian government. Among the sectors that are affected by the closure is the educational sector. As a result, the management and the lecturers have to think of ways to continue the teaching and learning processes online synchronously and asynchronously through online learning tools such as Zoom Meeting, Moodle, and Microsoft Teams, to name a few. Among the problems faced by educators in switching to online mode were a new type of teaching and interacting with students, ways to make the assessment online, conducting lab through synchronous learning, and preparing for the online final examination.

Besides, it is also essential for the students to have a positive perception of e-learning activities to make them effective, and all these factors will affect students' performance and acceptance of knowledge through online learning modes. Therefore, studying students' perception of e-learning activities, specifically during the pandemic, is essential as it has entailed psychological, financial, and social issues. This study helps to fill this research gap.

This study presents an understanding of online learning experiences from students' perspectives. A study of students' perception of e-learning activity formats is essential for several reasons; the first is simply the growing number of virtual learning opportunities available to high school students. More importantly, Since the extended curfew in Jordan has gone into effect, schools have implemented distance learning delivery models like asynchronous, synchronous, or a combination of both in a blended environment. Parents and teachers raised complaints; Parents were not satisfied with e-learning. They had doubts about the effectiveness of e-learning and expressed their concerns in this regard. Teachers were not sure about the appropriate method to follow in that situation.

The purposes of this study are as follows:

Identify e-learning effectiveness as viewed by the secondary stage students during the COVID-19 pandemic in Madaba, Jordan.

Identify e-learning barriers & difficulties as viewed by the secondary stage students. during COVID-19 pandemic in Madaba, Jordan.

Research Questions:

1- What are the e-learning effectiveness points viewed by the secondary stage students during the COVID-19 pandemic in Madaba, Jordan?

2- What are the e-learning barriers & difficulties as viewed by the first secondary stage students during the COVID-19 pandemic in Madaba, Jordan?

Limitations of the Study:

The present study is limited to the eleventh-grade students in Alrashad Private High School in Madaba District Directorate of Education, Jordan, during the second semester of 2020-2021. It is also limited to the instrument of the study that was distributed via online and Google Forms and its reliability and validity.

Definition of Terms.

E-learning activity:

An educational process in order to achieve a learning objective. E-learning activities vary depending on medium, objective, and content. For this study, e-learning activities are the educational processes students go through while learning; this includes teacher interactions, content, peers, and web-based e-learning platforms.(Salman et al, 2022)

Distance learning:

Wheeler (2012) defines distance learning as the result of distance education. Learners and teachers are separated by space and time, where learning is achieved using a combination of technologies. Distance learning can be differentiated from e-learning, which may be undertaken at a distance, contiguously, or as a combination. The researchers define distance learning for the study as the practice of teaching and learning at a distance where online environments are used as mediating delivery platforms. Moreover, distance learning is achieved synchronously and asynchronously or as a combination.

Private School:

A school founded, conducted, and maintained by a private group rather than the government usually charges tuition and follows the same curriculum as government schools. The vast majority of private

schools in Jordan include an additional English Language curriculum besides the one issued by the government.

COVID-19 Pandemic:

World Health Organization (2020) defines COVID-19 as an infectious disease caused by a newly discovered coronavirus. Furthermore, the research defines COVID-19 as a pandemic that affects the respiratory system and is a contagious disease. Therefore, in order to prevent the spread of the virus, the (WHO, 2020) highly recommends precautious measures like social distancing and using alcohol-based rub frequently.

E-Learning Trends in Education:

other than technology, e-learning as a concept entails learning methods and learning strategies and is more directed to vast possibilities in content connection and diffusion. Trends in this concept are no longer simply using the computer as an artifact in teaching and learning processes. In an information-oriented society, one has to pay significant attention to developing lifelong education systems allowing one to solve several problems linked with forming new information cultures, changing educational paradigms focusing on developing creative personalities, and transitioning from assimilating the prepared knowledge and skills to search and design activities. Transitioning to open and continuous education is among the techniques for resolving contradictions between traditional ways of human education and developing a new educational culture.

E-learning is also called EL, e-learning, or electronic learning. It allows a learning institution to meet the growing universal demand for quality educational services, making it a determined support system. According to Rossi (2009), e-learning is a concept covering a wide array of learning methods, processes, and applications. Oblinger and Hawkins (2005) observed there was remodeling from online-based courses to the use of technology in independently delivering part or an entire course. Recently, e-learning technology has become essential in the education process of institutions of higher learning, such as colleges and universities, and is often used in various education forms and systems. Maltz et al. (2005) note that e-learning is usually applied from diverse perspectives, including mobile and hybrid learning, online or digital distance learning, and distributed learning. Well, e-learning is active among various ICT tools that play a crucial role in electronic and online interactions. Using e-learning platforms improves education quality by rapidly replenishing universal educational resources. Using distance education technologies and e-learning components or elements result in an increased share of individual student's work as they master course materials. A significant development in e-learning education was the introduction of various educational standards for new generations. Volume reduction in classroom work increased and expanded forms of individual student work, for which EL aimed to open new opportunities or chances. O'Neill et al. (2011) found that learners undertaking EL were more optimistic about their learning experiences. Introducing an

e-learning system to facilitate education in a classical higher institution is a complex and lengthy process where an organization will require systematic approaches entailing:

a. Infrastructure development

b. Creating and developing methodological, organizational, technical, and technological conditions for e-learning introduction

c. Staffing the processes in the development, implementation, and the co-conduction of automated training processes and management systems

d. Training and providing systematic support to instructors

e. Research works that aim at the exploration of possibilities in Its used in facilitating the educational processes, adoption of new technologies suiting conditions at the institution of higher learning, studying the educational, ergonomic, psychological, and various other aspects in the introduction of EL; education technology and its introduction in the learning process and methodology development.

f. Monitoring the process quality and learning outcomes

g. Having a motivation system for learners and instructors to look into e-learning

h. Developing electronic education resources & automated tools that support learning processes

i. Monitoring the quality of the learning process and the outcomes.

Definitions of E-Learning:

E-learning as a concept has many definitions. For example, Muhammad Rais and Yusup Hashim (2004) cite the works of Garrison and Anderson (2003), defining e-learning as online or network learning taking place in the formal setting or context, utilizing a vast collection of multimedia technology.

"E-learning entails using a computerized network technology, mainly through or over the internet, in delivering instructions and information to people" (Wang et al., 2010: 167).

The e-learning process is the interactive teaching and learning system providing a learner using information and communication technologies depending on the integrated digitalized electronic environment displaying courses across an electronic network, providing guidance and organizing texts, and evaluating and managing processes and resources. The researchers define e-learning as delivering learning or instructional materials via the Internet, computerized technologies, videos, audio, videoconferencing, TVs, or other multimedia objects inside or outside the classrooms.

Advantages of E-learning:

E-learning models meet the requirements of current-day learners at their own pace and needs. Thus, e-learning has proven fruitful for several reasons. According to Colchester et al. (2017), it allows accessibility for students, at their convenience, to educational content and different learning platforms at any given time and from far and wide. It offers and shares learning-teaching content materials in various

formats like videos, e-mails, audio, PDFs, word documents, slideshows, and others. Direct communications and webinars with instructors using different messaging or chat forums are options in e-learning. The e-learning models offer learners free and unlimited access to different e-manuals such as PDFs. Thus, it provides easy, gradual, and clear instructions for learners. It's often noted to be a suitable way of self-learning. Bajaj and Sharma (2018) note that e-learning offers a wide array of learning content covering almost all fields and subjects. E-learning isn't time-bound to a given timetable. Therefore, many students can access it from anywhere and at any time. Chu and Chan (1998) state that instructors might oversee and improve educational content when they want to. Goldsworthy, Lawrence, and Goodman (2006) observe that this feature is supplemented by mobile device content availability.

E-learning engages students during the program while decreasing the time required to take part in a program. After preparing the learning material, it can be re-examined several times. In addition, the time saved in making materials can be employed by an instructor to improve and advance their intellectual level through e-learning models (Dhir et al., 2017).

Disadvantages of e-learning:

Some of the disadvantages of e-learning include the following:

The e-learning technique makes students undergo remoteness, contemplation, and lack of relation or interaction. Therefore, it requires time management and strong motor skills to reduce different impacts. Concerning interpretations, explanations, and clarifications, e-learning techniques might be less effective than traditional learning methods. In-person, interactive learning with teachers or instructors is way easier than e-learning. It negatively impacts socialization skills, limiting instructors' role as directors in the education process. On improving a student's communication skills, the e-learning technique might have adverse effects. A student will have excellent and commendable academic knowledge but poor skills needed in delivering and transmitting the knowledge they acquired. E-learning or EL is subject to cheating, plagiarism, piracy, misuse of copy & paste, and inadequate content skills.

Moreover, assessments and tests are supervised frequently by proxy, making it challenging to regulate or control activities like cheating. Not all education disciplines effectively utilize e-learning. For example, some scientific fields require practical experiences, and studying through e-learning will be challenging. Many researchers argue that e-learning platforms are appropriate in the humanities and social sciences compared to fields like engineering and medical sciences, which require developing practical skills. E-learning might lead to heavy utilization of websites or congestion, which might end in unanticipated costs in money and time (2003; Hameed et al., 2008).

Perceptions on E-Learning:

Implementing an e-learning program relies on the involvement of a community, especially parents. According to Kong (2018), a learner's performance utilizing various e-learning platforms improves through

their parents' participation. Furthermore, Eysenck (2014) observes that parents' control when their child uses technology is crucial; thus, a parent's role in supporting a child's utilization of an e-learning program bolsters the learner. Therefore, a parent's perception of e-learning utilization is essential for a successful program (Abdallah, 2018).

Additionally, Abdallah (2018) discovered that parents' perceptions of e-learning are broadly classified into six dimensions; instructor computer competence, learner computer competence, learner's personal development, curriculum, the quality of learning and teaching, and the school environment. Abel-Maksoud (2019) notes that e-learning perceptions are determined using three factors: type of barriers during the implementation phase, user satisfaction in using the program, and the motivation or driving factors to a user utilizing the platforms. Driver factors in e-learning often arise from how technology benefits and improves a student's learning process. Satisfaction with the utilization of e-learning can be described in line with the user's positive attitude toward technology. Abdel-Maksoud (2019) notes that barriers to e-learning utilization are linked to practical and technical issues.

Different studies showed that parents acknowledge the value and effect of digital communication and its devices when they play a role in educating young learners at home via e-learning platforms. (Mikelic Preradovic, Lesin, Sagud, 2016). Parents have positive attitudes and beliefs on how young children use computers, and they believe a child gains valuable and essential skills and knowledge on the utilization of computers enhances academic development and accomplishments and various opportunities for future career development (Abdel-Maksoud,2019)).

Related Studies:

Andre and Zulkarnain (2020) discussed that the perception of parents on EL amid the coronavirus pandemic contains meaningful insights. The study took place in Indonesia with 257 respondents. The study used the quantitative approach, and the instrument was a questionnaire that was distributed online. It dissects parent perceptions of EL through barrier factors, drivers, and satisfaction. Parents are a critical influential support system for learners. However, they are rigid in using technologies in learning for various reasons. Their study showed that participants weren't satisfied with how EL was implemented during the coronavirus pandemic. Many parents prefer traditional learning comparison to e-learning. They also claim poor infrastructure in terms of electricity, digital devices, and Internet, and inadequate skills in using technology were barriers to the children using e-learning.

Bhamani et al. (2020) studied learning from home during the coronavirus pandemic, emphasizing parents' experiences. This qualitative study took a purposeful sample of 35 parents from urban areas of Pakistan. The instrument used consisted of three open-ended questions and was sent to respondents online via Google Docs forms. The study results showed that parents have quickly adapted and are taking part in addressing learning gaps in children's learning that emerged during the covid-19 challenging times. The study recommended measures for adoption to provide essential learning skills and knowledge to children

learning from home. In addition, having centralized educational technology and data dashboards can keep learning institutions, students and parents updated.

Milena (2020) investigated the coronavirus pandemic's impact and evaluated effective online and digital distance learning. Seventy-three teachers from the National Sports Academy "Vassil Levski" (NSA) in Bulgaria were asked and gave their opinions. She noted that her study could be summarized based on several factors influencing practical evaluation, which are all essential in the learning process. Much work has to be carried out for improved communication in e-learning platforms, especially when a video conference has many participants. The platforms may be integrated for convenience and ease, plus multi-functional chances or possibilities for study and work in virtual environments.

Mohammad (2020) conducted EL research in Saudi Arabia during the coronavirus pandemic. A questionnaire was used to verify the opinions of 33 male faculty members in the MIT department of Jubail Industrial College (JIC) of the Kingdom of Saudi Arabia (KSA). His study commences with e-learning notions, discussing its span and need in education. Particular emphasis is on the role of EL in solving disruptions experienced in the Kingdom's education sector. The survey was conducted to verify educators' preference for various e-learning features. Research findings indicate that many educators had positive opinions on e-learning.

Al-khataybeh (2021) investigated the impact of the sudden shift to online teaching on the written production of the curriculum and instruction of postgraduate students' writing research at Mutah University, which occurred in 2020 due to the COVID-19 pandemic. The instrument of the study was Five Likert scale questionnaire and was distributed to (53) Ph.D. students in the curriculum and instructions department in the faculty of Educational Sciences at Mut'ah University in Jordan. The study's findings showed that students could rapidly adapt to the sudden switch and showed a positive attitude towards online writing activities. Results also showed that students found online writing research motivating and enjoyable and boosted independent learning.

Salam et al., (2022: 303) conclude that E-learning is not a new phenomenon, in their study, they had tried to identify the difficulties which faced students through E-learning during Covid-19. They found that the greatest challenges is related to technology.

In previous studies, as evidenced above, the exploration focused on student and parent practices and perspectives concerning children's utilization of online and digital platforms. The literature review reveals most research conducted to identify student perceptions of EL. Studies focusing on students' and parents' perspectives on e-learning during the coronavirus pandemic are scarce to the best of the researchers' knowledge. Mainly, during the Covid-19 pandemic, there was a sudden unexpected shift to online and e-learning, opening doors for new possibilities and unforeseen challenges that affected parents and young children. Given such circumstances, previous studies point to the need for examining parental attitudes and beliefs on online learning, its effectiveness, and their readiness and acceptance of making drastic shifts and changes.

Additionally, many existing research studies are centered on Western countries, which might not necessarily represent views in Middle-Eastern countries with diverse educational philosophies and cultures. Indeed, a parent's beliefs on digital media and technologies aren't vacuum-formed but are shaped through cultural norms and beliefs (Mansour, 2008). Therefore, it will be a significant theoretical contribution to understanding the evaluation of EL activities first from the learners and then their parents in the wake of the coronavirus pandemic and subsequent lockdown. But, again, this is an exclusive study standing out in the context of place and time.

Design and Methodology.

This chapter encompasses a detailed description of the population of the study and its sample. Furthermore, the instrument that was used to collect the data and the procedures to ascertain its reliability and validity. Finally, the statistical analyses.

The population of the study:

The study population consisted of (326) eleventh-grade male and female students. These students attend six private high schools in the Madaba Directorate of Education during the second semester of the 2020/2021 academic year.

Sample of the Study:

The study sample consisted of (142) eleventh-grade male and female students. Due to the curfew implemented during this study and the available communication methods between the researchers and his students, the sample was purposefully selected. It was selected from Alrashad Model School in Madaba Directorate of Education during the second semester of the 2020/2021 academic year.

Instrument of the Study:

The researchers constructed a questionnaire consisting of two parts; the first asks about personal information, and the second consists of (40) Five-Likert type items distributed over (3) domains related to e-learning and distance learning, as the latter is the umbrella under which e-learning exists. Three domains explored e-learning as viewed by students. The domain of barriers incorporates (10) items, the domain of usefulness incorporates (11) items, and the effectiveness domain incorporates (19) items.

Validity:

The researchers reviewed the related literature in an attempt to design and build the instrument under the guidance and support of his supervisor. However, post the first drafting phase, the instrument of the study was presented to a committee consisting of 10 members who are experts and specialized in the field of the study; professors of the subject area, academic supervisors, and teachers. Their insightful comments were addressed and taken into account. All items that were recommended to be modified to suit

the study by 80% of committee members were amended as suggested. The instrument of the study in its initial draft consisted of 44 items. After modification and validation, it consisted of 40 items.

Pilot Study:

The questionnaire was distributed to a pilot sample to ensure its validity. The pilot sample was excluded from the final sample size of the study. The piloting process enabled the researchers to determine the right question in the most effective way and whether the participants could answer the questions properly or not. The questionnaire was sent to 20 students. The questionnaire was piloted with 20 students to ensure clarity of the questionnaire content.

The Reliability of the Questionnaire:

Reliability refers to the consistency of a test, survey, or another measuring device. To extract the reliability coefficient, distributions were allocated two weeks between the first and second distributions. The coded questionnaires were distributed to a pilot sample that was later on excluded from the final study sample size. Reliability analysis of the study instrument showed the following; the overall result of the reliability coefficient of the instrument was (0.84), which indicates the level of reliability of the tool attained by the study sample. The barriers & Difficulties domain obtained a reliability coefficient of (0.71), while the effectiveness coefficient was (0.88). The values mentioned above indicate the reliability of the study instrument. The researchers followed the following criterion for discussing the study results: mean scores of less than 2.33 were considered low value, mean scores equal to 2.34 up to 3.67 were regarded as moderate value, and mean scores equivalent to 3.68 up to 5 were considered high.

Respondents' Profile:

A description has been provided in the respondents' profiles. Table (2) shows the profile of the respondents. For statistical purposes, just 126 questionnaire respondents were usable. Hence, (11) missing responses (5) missing. Therefore, 16 questionnaires were excluded from this study 142 - 16 = 126, which were distributed as follows;66 male students, which forms 52.4 %, and 60 female students, which forms 47.6 %.

Procedures of the Study:

The following procedures were followed to conduct the study:

1. First, the researchers reviewed the related literature on e-learning and studies that addressed perceptions of e-learning.

2. Due to the circumstances that emerged with the COVID-19 pandemic, when this study was conducted, the researchers decided to purposefully select Alrashad Model School students to be the study's sample.

3. The researchers drafted and prepared the questionnaire in its initial form to be presented to jury members (Appendix 4) for face validity. Afterward, the researchers received their insightful comments and made necessary modifications that 80 percent of jury members recommended being modified.

4. To ensure questionnaire validity, it was distributed to a pilot sample, which was excluded from the study sample size. The questionnaire was sent to 20 students.

5. Two weeks later, responses were collected. Afterward, the researchers started analyzing responses using (SPSS) software.

6. To answer this study's questions, different statistical analyses

7. Finally, discussion and recommendations were stated in light of the study's results.

Results and Discussion of the Findings and Recommendations.

Results Related to the First Question: What are the e-learning effectiveness points viewed by the secondary stage students during the COVID-19 pandemic in Madaba, Jordan?

To answer this question, means and standard deviations were used to be investigated at Effectiveness factor; table (1) shows the results:

Table (1) Means and standard deviation of the items of the Effectiveness factor arranged descendingly

No.	Items	Rank	Mean	Std. D.	Level
1	E-learning meets educational needs.	10	3.25	1.20	Moderate
2	I believe that e-learning platforms help in assessing learning outcomes.	17	3.23	1.23	Moderate
3	Having all educational content, like recorded lessons, materials, and worksheets, on the e-learning platform enhances more concentration on learning.	14	3.12	1.30	Moderate
4	Students get easily distracted when they use e-learning platforms.	2	3.10	1.28	Moderate
5	Time and place flexibility leads to better learning.	8	3.10	1.21	Moderate
6	I believe that live-streaming lessons are better than recorded lessons.	7	3.10	1.24	Moderate
7	I believe that e-learning platforms are valid for all subjects.	12	3.04	1.17	Moderate
8	E-learning motivates active participation in synchronous sessions.	6	2.99	1.26	Moderate
9	E-learning employs various teaching methods.	13	2.95	1.25	Moderate
10	E-learning encourages students to take more online courses.	1	2.90	1.28	Moderate
11	I believe sharing ideas and information through e-learning is more accessible than traditional ways.	9	2.88	1.36	Moderate

No.	Items	Rank	Mean	Std. D.	Level
12	Technological tools used in e-learning present more innovative means for better learning.	15	2.87	1.26	Moderate
13	I can interact easily with teachers and classmates through e-learning.	5	2.79	1.28	Moderate
14	I believe that e-learning platforms diversify teaching methods.	18	2.75	1.22	Moderate
15	I believe that e-learning platforms are exciting.	19	2.70	1.29	Moderate
16	A complete course could be conducted via e-learning with no difficulties.	3	2.67	1.21	Moderate
17	E-learning takes individual differences into account.	4	2.63	1.17	Moderate
18	I believe that obtaining the desired educational outcomes through e-learning is achievable.	16	2.62	1.16	Moderate
19	I believe that recording live-streaming sessions enable a more effective revision.	11	2.51	1.29	Moderate
	Total		2.90	0.67	Moderate

The results showed that all items were Moderate level. Item No. (10), which states (that E-learning meets educational needs), obtained the first rank with an arithmetic mean of (3.25) and a standard deviation of (1.20) and at a Moderate level; this shows a positive attitude among students toward this learning as it contributed to the continuity of the educational process in light of the Corona pandemic. Additionally, this type of education was flexible and met the primary needs of the educational process at the time of the pandemic, while item No. (11), which states (I believe that recording live-streaming sessions enables a more effective revision), obtained the last rank with an arithmetic mean of (2.51) and a standard deviation of (1.29) and of a Moderate level; this indicates that students do not consider recorded lessons to enjoy the ability to fulfill the desired purpose in terms of revision. They believe that direct instruction by a teacher is the appropriate means by which students benefit the most when revising previous lessons.

Overall, the mean for e-learning usefulness as viewed by the secondary stage students during the COVID-19 pandemic in Madaba was (2.90) and the SD was (0.67) which is a Moderate level. The researchers attribute this result to the fact that students do not widely accept e-learning.

Results Related to the Second Question: What are the e-learning barriers & difficulties as viewed by the secondary stage students during the COVID-19 pandemic in Madaba, Jordan?

To answer this question, means and standard deviations were used to be investigated at Barriers & Difficulties factor; table (2) shows the results:

Table (2) The means and standard deviation of the items of the Barriers & Difficulties factor are arranged descendingly.

No.	Items	Rank	Mean	Std. D.	Level
1	Cheating through e-learning / online exams reduces the level of competition between students.	7	3.68	1.40	High
2	Internet connection speed is inappropriate for online / e-learning.	3	3.66	1.26	Moderate
3	Motivation towards e-learning is inadequate.	6	3.49	1.17	Moderate
4	Distance learning reduces social interaction.	8	3.35	1.36	Moderate
5	Internet connection is not always available.	1	3.21	1.25	Moderate
6	Course materials (books, worksheets, lessons, etc.) are difficult to find on e-learning platforms.	9	3.15	1.24	Moderate
7	Electronic devices (i.e., Laptops, smartphones, PCs, etc.) are not always available for learning.	2	3.07	1.27	Moderate
8	Electronic communication with instructors and classmates is not comfortable and easy.	10	3.05	1.21	Moderate
9	Lack of experience in dealing with computers and the Internet for online / e-learning.	4	2.96	1.24	Moderate
10	Interacting with e-learning platforms is difficult.	5	2.80	1.27	Moderate
Total			3.23	0.73	Moderate

The results show that the items averages were moderate level. Item No. (7), which states (Cheating through e-learning / online exams reduces the level of competition between students), obtained the first rank with an arithmetic mean of (3.68) and a standard deviation of (1.40) and of a High Level. This result confirms that e-learning promotes cheating among students as there is no presence of invigilators when an exam is held. Consequently, simple competition methods are not adhered to, while item No. (5), which states (That interacting with e-learning platforms is difficult), obtained the last rank with an arithmetic mean of (2.80) and a standard deviation of (1.27) and was categorized as a Moderate level.

As a result of the Coronavirus crisis imposed, e-learning on students and teachers and lack of adequate awareness and specialized training had negative results in some situations. In particular, those negative results were evident among students who hadn't previously received formal training to employ e-learning academically and scientifically to reflect on the learning process.

Overall, the mean of e-learning Barriers & Difficulties as viewed by the secondary stage students during the COVID-19 pandemic in Madaba was (3.23), and its obtained SD was (0.73) at a Moderate level. The researchers attribute this result to the fact that implementing e-learning without the necessary

expertise, knowledge, and skills opens doors to several problems during the actual implementation process and may lead to disruption of learning and education processes for students because they are not accustomed to this type of learning. One of the main obstacles to applying e-learning is the lack of awareness and specialized and focused training on how to employ these technologies directly by students.

Recommendations.

The researchers present the following recommendations in light of the study's results.

1- Addressing all issues related to e-learning in terms of providing specialized training for students and teachers is recommended.

2- Holding workshops is recommended to raise parents' awareness of the importance of e-learning during pandemics.

3- Addressing the technical gap between students is recommended, which could be by providing students with information using the appropriate methods to employ e-learning in the learning process.

4- Further studies on electronic learning and its importance toward the continuity of the educational process are recommended.

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