

Pros and Cons of E-Learning: Evidence from a Sample of Students at the Islamic University of Minnesota (USA)

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Abstract

"This research paper aimed to investigate the perceptions of distance learning among a sample of students at the University of Minnesota (USA) by examining its pros and cons. A questionnaire titled 'The Pros and Cons of Distance Learning' was administered to 74 students. The findings revealed a strong agreement with the benefits of distance learning, particularly in terms of its ease of use, perceived advantages, and the positive attitude students hold towards it.

Simultaneously, the study also identified significant agreement with the disadvantages of distance learning, which included negative psychological and health effects, as well as technical difficulties. Furthermore, the results confirmed a statistically significant negative relationship between negative attitudes toward e-learning and a positive orientation toward it (at $\alpha = 0.05$). In conclusion, while distance learning offers notable benefits, its challenges, particularly those related to attitudes and well-being, require further consideration.

Keywords: Distance learning, Pros and cons of distance education, Virtual education, University of Minnesota students.

JEL Classification: A2, I2"

1. INTRODUCTION

In recent years, education has undergone a qualitative transformation due to modern technological development. Knowledge has become more accessible than ever, allowing learners to access, understand, and practice it from home without the need for formal attendance. Educational content is now widely available through digital platforms, YouTube, and educational TV channels that align with official curricula and are managed by trained and experienced teachers.

Given the ease of learning in our contemporary lives and the desire to pursue academic qualifications, many learners enroll in virtual universities to obtain recognized degrees and develop the skills they need. Traditional academic learning has long been confined to physical spaces, where learners benefited from in-person programs and direct assessments within educational environments. However, with advancements in various domains, especially technology, education has adapted accordingly. The invention of computers and the emergence of the internet have introduced 'distance education.' In 1970, Buergerter highlighted the potential of computers in revolutionizing education.

The Islamic University of Minnesota has adopted distance education like other universities in the US. It attracts students from around the world, offering programs in Islamic and non-Islamic studies, and supports research activities. This study seeks to examine students' attitudes toward distance education at this university through the following main research question:

What are the attitudes of University of Minnesota students toward distance learning?

Sub-questions

- What is the degree of students' agreement with the advantages of distance education?
- What is the degree of students' agreement with the disadvantages of distance education?
- Is there a statistically significant effect of the disadvantages of e-learning on the positive attitude toward distance learning at $\alpha = 0.05$?

Research Hypotheses

- The degree of agreement with the advantages of distance education is higher than the neutral level (60%).
- The degree of agreement with the disadvantages of distance education is higher than the neutral level (60%).
- There is no statistically significant effect of the disadvantages of e-learning on the positive orientation toward distance education at $\alpha = 0.05$.

Importance of the Study

This study draws its importance from the growing relevance of e-learning, which benefits from the unique characteristics of the internet, such as fast communication, effective content delivery, lower costs, and increased interaction. E-learning ensures continued education during crises such as pandemics and wars, and is ideal for learners with family obligations or living abroad who wish to study in their native language or pursue religious studies.

Objectives of the Study

- Clarify the concept of distance education and distinguish it from related forms.
- Identify the advantages of distance learning to enhance them.
- Recognize the disadvantages to propose effective solutions.
- Determine the impact of disadvantages on positive attitudes toward distance learning.

Methodology

The study adopted a descriptive-analytical approach. The questionnaire 'Pros and Cons of Distance Learning' was distributed via a survey link to student groups on WhatsApp and Telegram between 31 August 2022 and 12 October 2022. A total of 74 responses were collected. Data were processed using SPSS and included frequencies, means, standard deviations, one-sample t-tests, one-way ANOVA, and multiple regression analysis.

Literature Review (Selected Studies)

- Study (Arsovski & Chichevska-Jovanova, 2025). This study examined the perceptions of 122 physiotherapy students from North Macedonia and Bulgaria regarding online education. It aimed to identify the advantages and disadvantages of this mode of learning and to determine the preferred model for the future. The findings indicated that students favored blended learning, which combines online and traditional instruction. Reported advantages included flexibility and accessibility, whereas disadvantages included limited practical training, technical difficulties, and weak interaction between students and instructors. The study recommended emphasizing digital awareness and technical support to enhance the blended learning experience in the future.
- Study (Alshehri, 2025). This research explored Saudi EFL students' perceptions of e-learning during the COVID-19 pandemic. Findings revealed that Saudi students held highly positive perceptions toward e-learning, considering it a valuable tool for interaction and motivation. It offered a wide range of language-learning resources and helped students overcome shyness and challenges they faced, allowing them to learn in a comfortable, stress-free environment. Nevertheless, participants reported major challenges, such as overcrowded online platforms, connectivity issues, limited time allocated for online quizzes and exams, and insufficient technical skills.
- Study (Giday & Perumal, 2024). The results supported hypotheses concerning the positive relationship between system quality, ease of use, and overall satisfaction with online learning. However, the study challenged the assumption that information quality significantly influences students' perceptions of online learning. It highlighted the importance of ensuring the quality of educational materials while considering other factors that shape students' learning decisions.
- Study (Almomani, 2023). This study aimed to examine students' satisfaction with the quality of electronic services in distance learning. Employing a descriptive approach, a questionnaire was administered that included a student satisfaction scale and an electronic service quality

scale, both of which were validated for reliability. The sample consisted of 460 students from Al-Balqa Applied University in Jordan. Findings showed that the overall quality of electronic services and their content was rated at a moderate level, while their design was rated at a high level. Students' satisfaction with the quality of electronic services in distance learning was also rated at a moderate level.

Differences from previous studies:

- Studies by *Arsovski and Chichevska-Jovanova (2025)* and *Alshehri (2025)* examined advantages and disadvantages as separate factors influencing students' perceptions. In contrast, our study seeks to determine the *effect of negative attitudes toward e-learning on students' positive orientation toward it*.
- While studies such as *Arsovski and Chichevska-Jovanova (2025)* and *Alshehri (2025)* focused primarily on technical aspects (e.g., connectivity issues) and practical training, our research expands the scope by incorporating dimensions that were less emphasized—namely, *health problems* and *psychological problems*—as part of the

Recent empirical work (2023–2025) reports mixed results: students value e-learning's flexibility and accessibility yet report challenges such as limited practical training opportunities, technical difficulties, and weaker student–instructor interaction. This study extends prior work by examining the influence of negative attitudes (including psychological and health-related concerns) on positive orientation toward e-learning.

2. The Theoretical Aspect

2.1. Historical Development of Distance Education

Distance education is not a modern phenomenon; it dates back more than 200 years. Its beginnings were as follow: (Ibrahim, 2015)

- 1729: Its origin can be traced to Caleb Philips, who offered weekly lessons through the "Boston Gazette" newspaper, a system he called "Correspondence Class."
- 1922: Radio was first used for this purpose when the renowned University

of Pennsylvania began offering several courses via radio.

- 1968: Television was introduced, with Stanford University launching an initiative called "the Stanford Instructional Television Network" to deliver courses to engineering students via a television channel.
- 1982: Computers entered the educational field. The wider adoption came with the advent of the internet and the appearance of learning management systems in 1992.
- 2002: The Massachusetts Institute of Technology (MIT) launched its "OpenCourseWare" initiative.

2.2 Concept of Distance Education

Distance education began decades ago through enrollment programs and open universities, which have graduated tens of thousands of students aiming to improve their lives and academic qualifications. This system was a response to circumstances that prevented many from attending formal institutions. The rapid developments in information and communication technology and the growing interest in knowledge have expanded the base of those seeking education, leading to the evolution of distance learning methods and giving it a new form. This is why the concepts and forms of distance education have changed over time.

It has blended with traditional education and distance education alike. Below are the definitions that have been associated with it:

- It is a form of educational innovation that takes the form of correspondence, borderless education, and the open university. It includes all formats that do not rely on face-to-face interaction between teacher and learner (**University Student Guide, 2004**).
- It is any educational model, format, or system in which students are away from their universities for most of the study period (**Saeed, 1988, p. 22**).
- It includes all study methods at all educational levels that are not subject to direct or continuous supervision by a teacher. This means that a teacher is not required to meet continuously with learners in specific classrooms. The lack of physical meetings does not mean this type of education lacks planning, supervision, and support from the implementing educational institution (**Al-Hajrasi, 1987**).

It is an independent educational activity that differs from in-person education. It is characterized by its effectiveness and low cost and can be practiced through various media, including: Print (written text/publications), Audio (various types), Video (various types), Computer Data and software, Networks (local, regional, and global), the Internet, satellite communication systems, and video conferencing technology. It can benefit anyone without the need to leave their homes or workplaces **(Mohammad, p. 3)**.

Based on the above, we can say that distance education is the provision of education to any individual in society with the desire and financial ability to learn. This is done through multimedia and various communication tools under administrative and organizational supervision, culminating in the acquisition of a recognized certificate (Amira, 2019). It can be synchronous, where the teacher and learner meet at the same time through a direct electronic meeting, allowing both parties to discuss, dialogue, ask questions, and interact via chat rooms or virtual classrooms. Alternatively, it can be asynchronous, where the teacher places learning resources, a teaching plan, and an assessment on a website, and the learner can access the site at any time and follow the teacher's instructions to complete the learning process without a synchronous connection with the teacher.

3. The Applied Aspect

Among the global universities with expertise in distance learning is the Islamic University of Minnesota. Established in 2006 in Minneapolis, Minnesota, by the Islamic Jurisprudence Council of Minnesota (IJCM), it aims to promote scientific research and educational excellence in both Islamic and non-Islamic specializations. Students from around the world follow distance courses supervised by specialized professors.

The university uses two educational systems:

- In-person education: Held at the university's headquarters in Minneapolis.
- Distance education: Conducted through the university's electronic platforms, which allow students to attend live sessions using modern programs and advanced mechanisms that ensure the required audio and

video interaction between students and teachers.

The university grants graduates academic degrees (Bachelor's, Master's, and Doctorate) in all available specializations. These certificates are authenticated by the Secretary of State, a notary public, and the U.S. Department of State.

The university has 2,580 registered students, 420 faculty members, 120 administrators, and 69 academic programs. It comprises 7 colleges.

Distance learning is conducted through Zoom audio rooms, which broadcast live lectures with audio and video. This system allows for the display of instructional materials, interaction with the professor, and real-time monitoring of student attendance and remote proctoring during exams. The academic process is also tracked through the Academic System Portal and the IUM app, which combines all educational services needed by students and professors in a single electronic portal designed with the latest modern technologies.

3.1 Methodological Procedures of the Study

- **Study Population:** The study population consisted of students at the Islamic University of Minnesota with whom communication was possible.
- **Study Sample:** The survey was applied to the entire study population. A link to the survey (<https://survey.porsline.com/n/survey/61004/build/>) was sent through student groups on WhatsApp and Telegram by a student at the same university. The survey was conducted from August 31, 2022, to October 12, 2022, and 74 responses were received.

. Sample characteristics

The sample comprised 74 respondents from multiple countries. The majority were from Saudi Arabia (63.1%).

Female participants constituted 90.5% of the sample ($n = 67$) and males 9.5% ($n = 7$).

Table 1. Sample distribution by country

Country	Number	Percentage
Albania	1	1.4
USA	3	4.1
Jordan	1	1.4

***Pros and Cons of E-Learning: Evidence from a Sample of Students at the
Islamic University of Minnesota (USA)***

Algeria	3	4.1
Saudi Arabia	47	63.1
Iraq	2	2.7
Kuwait	1	1.4
Germany	1	1.4
Morocco	2	2.7
Yemen	2	2.7
Turkey	1	1.4
Syria	1	1.4
France	1	1.4
Palestine	1	1.4
Canada	1	1.4
Egypt	5	6.8
Nigeria	1	1.4
Total	74	100.0

Based on data analysis by the authors using SPSS.

The majority of respondents are from Saudi Arabia, reflecting the sample access route.

Table 2. Sample distribution by gender

Gender	Number / Percentage
Female	67 / 90.5%
Male	7 / 9.5%

Based on data analysis by the authors using SPSS.

The sample is predominantly female due to the sampling routes used.

- **Study Tool:** To achieve the study's objective, the researchers constructed the questionnaire found at the link above. It was designed to identify students' attitudes toward the positive aspects of distance education, which included the following dimensions: ease of use, perceived benefits, and a positive attitude toward distance education. It also assessed their attitudes toward the negative aspects of distance education, which included the following dimensions: negative attitude toward distance education, health problems, psychological problems, and technical problems.

• **Questionnaire Validity:**

To assess the validity of the questionnaire items using the internal consistency method, correlation coefficients were calculated between each dimension of the questionnaire and its overall score. The analysis produced the results presented in the following table:

Table 3. Internal consistency of questionnaire items

Axis	Item (English translation)	Correlation Coefficient	p-value	Statistical Significance
Ease of Use	Distance learning enables obtaining information despite the distance between lecturer and learner.	0.671	0.000	Significant
Ease of Use	Distance learning is very useful for those with special health conditions preventing travel or mixing with others.	0.527	0.000	Significant
Ease of Use	Some lessons can be watched or postponed according to the learner's time.	0.511	0.000	Significant
Ease of Use	Distance learning allows the learner to sit in the posture that suits them.	0.592	0.000	Significant
Ease of Use	Revisiting recorded lectures at any time helped me greatly to understand what I did not understand.	0.660	0.000	Significant
Ease of Use	Choosing the type and number of taught subjects helped me continue distance learning.	0.722	0.000	Significant
Perceived Benefits	Distance learning provides time to care for children and household duties.	0.617	0.000	Significant
Perceived Benefits	I cooperate with classmates to complete assignments and understand lessons.	0.644	0.000	Significant
Perceived Benefits	Distance learning helped me build strong relationships with colleagues from different countries.	0.605	0.000	Significant
Perceived Benefits	Distance learning ensures ease of attendance due to no need for transportation.	0.513	0.000	Significant
Perceived Benefits	Distance learning is less costly compared to face-to-face study.	0.477	0.000	Significant
Perceived Benefits	Distance learning allows a large number of students to receive lessons at the same time.	0.339	0.033	Significant
Positive Attitude	The method of explaining lessons is clear.	0.740	0.000	Significant
Positive Attitude	We receive distance education from competent professors from various countries.	0.700	0.000	Significant
Positive Attitude	Distance learning enables women to study without mixing with men.	0.495	0.000	Significant
Positive Attitude	Distance learning enhances self-confidence and reliance on one's own capabilities.	0.719	0.000	Significant
Negative Attitude	Sometimes distance learning lacks clarity.	0.213	0.000	Not significant
Negative Attitude	Many cannot understand except through direct face-to-face interaction.	0.668	0.000	Significant
Negative Attitude	I understand course material relying on myself.	0.266	0.000	Significant
Negative Attitude	The lecturer does not have full control in the lesson as in face-to-face teaching.	0.509	0.000	Significant

Pros and Cons of E-Learning: Evidence from a Sample of Students at the Islamic University of Minnesota (USA)

Negative Attitude	I cannot ask all questions and discuss the teacher due to limited time.	0.559	0.000	Significant
Negative Attitude	Absence or weakness of seriousness and enthusiasm in seeking knowledge due to the surrounding environment and lack of direct competition.	0.669	0.000	Significant
Negative Attitude	Distance learning does not guarantee academic integrity due to the absence of direct supervision.	0.577	0.000	Significant
Negative Attitude	Grades obtained in distance learning do not reflect the true level of the student due to easy cheating.	0.237	0.000	Significant
Negative Attitude	A large number of students may not allow answering all their inquiries.	0.614	0.000	Significant
Health Problems	Distance learning exposes the learner to health problems due to long sitting behind the computer.	0.899	0.000	Significant
Health Problems	After using the computer a long time, I feel tired and exhausted.	0.876	0.000	Significant
Health Problems	Distance learning affects eyesight.	0.912	0.000	Significant
Psychological Problems	Distance learning leads to internet addiction.	0.458	0.000	Significant
Psychological Problems	I feel constant anxiety while researching, preparing assignments, and studying for exams.	0.680	0.000	Significant
Psychological Problems	Distance learning enhances psychological isolation and alienation from others.	0.725	0.000	Significant
Psychological Problems	Distance learning does not allow direct social interaction.	0.599	0.000	Significant
Technical Problems	Weak internet may cause information loss or not hearing the lecturer properly.	0.706	0.000	Significant
Technical Problems	Turning off the camera preserves the privacy of the lecturer and the learner.	0.291	0.000	Significant
Technical Problems	Sometimes unintentional noise occurs from some students due to microphones.	0.588	0.000	Significant
Technical Problems	I found difficulty with electronic registration procedures.	0.514	0.000	Significant

Based on data analysis by the authors using SPSS.

"From the table above, it is clear that all questionnaire items, (except for one item, in the negative aspects of distance education section) are positively and statistically significantly correlated with the total score of their respective dimensions at the 0.01 level. This indicates the internal consistency of the questionnaire items and suggests the internal validity of the survey."

• Questionnaire Reliability

After administering the questionnaire to a sample of 74 participants, the reliability coefficient of the questionnaire items was calculated using Cronbach's Alpha

Table 4. Cronbach's Alpha - Questionnaire Reliability

Number of items	Cronbach's Alpha
42	0.672

Based on data analysis by the authors using SPSS.

Cronbach's Alpha, which yielded a value of (.672). This value is classified among the high reliability coefficients, confirming the minimal presence of systematic or random errors in the questionnaire items.

- **Normality Test (One-Sample Kolmogorov–Smirnov Test):**

The One-Sample Kolmogorov–Smirnov test was applied to verify whether the data follow a normal distribution.

Table 5. Normality Test (Kolmogorov-Smirnov & Shapiro-Wilk)

Test	Statistic	p-value
Kolmogorov-Smirnov	0.073	0.200
Shapiro-Wilk	0.978	0.212

Based on data analysis by the authors using SPSS.

The p-value (Sig.) was greater than the significance level of 1%, therefore the null hypothesis is accepted, indicating that the data are normally distributed.

4. Explanation of Study Fields and Hypothesis Testing

4.1 Hypothesis 1: The level of agreement among the respondents on the positive aspects of distance education is greater than the neutral level, which is a relative weight of 60%. (This value is the weighted average using the percentage of the number 3, which corresponds to the "neutral" answer option).

To test the validity of the hypothesis, a **One-Sample T-test** was used.

- **Null Hypothesis (H0):** The percentage of the response is equal to the neutral level of 60%.
- **Alternative Hypothesis (H1):** The percentage of the response is not equal to the neutral level of 60%.

Rule of Thumb:

Pros and Cons of E-Learning: Evidence from a Sample of Students at the Islamic University of Minnesota (USA)

- **Positive Item:** An item is considered positive (meaning the sample members agree with its content) if the calculated t-value is greater than the critical t-value (2.13), or if the significance level is less than 0.05, and its relative weight is greater than 60%.
- **Negative Item:** An item is considered negative (meaning the sample members disagree with its content) if the calculated t-value is less than the critical t-value (2.13), or if the significance level is less than 0.05, and its relative weight is less than 60%.
- **Neutral Item:** The sample's opinions on an item are neutral if its significance level is greater than 0.05.

First: Positive Aspects of Distance Education

a- Sub-Hypothesis 1: The degree of agreement among respondents regarding the **ease of distance education** is greater than the neutral level, estimated at a relative weight of 60%. After performing a **One-Sample T-test** for each individual item within the positive attitude towards distance education, the following results were obtained:

Table 6. Item analysis – Ease of Use

Item No.	Item (English translation)	Mean	Std. Deviation	Relative Weight	t-value	Significance	Rank
7	Distance learning enables obtaining information despite the distance between lecturer and learner.	4.15	1.106	83%	32.255	0.000	4
8	Distance learning is very useful for those with special health conditions preventing travel or mixing with others.	4.5676	0.57532	91.2%	68.296	0.000	1
9	Some lessons can be watched or postponed according to the learner's time.	4.1081	0.85316	82%	41.422	0.000	5
10	Distance learning allows the learner to sit in the posture that suits them.	3.7838	1.12591	75.6%	28.909	0.000	6
11	Revisiting recorded lectures at any time helped me greatly to understand what I did not understand.	4.4189	0.84411	88.2%	45.033	0.000	2
12	Choosing the type and number of taught subjects helped me continue distance learning.	4.2162	0.76338	84.2%	47.511	0.000	3
Total	Overall mean for Ease of Use	4.2072	0.51596	84%	70.144	0.000	

Based on data analysis by the authors using SPSS.

It's evident that the mean for all items related to the "ease of use" dimension is 4.20, with a relative weight of 84%, which is higher than the neutral relative weight of 60%. The calculated t-value is 70.144, which is greater than the critical t-value of 2.13. The significance level is 0.000 (which is less than 0.01). The same applies to all items within the "positive attitude towards distance education" dimension. This indicates that the items are positive, meaning the sample members agree with their content. This confirms the hypothesis that the degree of agreement among respondents on the "ease of distance education" axis is greater than the neutral level of 60%

b- Sub-Hypothesis 2: The degree of agreement among respondents regarding the axis of **perceived benefits of distance education** is greater than the neutral level, which is a relative weight of 60%. After performing a **One-Sample T-test** for each individual item within the perceived benefits of distance education, the following results were obtained:

.Table 7. Item analysis – Perceived Benefits

Item No.	Item (English translation)	Mean	Std. Deviation	Relative Weight	t-value	Significance	Rank
7	Distance learning provides time to care for children and household duties.	4.3378	0.72673	86.6%	51.347	0.000	3
8	I cooperate with classmates to complete assignments and understand lessons.	3.9324	0.95560	78.64%	35.400	0.000	6
9	Distance learning helped me build strong relationships with colleagues from different countries.	3.9730	1.19328	79.4%	28.641	0.000	5
10	Distance learning ensures ease of attendance due to no need for transportation.	4.5811	0.64121	91.6%	61.459	0.000	1
11	Distance learning is less costly compared to face-to-face study.	4.3243	0.86179	86.4%	43.165	0.000	4
12	Distance learning allows a large number of students to receive lessons simultaneously.	4.4054	0.68083	80.8%	55.662	0.000	2
Total	Overall mean for Perceived Benefits	4.2590	0.45925	85%	79.776	0.000	

Here's a precise academic translation of the text you provided.

It's clear that the mean for all items related to the "**perceived benefits of distance education**" dimension is **4.25**, and the relative weight is **85%**, which is greater

than the neutral relative weight of 60%. The calculated **t-value is 79.776**, which is greater than the critical **t-value of 2.13**, and the **significance level is 0.000** (less than 0.01). This applies to all items within the "perceived benefits of distance education" dimension. Consequently, the items are considered positive, meaning the sample members agree with their content. This confirms the hypothesis that the degree of agreement among respondents on the axis of perceived benefits of distance education is greater than the neutral level, estimated at a relative weight of 60%.

c- Sub-Hypothesis 3: The degree of agreement among respondents regarding the axis of a **positive attitude towards distance education** is greater than the neutral level, which is a relative weight of 60%. After performing a **One-Sample T-test** for each individual item within the positive attitude towards distance education, the following results were obtained:

Item No.	Item (English translation)	Mean	Std. Deviation	Relative Weight	t-value	Significance	Rank
7	The method of explaining lessons is clear.	3.8649	1.03797	77.2%	32.031	0.000	3
8	We receive distance education from competent professors from around the world.	4.2162	0.81544	84.2%	44.478	0.000	6
9	Distance learning helps overcome social and cultural barriers.	4.3243	0.92319	86.4%	40.294	0.000	5
10	Distance learning enhances self-confidence and reliance on one's abilities.	3.8243	0.99805	76.4%	32.962	0.000	1
Total	Overall mean for Positive Attitude	4.0574	0.62008	81%	56.288	0.000	

Based on data analysis by the authors using SPSS.

Based on the data, the mean for all items related to the "**positive attitude towards distance education**" is **4.05**, with a relative weight of **81%**. This is significantly higher than the neutral relative weight of 60%.

The calculated **t-value is 56.288**, which is greater than the critical **t-value of 2.13**. The significance level is **0.000**, which is less than 0.01. This holds true for all items within this dimension. Therefore, the items are considered positive, indicating that the sample members agree with their content. This confirms the hypothesis that the degree of agreement among respondents on the axis of a positive attitude towards distance education is greater than the neutral level, estimated at a relative weight of 60%.

Second: Negative Aspects of Distance Education

a- Sub-Hypothesis 1: The degree of agreement among respondents regarding the axis of a **negative attitude towards distance education** is greater than the neutral level, estimated at a relative weight of 60%. After performing a **One-Sample T-test** for each individual item within the negative attitude towards distance education, the following results were obtained:

Table 9. Item analysis – Negative Attitude

Item No.	Item (English translation)	Mean	Std. Deviation	Relative Weight	t-value	Significance	Rank
1	Many cannot understand except through direct face-to-face interaction.	3.6081	1.03126	72%	30.097	0.000	1
2	Grades obtained in distance learning do not reflect the true level of the student due to easy cheating.	3.3243	1.30445	66.4%	21.923	0.000	2
3	A large number of students may not allow answering all their inquiries.	3.2703	1.16216	65.4%	24.207	0.000	3
4	Distance learning does not guarantee academic integrity due to absence of direct supervision.	3.2297	1.30905	64.4%	21.224	0.000	4
5	Lack or weakness of seriousness and enthusiasm in seeking knowledge due to the surrounding environment and weak direct competition.	3.2027	1.27117	64%	21.673	0.000	5
6	I cannot ask all questions and discuss the instructor due to limited time.	3.1351	1.24223	62.6%	21.711	0.000	6
7	The lecturer does not have full control in the lesson as in face-to-face teaching.	3.1081	1.41970	62%	18.833	0.000	7
8	I understand course material relying on myself.	2.9595	1.15200	59%	22.099	0.000	8
Total	Overall mean for Negative Attitude	3.2297	0.66080	64.4%	42.045	0.000	

Based on data analysis by the authors using SPSS.

It is evident that the mean for all items related to the "**negative attitude towards distance education**" dimension is **3.22**, and the relative weight is **64.4%**, which is higher than the neutral relative weight of 60%. The calculated **t-value is 42.045**, which is greater than the critical t-value of 2.13. The significance level is **0.000**, which is less than 0.01. This applies to all items within the "negative attitude

towards distance education" dimension. Therefore, the items are considered positive, meaning that the sample members agree with their content. This confirms the hypothesis that the degree of agreement among respondents on the axis of a negative attitude towards distance education is greater than the neutral level, estimated at a relative weight of 60%.

b- Sub-Hypothesis 2: The degree of agreement among respondents regarding the axis of "**health problems resulting from distance education**" is greater than the neutral level, which is a relative weight of 60%. After performing a **One-Sample T-test** for each individual item within the "health problems resulting from distance education," the following results were obtained:

Table 10. Item analysis – Health Problems

Item No.	Item (English translation)	Mean	Std. Deviation	Relative Weight	t-value	Significance	Rank
7	Distance learning exposes the learner to health problems due to long sitting behind the computer.	3.0676	1.31723	61.2%	20.033	0.000	3
8	After using the computer for a long time, I feel tired and exhausted.	3.3784	1.20163	67.4%	24.185	0.000	1
9	Distance learning affects eyesight.	3.2838	1.22217	65.6%	23.113	0.000	2
Total	Overall mean for Health Problems	3.2432	1.12708	64.8%	24.754	0.000	

Based on data analysis by the authors using SPSS.

It is evident that the mean for all items related to the axis of health problems resulting from distance education is 3.24, and the relative weight is 64.8%, which is greater than the neutral relative weight of 60%. The calculated t-value is 24.754, which is greater than the critical t-value of 2.13. The significance level is 0.000 (less than 0.01). This applies to all items within this axis. Therefore, the items are considered positive, meaning that the sample members agree with their content. This confirms the hypothesis that the degree of agreement among respondents on the axis of health problems resulting from distance education is greater than the neutral level, estimated at a relative weight of 60%.

c- Sub-Hypothesis 3: The degree of agreement among respondents regarding

the axis of psychological problems resulting from distance education is greater than the neutral level, which is a relative weight of 60%. After performing a One-Sample T-test for each individual item within the psychological problems resulting from distance education, the following results were obtained:

Table 11. Item analysis – Psychological Problems

Item No.	Item (English translation)	Mean	Std. Deviation	Relative Weight	t-value	Significance	Rank
7	Distance learning leads to internet addiction.	2.6081	1.19149	52%	18.830	0.000	4
8	I feel constant anxiety while researching, preparing assignments, and studying for exams.	3.0946	1.18401	61.8%	22.483	0.000	1
9	Distance learning enhances psychological isolation and alienation.	2.7973	1.23842	55.8%	19.431	0.000	3
10	Distance learning does not allow direct social interaction.	2.8378	1.19390	56.6%	20.447	0.000	2
Total	Overall mean for Psychological Problems	2.8345	0.80906	56.6%	30.137	0.000	

Based on data analysis by the authors using SPSS.

It is evident that the mean for all items related to the axis of psychological problems resulting from distance education is 2.83, and the relative weight is 56.6%, which is less than the neutral relative weight of 60%. The calculated t-value is 30.137, which is greater than the critical t-value of 2.13. The significance level is 0.000 (less than 0.01). This applies to all items within this axis. Therefore, the items are considered negative, meaning that the sample members disagree with their content. This invalidates the hypothesis that the degree of agreement among respondents on the axis of psychological problems resulting from distance education is greater than the neutral level, estimated at a relative weight of 60%.

c- Sub-Hypothesis 4: The degree of agreement among respondents regarding the axis of technical problems resulting from distance education is greater than the neutral level, which is a relative weight of 60%. After performing a One-Sample T-test for each individual item within the technical problems resulting from distance education, the following results were obtained:

Table 12. Item analysis – Technical Problems

Pros and Cons of E-Learning: Evidence from a Sample of Students at the Islamic University of Minnesota (USA)

Item No.	Item (English translation)	Mean	Std. Deviation	Relative Weight	t-value	Significance	Rank
7	Sometimes unintentional noise occurs from some students due to microphones.	3.9054	0.96754	78%	34.723	0.000	3
8	I found difficulty with electronic registration procedures.	2.44	1.16	48.8%	32.968	0.000	4
9	Weak internet may cause loss of information or not hearing the lecturer properly.	3.98	1.04	79.6%	18.134	0.000	2
10	Not opening the camera preserves the privacy of the lecturer and the learner.	4.2432	0.93356	84.8%	39.100	0.000	1
Total	Overall mean for Technical Problems	3.6453	0.59104	72.8%	60.656	0.000	

Based on data analysis by the authors using SPSS.

It is evident that the mean for all items related to the axis of technical problems resulting from distance education is 3.64, and the relative weight is 72.8%, which is greater than the neutral relative weight of 60%. The calculated t-value is 60.656, which is greater than the critical t-value of 2.13. The significance level is 0.000 (less than 0.01). This applies to all items within the axis of technical problems resulting from distance education. Therefore, the items are considered positive, meaning the sample members agree with their content. This confirms the hypothesis that the degree of agreement among respondents on the axis of technical problems resulting from distance education is greater than the neutral level, estimated at a relative weight of 60%.

Testing the Third Hypothesis: The Effect of Negative Aspects

Hypothesis: There is no effect of the negative aspects of distance learning on a positive attitude towards it.

To verify the effect of the negative aspects of distance education on a positive attitude towards it, we used multiple regression analysis to test the following hypothesis:

- Null Hypothesis (H₀): There is no statistically significant effect of e-learning risks on a positive attitude towards it at the $\alpha = 0.05$ level for the studied sample of students at the Islamic University of Minnesota.

Table (13) shows the significance of the Standardized and Unstandardized Coefficients of the multiple linear regression equation for the third

hypothesis.

Table 13. Multiple regression – Effect of disadvantages on positive orientation

Variable	Standardized Beta (β)	Unstandardized Coefficient (b)	Std. Error	Significance (p)
Constant (Intercept)		5.664	0.263	0.000
Negative attitude toward distance learning	-0.374	-0.553	0.086	0.000
Health problems		-0.136	0.050	0.284 (not significant)

Based on data analysis by the authors using SPSS.

The results of the multiple regression analysis presented in the previous table indicate that the R-squared (R^2) value is 0.438, suggesting an acceptable model fit. However, the "psychological problems" variable was excluded from the model. Furthermore, the model cannot include the "health problems" and "technical problems" variables because their significance levels are 0.284 and 0.747, respectively, both of which are greater than $\alpha = 0.05$, making them non-significant.

Meanwhile, the coefficient value for the "negative attitude towards distance education" dimension was estimated at -0.374, indicating a negative effect. Its probability value was 0.000, which is less than the significance level ($\alpha = 0.05$), thus confirming its statistical significance.

Therefore, the regression equation between the variables of negative aspects of distance learning and a positive attitude towards it only includes the negative attitude towards distance education and takes the following form:

$$y = 5.664 - 0.374x$$

where:

- Y = The dependent variable, which is the positive attitude towards distance education.
- 5.664 = The constant or intercept value.
- -0.374 = The slope of the regression of Y on the independent variable. This indicates that for every one-unit increase in the negative attitude towards distance education, the positive attitude towards it decreases by 0.374 units.

10. Conclusion

E-learning has played a critical role in ensuring continuity of education during crises and increasing access for marginalized learners. Participants acknowledged several notable advantages—ease of use, cost-effectiveness, and flexibility—while also reporting important disadvantages, particularly technical and health-related concerns. Importantly, a negative attitude toward e-learning significantly reduces positive orientation toward it, underscoring the need for institutions to address psychological and social dimensions in addition to technical infrastructure.

11. Recommendations

Institutions should adopt integrated strategies that combine technical improvements (reliable connectivity, user-friendly platforms) with psychosocial support (orientation programmes, counselling, and skills training) to mitigate disadvantages and enhance adoption.

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