REVIEW ARTICLE

THE ROLE OF TECHNOLOGY IN ENHANCING THE QUALITY OF LEARNING IN DISTANCE LEARNING

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ARTICLE INFO	ABSTRACT
	This research aims to identify the role of technology in distance learning by improving the quality of learning for students. Technology provides access to a vast array of learning resources, including online platforms, educational websites, digital libraries, and multimedia content. These resources offer a diverse range of materials, including e-books and search databases. The study uses primary quantitative data collection methods to collect statistical information. The research aims to demonstrate that technology has the potential to improve access to education for students who may not have had the opportunity otherwise. Distance learning programs enable students to participate in educational activities regardless of their geographical location, overcoming barriers such as distance, time, and physical limitations.

INTRODUCTION

Technology improves distance learning by enabling students to access educational resources and participate in activities from anywhere. Online platforms and learning management systems provide a flexible learning environment. This research study explores the background, aims, objectives, research questions, and significance of the research topic, focusing on the creation and delivery of multimedia content and digital textbooks (Shirish, Chandra, & Srivastava, 2021). Online platforms and tools enable students and teachers to communicate and collaborate through discussion forums, email, instant messaging, and video conferencing. They can also ask questions, share ideas, and get prompt answers (Syauqi, Munadi & Triyono, 2020). Collaborative projects and group assignments can also be easily managed and executed using online tools. From the figure 1, it is shown that near about 400 billion U.S. dollars have to be forecasted by the global e-learning market in the year 2019 (E-learning: global market size by segment (Statista, 2023). Online learning processes enable personalized learning experiences through intelligent tutoring systems and adaptive learning platforms, which utilize data and algorithms to provide tailored content, pacing, and feedback (Giatman, Siswati, & Basri, 2020a). This research aims to identify the role of technology in distance learning, focusing on improving the quality of learning for students by allowing them to learn at their own pace.

Objectives of the Study

There are four objectives are mentioned below:

- To identify the role of distance learning for the students
- To analyze the impact of technology on the learning process
- To determine the different strategies which help to improve the learning quality of the students?
- Recommended strategies to mitigate the challenges that are highlighted during the online learning process

Research questions

There are four research questions mentioned here are based on the research objectives:

- What is the role of distance learning for the students?
- How to analyze the impact of technology on the learning process?

- What are the different strategies which help to improve the learning quality of the students?
- What are the recommended strategies to mitigate the challenges that are highlighted during the online learning process?
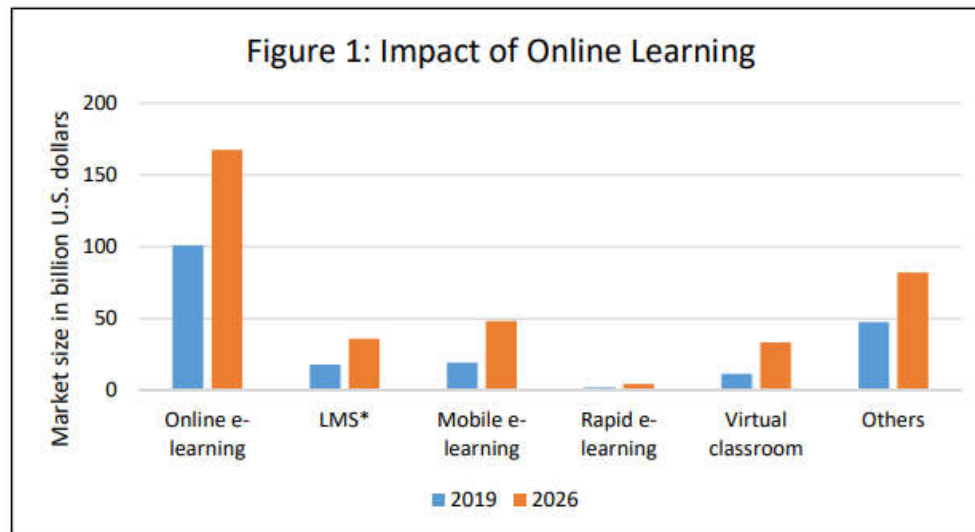

Figure 1. Impact of online learning (Source: Statista, 2023)

Hypotheses: Based on the objectives of the study and the research questions, here three hypotheses are mentioned below:

- There is a positive relationship between technology and the learning process of the students
- There is a significant relationship between the process of online learning and flexibility.
- There is a correlation between rich multimedia content and the online learning process

Technology can enhance education access by enabling distance learning programs, enabling students to participate in educational activities regardless of their geographical location, overcoming barriers like distance, time, and physical limitations (Serhan, 2020). Technology based distance learning provides students with flexibility and convenience, enabling them to access educational materials anytime, anywhere, with an internet connection, thereby balancing their learning with other commitments and making it more interactive and engaging (Heng & Sol, 2020). Technology-based learning platforms use multimedia elements like video, animations, and simulations to enhance understanding of complex concepts. Collaborative online platforms and discussion forums foster community among students. Data collected from these platforms can help teachers personalize instruction, provide targeted interventions, and effectively monitor students' programs (Shehzadi et al., 2020). The study highlights the significant role of technology in improving student learning quality through its ability to expand access to education, enhance learning experiences, and support personalized instruction (Hyseni Duraku & Hoxha, 2020). This research study explores the impact of online learning on student learning capacity improvement and highlights the potential of technology-supported distance learning for lifelong learning opportunities for students of all ages (Hyseni Duraku & Hoxha, 2020). Professionals can access online courses and programs that align with their interests and career goals, enabling continuous learning and professional development. Technology offers a wide range of learning resources, including traditional textbooks, online platforms, educational websites, digital libraries, and multimedia content (Shehzadi et al., 2020). Technology in distance learning enhances student experience, promotes self-directed learning, and allows in-depth exploration. It provides increased access, personalized experiences, collaboration, and continuous assessment, fostering engaging learning environments and improved educational outcomes.

LITERATURE REVIEW

The role of distance learning for the students: Distance learning, also known as online learning or e-learning, has gained significant popularity and vans prominence, especially in recent years. As commented by (Rawashdeh, 2021), distance learning provides students with new educational opportunities without physical classrooms, but its impact on the overall educational experience is under scrutiny.

Advantages of distance learning: Distance learning coffers greater accessibility to education, allowing students from different geographic locations or with various personal commitments to pursue their studies. As opined by (Aaliyah & Alyoussef, 2019), distance learning offers flexibility for individuals with physical barriers or disabilities, allowing them to access quality education at their own pace, setting their own schedules and accessing course materials, lectures, and assignments at any time. On the other hand, as argued by (Ayu, 2020), this flexibility allows individuals to balance their educational pursuits with other responsibilities, fostering a better work-life study balance.
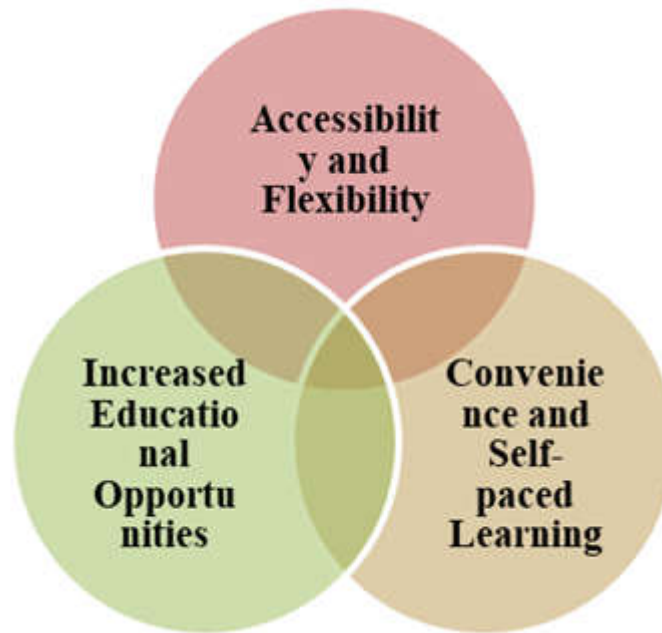
Figure 2. Positive Role of Distance Learning (Source: Mandasari 2020)

The drawback of distance learning: Distance learning lacks in-person interaction between students and teachers, unlike traditional classroom settings that offer immediate feedback, dynamic discussions, and social interactions. As commented by (Mandasari, 2020), the absence of face-to-face contact may lead to reduced engagement and hinder the development of important interpersonal skills. While flexibility is a significant advantage of distance learning, it can also be a challenge for some students. As argued by (Wiam Elshami & Abdalla, 2021), Distance learning demands self-discipline and effective time management skills for students to meet deadlines and stay on track, despite the potential for isolation due to solitary environments without regular face-to-face interaction. As opined by (Baber, 2020), this isolation can lead to a lack of motivation, feelings of disconnection, and reduced access to support systems. Stu- dents may require additional effort and self-motivation to seek support from online sources, discussion borders, or virtual office hours.

Impact of technology on the learning process: Technology significantly impacts the learning process, offering numerous benefits and advancements, but also presenting challenges and potential drawbacks. As stated by (Sukendro et al., 2020), Technology offers students access to vast information, enabling self-directed learning and expanding education scope. Interactive learning platforms, educational apps, and multimedia tools enhance learning, making it more engaging and interactive. On the other hand, as commented by (Yusuf, 2021), Virtual simulations and gamification enhance student interest, while adaptive learning systems tailor content to individual needs. Technology has revolutionized access to information, providing instant access to vast knowledge and resources. As argued by (Lie et al., 2020), The democratization of information has enabled learners to explore diverse topics, conduct research, and improve understanding. The vastness of information can be overwhelming, making it challenging to assess the credibility and relevance of sources using technology's interactive learning tools. Additionally, as opined by (Barus, 2020), online platforms like discussion forums and video conferencing enable personalized remote learning, analysing data to enhance students' skills and increase their interest in learning.
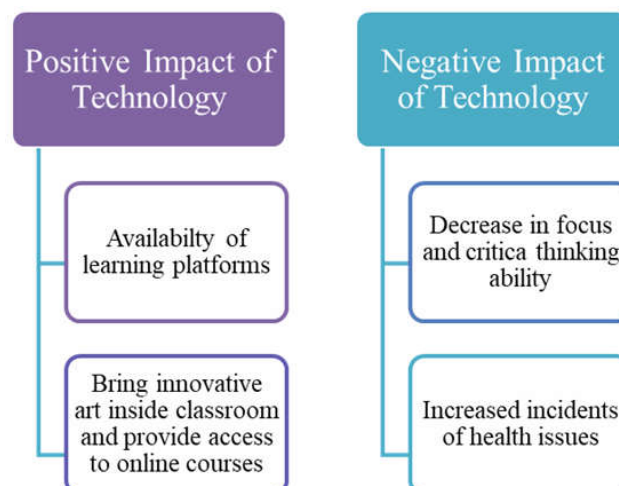

Figure 3. Positive and Negative impact of Technology on the learning process(Source: Baber, 2020)

The challenges faced during the online learning process: When faced with challenges during the online learning process, several strategies can employ to mitigate the challenges and make the most of learners' learning experience.

Establish a routine: Establish a consistent online learning schedule, establishing specific times for studying, attending virtual classes, and completing assignments. As stated by (Wiam Elshami & Abdalla, 2021), having a routine will help the learners stay organized and maintain focus.

Therefore, designate a quiet and comfortable area in the home as a study space. On the other hand, as commented by (Mandasari, 2020), remove distractions and ensure learners have all the necessary materials, such as a reliable internet connection, textbooks, notebooks, and a computer or laptop.
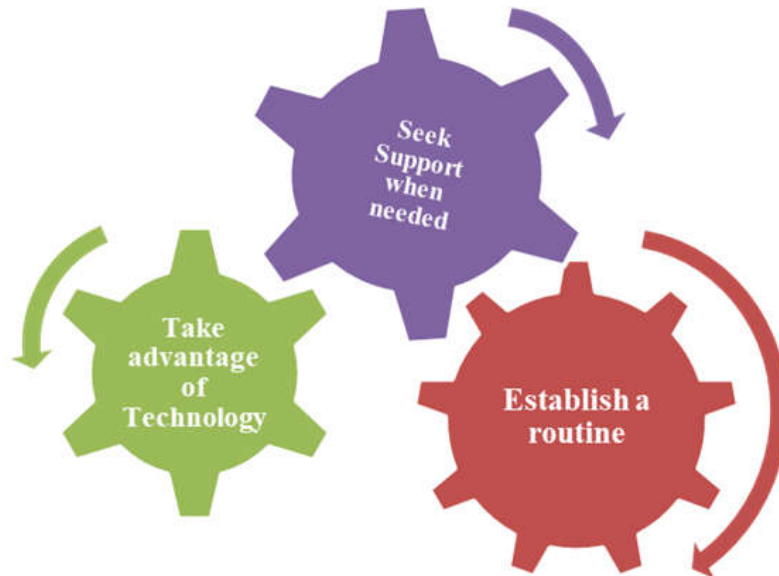
Figure 4: Strategies for the limitation of online learning (Source: Influenced by Mandasari, 2020)

Take advantage of technology: Understand online learning tools and platforms like learning management systems, video conferencing software, and collaboration tools to enhance engagement and participation. (Ayu, 2020).

Seek support when needed: If learners have any questions or require clarification, they should not hesitate to contact their instructors or classmates. As argued by (Almaiah & Alyoussef, 2019), online learning platforms provide communication features through forums and chat, and users can explore resources like tutorials, instructional videos, and forums to enhance their learning experience process.

Theoretical Framework: Classical Conditioning Theory is a psychological framework that applies to technology-based distance learning, focusing on the association between neutral and naturally occurring stimuli to elicit desired responses, ensuring positive learning experiences through technology use (Blackman, 2022). For example, incorporate interactive elements, multimedia, and gamification to make the learning process engaging and enjoyable.

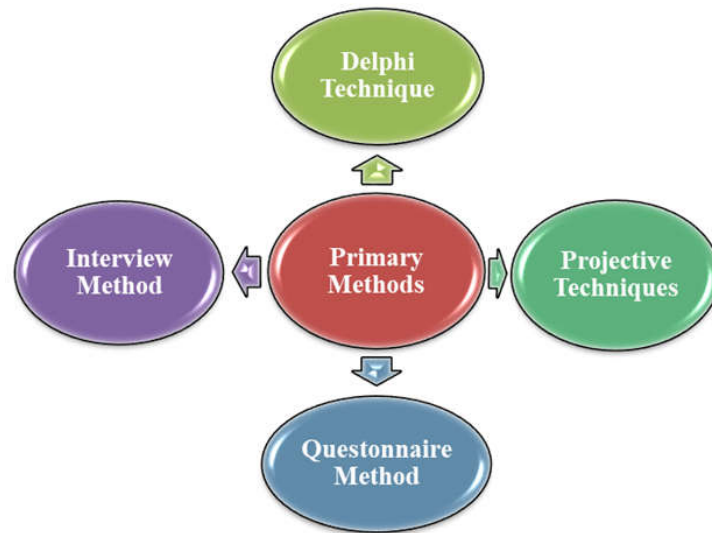**Figure 5. Classical Conditioning Theory (Source: Blackman, 2022)**

Figure 6. Types of Primary data collection method (Source: Rahman, 2020)

METHODOLOGY

This research study utilizes primary quantitative data to collect statistical information about the topic, employing a positivist research philosophy to set hypotheses, and incorporating experimentation as an essential part of the research section (Durga, Prasad, & Naraya, 2019). The study employs a deductive research approach to analyse numerical data, aligning it with theoretical frameworks, ensuring accuracy and reliability, and using primary data collection methods (Pasquetto, Borgman, & Wofford, 2019). Researchers can create precise measurement instruments or surveys to collect data that aligns with their research objectives, minimizing the risk of misinterpretation or data analysis errors. With primary quantitative data collection methods, researchers have control over the variables they measure. They can carefully design their research instruments, choose appropriate sampling techniques, and control the environment in which data is collected. This allows for greater control over potential confounding factors, enhancing the internal validity of the study (Blackman, 2022). Therefore, researchers are allowed 6to use SPSS software to analyse the collected data. With the aid of this analysis, correlations between the variables become identified. After that researchers are also capable to understand the significance value of the research variables.
(Figure 6)

Finding and Analysis

Gender

Table 1. Gender

What is your gender?				
	Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Valid	3	5.2	5.2	5.2
Female	22	37.9	37.9	37.9
Male	24	41.4	41.4	41.4
Prefer not to say	9	15.5	15.5	15.5
Total	58	100.0	100.0	100.0

(Source: SPSS)

Table 1 shows 22 female and 24 male participants in the data collection process, with 9 participants not preferred.
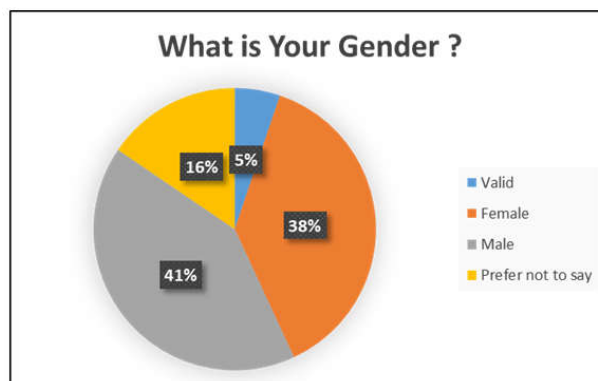

Figure 7: Gender(Source: SPSS)

Figure 7 shows that 41.38% of male respondents and 37.93% of female participants participated in the process, based on gender analysis.

Age Group

Table 2. Age Group

What is your age group?				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	5.2	5.2	5.2
25-35 Years	9	15.5	15.5	20.7
35-45 Years	10	17.2	17.2	37.9
45-55 Years	21	36.2	36.2	74.1
55-65 Years	15	25.9	25.9	100.0
Total	58	100.0	100.0	

(Source: SPSS)

Table 2 shows age distribution of participants, with 9 from 25-35, 10 from 35-45, 21 from 45-55, and 15 from 55-65.
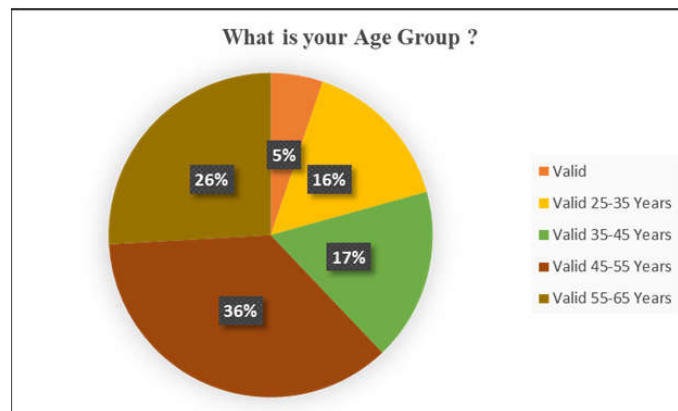
Figure 8. Age Group (Source: SPSS)
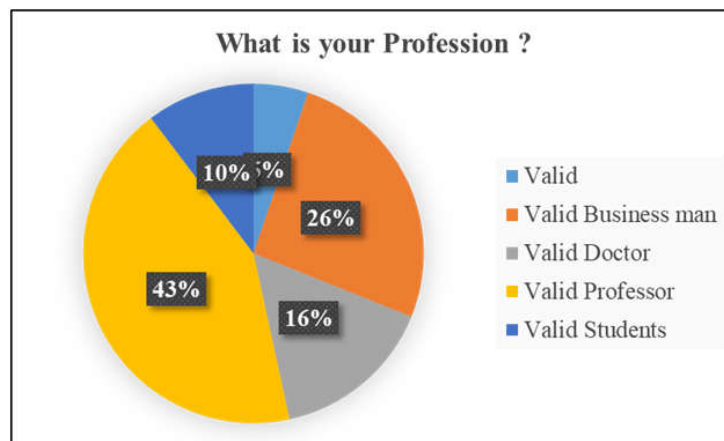
Figure 9: Profession (Source: SPSS)

Figure 8 reveals that participants aged 45-55 had the highest response rate at 36.2%, while those aged 25-35 had the lowest at 15.5%.

Profession

Table 3. Profession

What is your Profession?				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	5.2	5.2	5.2
Business man	15	25.9	25.9	31.0
Doctor	9	15.5	15.5	46.6
Professor	25	43.1	43.1	89.7
Students	6	10.3	10.3	100.0
Total	58	100.0	100.0	

(Source: SPSS)

Table 3 shows response rates of 15 businessmen, 9 doctors, 25 professors, and 6 students. Figure 9 shows a maximum response rate of 43.10% for professors, while the lowest response rate is 10.3% for students. The data collection process involved 15 businessmen, with the highest response rate being professors.
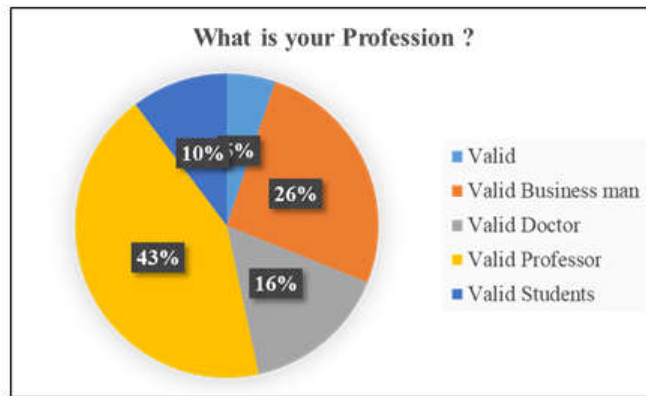
Figure 9. Profession (Source: SPSS)

Figure 9 is based on the response rate of the participants and it shows that the maximum response rate is 43.10% and respondents belong to professor occupations. Therefore, the lowest response rate for participants is students and their response rate is 10.3%.

Statistical Analysis

Descriptive Analysis

Table 4. Descriptive analysis of different variables

|	Descriptive Statistics					
	N	Min	Max	Mean		Std. Deviation
		Statistic	Statistic	Statistic	Std. Error	Statistic
Technology (DV)	55	1	5	3.71	.137	1.012
Distant learning (IV1)	55	1	5	3.87	.156	1.156
Learning quality (IV2)	55	1	5	3.73	.159	1.178
Physical and emotional health of students (IV3)	55	1	5	4.00	.162	1.202
Valid N (list wise)	55					

(Source: IBM SPSS)

Table 4 provides information on the mean and standard deviation values of variables. The dependent variable has a mean of 3.71 and a standard deviation of 1.012. The first independent variable has a mean of 3.87 and a standard deviation of 1.157. The second and third variables have means of 3.73 and 4.00 respectively.

Hypothesis 1

Table 5. Linear Regression Analysis for Hypothesis 1

Model Summary[b]										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F. Change	Durbin-Watson
1	.807[a]	.651	.644	.604	.651	98.776	1	53	<.001	2.286
Predictors (Constant, Distant learning (IV1)										
Depended Variable: Technology (DV)										

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36.019	1	36.019	98.776	<.001[b]
	Residual	19.327	53	.365		
		55.345	54			
Depended Variable: Technology (DV)						
Predictors (Constant, Distant learning (IV1)						

Coefficients[a]						
			Unstandardized Coefficients		Unstandardized Coefficients	Sig.
Model			B	Std. Error	Beta	t
	Constant		.972	.287		3.385	.001
	Distant learning (IV)		.707	.071	.807	9.939	<.001

(Source: SPSS)

Table 5 presents the regression analysis of the first hypothesis, revealing a significance value of 0.001 for the first variable and a t value of 9.939. The ANOVA table also confirms this value, indicating an existing co-relation between the two variables.

Hypothesis 2

Table 6 indicates a significant relationship between the two variables, with a significance value of .001 and a 't' value of 8.005, which is less than 0.05.

Table 6. Linear Regression Analysis for Hypothesis 2

Model Summary[b]										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F. Change	Durbin-Watson
1	.740[a]	.547	.539	.688	.547	64.087	1	53	<.001	1.932
Predictors :(Constant), Distant learning (IV2)										
Depended Variable: Technology (DV)										

ANOVA[a]										
Model		Sum of Squares	df	Mean Square	F	Sig.				
1	Regression	30.293	1	30.293	64.087	<.001[b]				
	Residual	25.052	53	.473						
		55.345	54							
Depended Variable: Technology (DV)										
Predictors: (Constant), Distant learning (IV2)										

Coefficients[a]										
			Unstandardized Coefficients		Unstandardized Coefficients		Sig.			
Model			B	Std. Error	Beta	t				
	Constant		1.339	.310		4.315	<.001			
	Distant learning (IV)		.636	.079	.740	8.005	<.001			

(Source: SPSS)

Hypothesis 3

Table 7 provides insight into the third hypothesis's relationship, with a significance value of .001 and a t value of 6.565, indicating a significant relationship between the variables.

Table 7. Linear Regression Analysis for Hypothesis 3

Model Summary[b]										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F. Change	Durbin-Watson
1	.670[a]	.448	.438	.759	.448	43.095	1	53	<.001	2.333
Predictors: (Constant), Physical and Emotional health of students (IV3)										
Depended Variable: Technology (DV)										

ANOVA[a]										
Model		Sum of Squares	df	Mean Square	F	Sig.				
1	Regression	24.821	1	24.821	43.095	<.001[b]				
	Residual	30.525	53	.576						
		55.345	54							
Depended Variable: Technology (DV)										
Predictors: (Constant), Physical and Emotional health of students (IV3)										

Coefficients[a]										
			Unstandardized Coefficients		Unstandardized Coefficients		Sig.			
Model			B	Std. Error	Beta	t				
	Constant		1.453	.359		4.051	<.001			
	Distant learning (IV)		.564	.086	.670	6.565	<.001			

(Source: SPSS)

Correlation Test

Table 8. Correlation test between a dependent variable and independent variables

Correlations		Technology (DV)	Distant learning (IV1)	Learning quality (IV2)	Physical and emotional health of students (IV3)
Technology	Pearson Correlation	1	.807[**]	.740[**]	.670[**]
	Sig. (2-tailed)		<.001	<.001	<.001
	N	55	55	55	55
Distant learning (IV1)	Pearson Correlation	.807[**]	1	.600[**]	.733[**]
	Sig. (2-tailed)	<.001		<.001	<.001
	N	55	55	55	55
Learning quality (IV2)	Pearson Correlation	.740[**]	.600[**]	1	.785[**]
	Sig. (2-tailed)	<.001	<.001		<.001
	N	55	55	55	55
Physical and emotional health of students (IV3)	Pearson Correlation	.670[**]	.733[**]	.785[**]	1
	Sig. (2-tailed)	<.001	<.001	<.001	
	N	55	55	55	55

** Correlation is significant at the 0.01 level (2-tailed). (Source: SPSS)

Table 8 shows a significant relationship between the first variable and its dependent variables, with a .001 significance value, indicating a strong correlation between the variables.

Reliability Test

Table 9. Reliability Test

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized items	No. of Items
.910	.912	4

(Source: SPSS)

Table 9 reveals the "Cronbach's Alpha" value of the variables, with a value of.910, as per the analysis.

Validity Test

Table 10. Validity Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.660
Bartlett's test of Sphericity	Approx. Chi-Square	165.100
	df	6
	Sig.	<.001

(Source: SPSS)

Table 10's validity test results indicate a significance value of 0.001 for the variables, as per KMO and Bartlett's Test.

DISCUSSION

This research study examines the impact of technological learning on students, highlighting both positive and negative aspects and emphasizing the need for flexibility in the learning process (Shirish et al., 2021). Therefore, this innovative process attracts the students and more capable to gain their concentration. After that, researchers use the primary quantitative data collection method in this research process (Syauqi et al., 2020). This research study utilizes statistical information to understand the role of distance learning in students' lives and critically analyses research objectives. SPSS software is utilized to gather more information about the topic, with larger sample sizes allowing for more generalizable findings. Random sampling techniques ensure the sample represents the target population (Giatman, Siswati, & Basri, 2020b). Interactive learning platforms, educational apps, and multimedia tools enhance student engagement and understanding through virtual simulations, videos, and gamification techniques, facilitating a personalized learning experience and making the learning process more effective (Serhan, 2020). The educational system benefits from technology's enhanced creativity, but balancing its benefits and limitations is crucial for fully utilizing its potential in the learning process (Heng & Sol, 2021). The reliance on technology can potentially cause disruptions or hindrances in educational activities due to technological glitches or limitations.

CONCLUSION

This study aims to explore the positive impact of technology in distance learning on student learning quality. The research objectives are addressed in the introduction, followed by research questions based on the research objectives. The significance and limitations of the research topic are also discussed. A critical analysis of the research objectives is conducted in the literature review section, providing a theoretical framework. Data is collected from statistical sources using primary quantitative methods. The analysis of the collected data is crucial, and the study uses SPSS software for data analysis. The study concludes with a proper discussion of the research study.

REFERENCES

Almaiah, M. A., & Alyoussef, I. Y. (2019). Analysis of the effect of course design, course content support, course assessment and instructor characteristics on the actual use of e-learning system. *IEEE Access, 7,* 171907-171922. https://doi.org/10.1109/ACCESS.2019.2956349

Ayu, M. (2020, June). Online learning: Leading e-learning at higher education. *The Journal of English Literacy Education: The Teaching and Learning of English as a Foreign Language, 7,* 47-54. Retrieved from https://ejournal.unsri.ac.id/index.php/jenglish/article/view/11515

Baber, H. (2020). Determinants of students' perceived learning outcome and satisfaction in online learning during the pandemic of COVID-19. *Asian Online Journal Publishing Group Journal of Education and e-Learning Research, 7,* 285-292. https://doi.org/10.20448/journal.509.2020.73.285.292

Barus, I. (2020). Evieta-based learning material in English business class: Students' perceptions. *SELTICS, 3,* 73-82. Retrieved from https://www.academia.edu/56925302/Evieta_Based_Learning_Material_in_English_Business_Class_Students_Perceptions

Blackman, D. (2022). Conditioned suppression and the effects of classical conditioning on operant behavior. *Taylor and Francis.* Retrieved from https://www.taylorfrancis.com/chapters/edit/10.4324/9781003256670-13/conditioned-suppression-effects-classical-conditioning-operant-behavior-derek-blackman

Durga, M. S., Prasad, N., & Naraya, K. A. (2019). Strengths and weakness of online surveys. *IOSR Journal of Humanities and Social Sciences (IOSR-JHSS), 24,* 31-38. Retrieved from https://www.researchgate.net/publication/333207786_Strengths_and_Weakness_of_Online_Surveys

E-learning: global market size by segment. (2023). Retrieved from https://www.statista.com/statistics/1130331/e-learning-market-size-segment-worldwide/

Giatman, M., Siswati, S., & Basri, I. (2020a). Online learning quality control in the pandemic COVID-19 era in Indonesia. Retrieved from https://api.semanticscholar.org/CorpusID:229045801

Giatman, M., Siswati, S., & Basri, I. Y. (2020b). Online learning quality control in the pandemic COVID-19 era in Indonesia, 168-175. Retrieved from https://journal.unnes.ac.id/nju/index.php/jne

Heng, K., & Sol, K. (2020, December). Online learning during COVID-19: Key challenges and suggestions to enhance effectiveness.

Heng, K., & Sol, K. (2021). Online learning during COVID-19: Key challenges and suggestions to enhance effectiveness. *Cambodian Journal of Educational Research, 1,* 3-16. Retrieved from www.ijtes.net

Hyseni Duraku, Z., & Hoxha, L. (2020, April). The impact of COVID-19 on education and on the well-being of teachers, parents, and students: Challenges related to remote (online) learning and opportunities for advancing the quality of education.

Lie, A., Tamah, S. M., Gozali, I., Triwidayati, K. R., Utami, T. S. D., & Jemadi, F. (2020). Secondary school language teachers' online learning engagement during the COVID-19 pandemic in Indonesia. *Journal of Information Technology Education: Research, 19,* 803-832. https://doi.org/10.28945/4626

Mandasari, B. (2020). View of the impact of online learning toward students' academic performance on business correspondence course. *Edutec Journal of Education Technology, 4,* 1-13. Retrieved from http://ejournal.ijshs.org/index.php/edu/article/view/74/68

Pasquetto, I. V., Borgman, C. L., & Wofford, M. F. (2019, November 15). Uses and reuses of scientific data: The data creators' advantage. *Harvard Data Science Review, 1*(2). https://hdsr.mitpress.mit.edu/pub/jduhd7og

Rawashdeh, A. (2021). Advantages and disadvantages of using e-learning in university education: Analyzing students' perspectives. *19,* 107-117. Retrieved from www.ejel.org

Serhan, D. (2020, August). Transitioning from face-to-face to remote learning: Students' attitudes and perceptions of using Zoom during COVID-19 pandemic. *International Journal of Technology in Education and Science, 4,* 335-342. https://doi.org/10.46328/ijtes.v4i4.148

Shehzadi, S., Nisar, Q. A., Hussain, M. S., Basheer, M. F., Hameed, W. U., & Chaudhry, N. I. (2020). The role of digital learning toward students' satisfaction and university brand image at educational institutes of Pakistan: A post-effect of COVID-19. *Asian Education and Development Studies.* Retrieved from https://api.semanticscholar.org/CorpusID:225315482

Shirish, A., Chandra, S., & Srivastava, S. C. (2021). Switching to online learning during COVID-19: Theorizing the role of IT mindfulness and techno eustress for facilitating productivity and creativity in student learning. *International Journal of Information Management, 61,* 102394. https://doi.org/10.1016/j.ijinfomgt.2021.102394

Sukendro, S., Habibi, A., Khaeruddin, K., Syahruddin, S., Makadada, A., & Hakim, H. (2020). Using an extended technology acceptance model to understand students' use of e-learning during COVID-19: Indonesian sport science education context. Retrieved from https://doi.org/10.1016/j.heliyon.2020.e05410

Syauqi, K., Munadi, S., & Triyono, M. B. (2020). Students' perceptions toward vocational education on online learning during the COVID-19 pandemic. *International Journal of Evaluation and Research in Education, 9*, 881-886. Retrieved from https://api.semanticscholar.org/ Corpus ID: 225371616

Wiam Elshami, M. A. C. S. S. A. K., Mohamed H. Taha, & Abdalla, M. E. (2021). Satisfaction with online learning in the new normal: Perspective of students and faculty at medical and health sciences colleges. *Medical Education Online, 26*(1), 1920090. https://doi.org/10.1080/ 10872981. 2021.1920090

Yusuf, N. (2021). The effect of online tutoring applications on student learning outcomes during the COVID-19 pandemic. Retrieved from https://api.semanticscholar.org /CorpusID:236626645

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