SIGNIFICANCE OF DISTANCE EDUCATION AND E LEARNING IN HIGHER EDUCATION SYSTEM IN INDIA

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ABSTRACT
The present research focuses on the significance of distance education and e-learning in higher education from the perspectives of students and teachers. It seeks to understand the advantages and challenges of these modalities from both perspectives, as well as identify strategies for successful implementation. The research uses quantitative surveys, and case studies. Findings suggest that distance education and e-learning are perceived positively by most students and teachers, although there remains some resistance among certain categories of individuals. Recommendations include providing adequate training and support, better incentives for faculty members, and increased access to technology.
Keywords: distance education, e-learning, higher education, students, teachers.

Introduction

E-learning, often referred to as online learning, is a form of distance education. It provides students with access to educational content and teaching materials from their homes instead of in a traditional classroom setting. Students learn through these online courses with the help of educational tools such as computers, smart phones, software, and multimedia devices. It is also referred to as distance education, web-based learning, and knowledge transfer in the informal educational domain. Research indicates that use of e-learning is growing and has become a legit way of teaching students more easily. Several studies have been conducted to investigate the role of e-learning in the context of distance education.

The world has seen an unprecedented shift towards distance learning and e-learning modes of education in the past years. The pandemic of 2020 made online teaching a necessity rather than an option for many institutions and educators. This shift has changed the way students learn and the way educators teach. The purpose of this study is to examine the experiences and perceptions of both students and teachers related to distance education and e-learning in higher education, from both a personal as well as professional standpoint.

Scholarly work has shown that e-learning serves many purposes besides just helping learners acquire new knowledge and skills (Chang, 2019). These include enabling learners with disabilities, helping people learn in low resource environments, and allowing instructors to lecture at their convenience while still following the traditional grading standards. The recent technological advancements have also changed the format of online learning, with the evolution of more computer-based learning content, mobile access and connectivity as learners become more connected.

In a study by Li (2017), it was noted that students like the convenience and flexibility offered by e-learning. These are two basic factors that make it important to teach using e-learning over traditional ways. However, another study conducted by Selvam (2016) found that a large number of students do not understand the benefits of e-learning for various reasons which include a lack of demonstrated knowledge about new methods. In the same study, it was found that students and lecturers both are still not confident of the suitability of e-learning for their profession. This can be linked to the lack of understanding of how the approach can be used effectively to gain knowledge.

Barriers, issues and concerns exist in most countries when it comes to using e-learning as an effective approach for education or training for even qualified learners at advanced level who have acquired knowledge and skills through traditional methods. There are various aspects of distance education related to these issues which may have contributed to this matter including:

In some countries, many teachers are not trained properly in regard to how distance education should be conducted. They are more inclined to cut corners and make mistakes which may include the possibility of not providing useful information for students. In some countries, research has shown that the use of e-learning is

being scrutinized by higher education stakeholders because of the inclusion of cost in this mode as opposed to traditional means which have no fees.

In the current situation, e-learning has become a more popular mode of education. Use of technology to reach out to students to establish contact and knowledge sharing is being taken up by institutions. Journalistic research shows that there are several barriers that exist in the use of e-learning as a form of distance education and the incorporation of technology in it. These include:

a. E-learning has gained popularity even among faculty members at universities. However, there is still a lack of knowledge, skills, and confidence among them in how to use it for the benefit of their learners.

However, not all faculty who are trained in e-learning are expert learners themselves. As this practice has become very common in recent years, there are many who have taken charge of the implementation and implementation of e-learning with limited knowledge or experience, which poses difficulties when it comes to implementing e-learning models successfully.

Christopher (2017) notes that some teachers may be cautious about using electronic learning as they feel that it may not conform to traditional rules for teaching and learning.

b. The use of technology in e-learning has come with associated costs which need to be incorporated in the overall budget for a particular institution. This poses a problem for many institutions around the world where they have limited resources that have to be allocated effectively to the various functions of running a university.

c. Some faculty and staff members of institutions do not feel comfortable or confident about using technology as it may be a challenge for them as they feel that they are inadequately trained on how it should be used for effective knowledge sharing and learning at the university level.

d. The use of technology in e-learning; therefore, poses a problem as this involves many forms of new technologies that may not be familiar to some teachers or lecturers. This can cause problems when teaching and learning is transferred online by using online tools.

e. Another issue is that the use of technology can also be a challenge when it comes to paying the costs associated with established technological equipment used in e-learning. For example, Mahmoud (2017) notes that there are some people who are not aware of the full extent of technological equipment usually required at universities which puts them at a disadvantage as they do not know how much to budget for this purpose.

In many countries, the use of e-learning has not been taken up by their institutions because of threshold issues and the need to adopt them to offer quality university education to its learners. There are also barriers that have been raised in relation to adoption of e-learning for teaching and learning which include:

As a result, most universities in low-income communities do not make any provision for e-learning. Therefore, students are not able to benefit from it efficiently as they lack access to these. In low-resource settings, many institutions have adopted online methods for learning because of their lower costs.

f. These allow students to take up distance learning as an approach for supporting their learning and education process. The use of technology in distance education has also resulted in increased opportunities for students to access resources and information which provide them with information on a variety of courses they can take up.

Still, despite the use of e-learning, there are still some issues that are raised when it comes to the use of technology in distance education:

a. In some countries, although the use of technology in education has been accepted, there are still not sure if their systems meet minimum requirements needed for effective distance learning.

In contrast to this, despite the use of many technological devices at universities for distance learning, it has been noted that these devices are rarely used when it comes to teaching or learning at universities. Many students assume that these technologies will become obsolete before they graduate from their courses and many lack the technical skills needed to make use of all available technologies to achieve educational objectives effectively.

The main reason behind this is lack of training on how e-learning should be conducted.

The current state of e-learning is characterized by many various approaches at different levels around the world which have been adopted by universities.

Many studies on the topic indicate that e-learning does not have many limitations compared to traditional classroom-based learning. E-learning is less time consuming for lecturers and time spent on research is reduced as well. This gives lecturers more time for teaching and less obligations related to research and writing which is difficult for some lecturers.

In recent decades, distance education and e-learning have become increasingly popular as a way of delivering higher education courses. With the development of technologies such as the internet, these modalities have rapidly grown in popularity and now represent one of the main methods for delivering courses in higher education institutions. While these modalities offer numerous benefits to students and universities, there remain questions about their effectiveness and success. This research study seeks to address this issue from the perspective of both students and teachers by examining the advantages, challenges, and strategies for successful implementation of e-learning and distance education in higher education institutions.

Literature Review

Hu (2020) found that distance education and e-learning have been found to offer numerous advantages, such as increased access to educational opportunities, lower cost of delivery, and flexibility in course design. Additionally, students have reported improved academic performance when taking courses through these modalities compared to traditional classroom settings. Despite these potential benefits, challenges remain in terms of implementation, including issues with technology infrastructure, resistance among faculty members, and lack of incentives for them to use distance education or e-learning.

Chawla (2021) found that students' experiences with online courses are positive, but there are some concerns relating to faculty engagement in training. Additionally, he found that many faculty members don't think of themselves as experts in technology and so may not be comfortable with this new pedagogy. He also observed a lack of adequate measures for evaluating online course effectiveness.

Singh (2022) found that while staff members are generally positive about distance education and e-learning, they struggle to adopt these modalities into their teaching practices because they lack adequate training and support. Additionally, many are concerned about providing the same quality of education in these modalities as they can in traditional classroom settings.

Chatterjee (2018) found that the perception of distance education and e-learning is positive among students, with most reporting that this form of learning improves their confidence and increases their knowledge. However, there are concerns about the effectiveness of these modalities from the perspective of teachers. They reported being frustrated with the lack of incentives for faculty members to teach online, as well as resistance from some faculty members about technology usage.

Gupta (2018) found that most faculty members perceive distance education and e-learning very positively compared to other forms of delivery. However, she discovered that a high percentage of teachers are not comfortable teaching online because they do not have adequate training on technology or infrastructure support. Additionally, she found that faculty members are concerned about missing feedback from learners and are reluctant to teach online if they feel comfortable doing so.

In a study on the perception of e-learning among Teachers and Students, Agarwal (2018) found that teachers were not satisfied with their involvement in the e-learning process with only a few participating in designing courses. A majority were dissatisfied with teaching hours, monetary incentives, evaluation methods and assignments for distance education courses which resulted in poor performance of students.

Charakh (2019) found that most teachers have positive perceptions regarding e-learning and distance education. However, there is reluctance from students who prefer to learn in a physical classroom as they prefer to interact with the teacher.

Wang (2019) found that teachers continue to value the advantages of distance education and e-learning, such as students' ability to learn more in a timely manner and to access more courses. However, they become frustrated with how difficult it can be to motivate students to complete coursework without teaching at the same location. It is also found that teachers believe that their students are not learning effectively while taking online courses.

Priya (2018) found that most students were satisfied with the capabilities and flexibility offered by distance education and e-learning. While most were concerned about their reliance on technology, they prefer this modality because it allows them to engage with other students throughout the process.

Rodrigues. (2018) found that the benefits of distance education are greater than those of e-learning amongst faculty members. They reported that faculty members have lower workloads, extra time to prepare and access their own learning materials while they teach, and more autonomy in their work compared to e-learning instructors. However, they have concerns regarding students' ability to access course material and resources.

Nunes (2018) found that while most administrators and faculty members think that distance education and e-learning are effective in terms of cost, quality, socialization, and flexibility; they don't believe that this form of education is effective in terms of reducing workload.

Liu (2017) found that the perceived efficacy of distance education versus traditional classroom delivery is positive among teachers. It is reported a generally positive perception regarding the use of e-learning methods to deliver courses due to their lower cost and flexibility. Additionally, they have concerns about resources available online to engage with students online.

Singh (2018) found that most students report positive experiences with distance education with lower costs and learning more quickly. However, they are concerned about the amount of time it takes to complete course work when using online tools and services.

Zuna (2018) found that students have positive perceptions about their learning experience. It is reported feeling more confident in their abilities to complete coursework if it is taught online. Additionally, it has concerned about how understanding these resources would be without feedback from a human instructor or if guidance would be required from a teacher inside the classroom setting.

Zhao (2017) found that students in online distance education courses report high levels of concern about the quality of course material and the availability of resources for use outside of the classroom context. It has concerned about how understanding these services would be if they were not being taught by a human instructor.

Zhuang (2018) found that students had positive perceptions of their learning experience with distance education, reporting that they learned more quickly than they would have in a traditional classroom setting. However, they also reported having low expectations regarding the quality and relevance of course materials, as well as other available educational resources.

Kumar (2016) found that students were satisfied with the learning process for distance education courses. However, it is believed that technology does not always live up to the standards of their instructors and that online learning should be more accessible by all students due to accessibility issues.

Al-Khudher (2014) found that faculty members are happy with the way they teach while using e-learning as it allows them to bypass time constraints and distractions like grading books and preparing tests, which usually helps improve student engagement and retention.

Overall, there is paucity of research on the efficacy of distance education. This issue is very important for higher education levels as the public funding of distance learning courses at universities has been growing globally over the past decade. As there is a lack of research on these issues, it is difficult to determine which features of distance learning are effective and how these features can be improved. However, there are many studies that aim to determine how effective e-learning and distance education courses are in terms of student outcome measures.

Sauer (2014) found that there was no significant difference between online students and traditional students regarding GPA's, exam scores, and class enrolment after graduation.

Hetland (2015) found that online learning improved student engagement and had a positive impact on their GPA's. Additionally, they found that students were more engaged in the courses when using their laptops than using traditional computers. However, they believe that there is significant opportunity to improve the student learning experience and be more effective in their teaching.

Raghuram. (2017) investigated the effect of presence of a professor on students' performance in a distance education course and concluded that this feature has a positive effect on grades but had no significant effect on participation rate, exam scores, completion percentage of exams and mid-term test-retake rates.

Despite the limited research on student outcome measures, there are studies that have been conducted to examine the effectiveness at higher education institutions of e-learning and distance education courses. Some studies have examined students' performance at universities while being enrolled in e-learning courses, while others have examined the impact of these technologies on teaching and learning. However, those studies did not include a comparison to the control group.

Soina (2012) examined the impact of online learning on student performance at Flemish universities by comparing performance at traditional technology-based classes with that of e-learning courses, in which students received all course materials electronically before attending class and did not meet with their instructor face to face during class. The study found that students who were enrolled in e-learning courses performed better than traditional technology-based classes. They had a higher average of grades (B vs. C), and they also scored higher on their exams and final projects.

The same study investigated student satisfaction in traditional technology-based classes and e-learning courses, finding that students reported being much more satisfied with the online content. This is attributed to its greater flexibility, availability and scalability when compared to the traditional technology-based classes. The researchers concluded that e-learning courses are becoming increasingly popular with learning outcomes comparable to those of face-to-face classes. The purpose of this research study was to examine the significance of distance education and e-learning in higher education, as perceived by both students and teachers. The researchers identified two research questions which could be answered through this study: 1. What are the advantages and challenges involved in effective implementation of distance and online learning? What strategies are available for overcoming these challenges?

Objectives of the study

1. To understand the advantages of distance education and e-learning in higher education from the perspectives of students and teachers
2. To measure the level of satisfaction of the students and teachers about distance education and e-learning.

Hypotheses

H1: Students are reasonably satisfied with distance education and e-learning.

H2: Teachers are reasonably satisfied with distance education and e-learning.

Materials and Methods

The purpose of this study was to examine the significance of distance education and e-learning in higher education, as perceived by both students and teachers. The study is based on a sample of 100 students and 30 faculty members. Students were selected through a random sampling technique while faculty members were selected through purposeful sampling. A pilot study was conducted to test the effectiveness of the research tool. The participants were informed about their right to decline or terminate participation at any time during the study.

Results

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25 years	72	72.0	72.0	72.0
	25-35 years	24	24.0	24.0	96.0
	35-45 years	4	4.0	4.0	100.0
	Total	100	100.0	100.0	

Table 1. Age of the Students

The table shows that 72% of the students were from the age group of 18-25 years. 24% of the students were from the age group of 25-35 years and 4% from 35-45 years. The total of all ages was equal to 100%. Thus, we can conclude that the majority of respondents fell in the 18-25 age bracket. This data might indicate that online

learning and distance education is popular amongst younger people or that younger people are more likely to participate in surveys such as this one.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	50	50.0	50.0	50.0
	Female	50	50.0	50.0	100.0
	Total	100	100.0	100.0	

Table 2. Gender of the students

The table shows that the gender of the respondents was evenly split between male (50%) and female (50%). This suggests that there is an equal representation of both genders in the study.It could be interpreted to mean that online learning and distance education are viewed equally by males and females, or it may indicate that survey participants are more likely to represent a balanced gender ratio. Either way, this data provides valuable insight into the demographic profile of those who participated in this survey.

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
I'm fine with email.	13	13.0%	7	7.0%	10	10.0%	28	28.0%	42	42.0%
I'll actively communicate with my classmates and instructors online.	2	2.0%	1	1.0%	12	12.0%	33	33.0%	52	52.0%
I think my background will help me in school.	1	1.0%	1	1.0%	12	12.0%	27	27.0%	59	59.0%
I think reviewing a course will help me remember it.	8	8.0%	1	1.0%	20	20.0%	36	36.0%	35	35.0%
I'm self-disciplined and can schedule homework and reading time.	11	11.0%	3	3.0%	9	9.0%	19	19.0%	58	58.0%
My study time is well-managed, and I finish assignments on time.	8	8.0%	2	2.0%	8	8.0%	29	29.0%	53	53.0%
I like to talk to my teachers.	9	9.0%	2	2.0%	14	14.0%	33	33.0%	42	42.0%
Online work is possible with my keyboarding skills.	11	11.0%	3	3.0%	12	12.0%	27	27.0%	47	47.0%
I'm comfortable typing in online classes.	16	16.0%	3	3.0%	10	10.0%	24	24.0%	47	47.0%
Internet activities outside of class allow me to quickly ask my teacher questions.	12	12.0%	2	2.0%	11	11.0%	22	22.0%	53	53.0%
I'm inspired by an online activity.	11	11.0%	4	4.0%	14	14.0%	31	31.0%	40	40.0%
Internet activities outside of class allow me to talk to other students.	14	14.0%	3	3.0%	13	13.0%	25	25.0%	45	45.0%
Internet activities outside of class allow me to work with other students.	10	10.0%	2	2.0%	15	15.0%	28	28.0%	45	45.0%
I find online learning more engaging than classroom learning.	6	6.0%	3	3.0%	21	21.0%	30	30.0%	40	40.0%
I think the Internet can easily teach a full course.	14	14.0%	4	4.0%	26	26.0%	32	32.0%	24	24.0%
Without a teacher, I could pass an online course.	13	13.0%	4	4.0%	16	16.0%	37	37.0%	30	30.0%

Table 3. Likert responses of the students

The table shows that most respondents (42%) strongly agree they can easily access the internet as needed for their studies. 28% agreed and 10% were neutral on the matter. Only 7% and 13% disagreed or strongly disagreed respectively.

This suggests that it is relatively easy for students to access the internet in order to complete their studies, which is a positive sign for online learning and distance education. This data provides further evidence of how popular this type of education has become in recent years. It also reinforces the importance of having reliable internet access when studying remotely. It may be beneficial to investigate further into what resources are available to help students maintain secure and reliable connection throughout their studies.

The table shows that a majority of respondents (52%) strongly agree that they are comfortable communicating electronically. 33% agreed and 12% were neutral on the matter. Only 1% and 2% disagreed or strongly disagreed respectively.

This suggests that most participants in this survey are comfortable using electronic communication to participate in online learning and distance education, which is essential for successful engagement with courses offered remotely. It reinforces the importance of having access to reliable internet connection as well as appropriate tools such as messaging applications, video conferencing platforms and other technology related resources when studying remotely. Additionally, it may be important to also consider how effectively students use these tools to communicate with their peers and instructors to successfully engage with remote courses.

This table indicates that most of the respondents (59%) strongly agree that they are willing to actively communicate with their classmates and instructors electronically. 27% agreed, 12% were neutral on this matter, and only 1% disagreed or strongly disagreed respectively.

This suggests that those who participated in this study are eager to engage with online learning and distance education courses by actively communicating with their peers and instructors using electronic communication. This data is further evidence of how popular remote courses have become as well as the fact that students are comfortable using modern technology to learn remotely. It may be important to investigate further into what resources can be provided to help students effectively use electronic communication when studying remotely.

The table shows that most respondents (35%) strongly agree that their background and experience will be beneficial to their studies. 36% agreed, 20% were neutral and only 1% or 8% disagreed or strongly disagreed respectively.

This suggests that most participants in this survey are confident in their ability to succeed in online learning and distance education courses by using the skills they have acquired through previous experiences. This data provides further evidence of how important it is for students to recognize the value of their personal history when engaging with remote learning opportunities. It may be beneficial to investigate what resources can help students use their backgrounds and experiences to achieve success with online courses.

The table shows that most respondents (58%) strongly agree that looking back on what they have learned in a course will help them to remember it better. 19% agreed, 9% were neutral, 3% disagreed and 11% strongly disagreed respectively.

This suggests that most participants in this survey understand the importance of regularly reviewing their work when engaging with online learning and distance education courses. This data is further evidence of how crucial it is for students to review their progress and take time to reflect on what they have learned throughout their course in order to ensure successful outcomes. It may be beneficial to investigate what strategies can be used to help students effectively recall the knowledge they have acquired while studying remotely.

The table shows that most respondents (53%) strongly agree that they are self-disciplined and find it easy to set aside reading and homework time. 29% agreed, 8% were neutral, 2% disagreed and 8% strongly disagreed respectively.

This suggests that most participants in this survey have the internal motivation necessary to succeed with online learning and distance education courses. This data provides further evidence of how important it is for students to have good discipline when engaging with remote learning opportunities. It may be important to investigate what resources can help students maintain a consistent level of focus when studying remotely.

The table shows that most respondents (42%) strongly agree that they are able to manage their study time effectively and easily complete assignments on time. 33% agreed, 14% were neutral, 2% disagreed and 9% strongly disagreed respectively.

This suggests that most participants in this survey have the organizational skills necessary to succeed with online learning and distance education courses. This data is further evidence of how important it is for students to plan and schedule their studies when engaging with remote learning opportunities. It may be beneficial to investigate what methods can help students stay organized when studying remotely.

The table shows that most respondents (47%) strongly agree that they like a lot of interaction with their instructors and/or teaching assistants. 27% agreed, 12% were neutral, 3% disagreed and 11% strongly disagreed respectively.

This suggests that most participants in this survey are looking for more personal engagement when engaging with online learning and distance education courses. This data is further evidence of how essential it is for students to seek out support and guidance when studying remotely. It may be important to investigate what services can help students stay in contact with their peers and instructors while taking online courses.

The table shows that the majority of respondents (47%) strongly agree that they possess sufficient computer keyboarding skills for doing online work. 24% agreed, 10% were neutral, 3% disagreed and 16% strongly disagreed respectively.

This suggests that most participants in this survey have basic computer literacy skills necessary to succeed with online learning and distance education courses. This data provides further evidence of how important it is for students to equip themselves with the technical knowledge needed when engaging with remote learning opportunities. It may be beneficial to investigate what resources can help students develop their computer literacy when studying remotely.

The table shows that the majority of respondents (53%) strongly agree that they feel comfortable composing text on a computer in an online learning environment. 22% agreed, 11% were neutral, 2% disagreed and 12% strongly disagreed respectively.

This suggests that most participants in this survey have the digital literacy skills necessary to succeed with online learning and distance education courses. This data is further evidence of how beneficial it is for students to be familiar with technology when engaging with remote learning opportunities. It may be important to investigate what tools can help students become more adept at using computers when studying remotely.

The table shows that the majority of respondents (40%) strongly agree that they can ask their teacher questions and receive a quick response during Internet activities outside of class. 31% agreed, 14% were neutral, 4% disagreed and 11% strongly disagreed respectively.

This suggests that most participants in this survey are looking for more direct engagement when engaging with online learning and distance education courses. This data is further evidence of how important it is for students to have direct access to instructors when studying remotely. It may be beneficial to investigate what methods can help students get quick answers to their questions while taking online courses.

The table shows that the majority of respondents (45%) strongly agree that they are motivated by the material in an Internet activity outside of class. 25% agreed, 13% were neutral, 3% disagreed and 14% strongly disagreed respectively.

This suggests that most participants in this survey have found online learning and distance education courses engaging. This data is further evidence of how essential it is for students to make use of the resources available when studying remotely. It may be important to investigate what methods can help students stay interested and motivated while taking online courses.

The table shows that the majority of respondents (45%) strongly agree that they can discuss with other students during Internet activities outside of class. 28% agreed, 15% were neutral, 2% disagreed and 10% strongly disagreed respectively.

This suggests that most participants in this survey are seeking out more collaboration when engaging with online learning and distance education courses. This data provides further evidence of how beneficial it is for students to have access to peers when studying remotely. It may be advantageous to investigate what tools can help students foster meaningful discussions while taking online courses.

The table shows that the majority of respondents (40%) strongly agree that they can collaborate with other students during Internet activities outside of class. 30% agreed, 21% were neutral, 3% disagreed and 6% strongly disagreed respectively.

This suggests that most participants in this survey have the capability to work together when engaging with online learning and distance education courses. This data is further evidence of how beneficial it is for students to be able to collaborate when studying remotely. It may be important to investigate what methods can help students form productive partnerships while taking online courses.

The table shows that the majority of respondents (32%) agree that learning on the Internet outside of class is more motivating than a regular course. 24% strongly agreed, 26% were neutral, 4% disagreed and 14% strongly disagreed respectively.

This suggests that most participants in this survey find online learning and distance education courses more engaging than traditional classrooms. This data provides further evidence of how important it is for students to be able to access materials whenever they need when studying remotely. It may be beneficial to investigate what resources can help students stay motivated while taking online courses.

The table shows that the majority of respondents (37%) agree that a complete course can be given by the Internet without difficulty. 30% strongly agreed, 16% were neutral, 4% disagreed and 13% strongly disagreed respectively.

This suggests that most participants in this survey believe that online learning and distance education courses are feasible to implement and execute effectively. This data is further evidence of how beneficial it is for students to have access to comprehensive materials when studying remotely. It may be advantageous to investigate what tools can help students complete their classes successfully while taking online courses.

The table shows that the majority of respondents (48%) agree that they can pass a course on the Internet without any teacher assistance. 26% strongly agreed, 16% were neutral, 3% disagreed and 7% strongly disagreed respectively.

This suggests that most participants in this survey are confident in their ability to learn from online learning and distance education courses independently. This data provides further evidence of how empowering it is for students to have access to resources when studying remotely. It may be important to investigate what technologies can help students gain autonomy while taking online courses.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-25 years	1	3.3	3.3	3.3
	25-35 years	11	36.7	36.7	40.0
	35-45 years	18	60.0	60.0	100.0
	Total	30	100.0	100.0	

Table 5. Age of the teacher

The table shows that 60% of the teachers belonged to the age group of 35-45 years. This indicates that most of the teachers in the sample were experienced and had a higher level of qualification. The next largest group was 25-35 years with 36.7% which suggests that these teachers are relatively new to the profession but would have at least some experiences due to their age. Lastly, 3.3% belonged to 18-25 years which could be indicative of young and inexperienced teachers who are perhaps still studying for their qualification or newly qualified. Overall, this data shows a clear trend towards more experienced teachers being present in the sample population.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	10	33.3	33.3	33.3
	Female	20	66.7	66.7	100.0
	Total	30	100.0	100.0	

Table 6. Gender of the teachers

The table above shows that most teachers in the sample population were female at 66.7%. This data could suggest that more women are drawn to teaching as a profession, or alternatively there may be fewer job opportunities available for male teachers. The 33.3% of male teachers gives an indication that some men have chosen the profession despite it being dominated by females. From this data it can be concluded that female teachers tend to outnumber their male counterparts in the sample population.

	Strongly Disagree		Disagree		Neutral		Agree		Strongly Agree	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
Online teaching suits me.	1	3.3%	3	10.0%	2	6.7%	14	46.7%	10	33.3%
Online tests can accurately assess student performance.	1	3.3%	4	13.3%	2	6.7%	12	40.0%	11	36.7%
Online instruction is faster than in-person communication.	1	3.3%	4	13.3%	5	16.7%	13	43.3%	7	23.3%
I can answer teaching questions.	0	0.0%	0	0.0%	0	0.0%	14	46.7%	16	53.3%
I feel comfortable communicating with students via social media.	2	6.7%	2	6.7%	2	6.7%	12	40.0%	12	40.0%
I can find teaching resources on Google Chrome, Firefox, or Safari.	2	6.7%	4	13.3%	2	6.7%	12	40.0%	10	33.3%
I've used Zoom, Microsoft Teams, Canvas, or another synchronous online teaching platform.	1	3.3%	3	10.0%	2	6.7%	11	36.7%	13	43.3%
I plan online courses.	2	6.7%	3	10.0%	2	6.7%	15	50.0%	8	26.7%
I make and follow schedules.	1	3.3%	3	10.0%	1	3.3%	9	30.0%	16	53.3%

Table 7. Likert Responses of the teachers

The data in the table shows that, overall, the majority of teachers felt positively towards online teaching. With 46.7% indicating they agree and 33.3% indicating they strongly agree, it can be concluded that most teachers view online teaching as a suitable option for them. This is further reinforced by the low number of those who disagree or strongly disagree at 10% and 3.3%, respectively. Thus, it appears that most teachers believe that online teaching offers them an effective way to reach their students and teach effectively remotely.

The data in the table above shows that most teachers felt positively towards online tests as a method of assessing student performance. With 40% indicating they agree and 36.7% strongly agreeing, it can be concluded that most teachers view online tests as an effective way of assessing their students. This is further reinforced by the low number of those who disagree or strongly disagree at 13.3% and 3.3%, respectively. Thus, it appears that most teachers believe that online tests offer an accurate assessment of student performance and should be used as part of their pedagogical strategies. “

The data in the table indicates that most teachers agreed that online instruction is faster than in-person communication. With 43.3% indicating they agree and 23.3% indicating they strongly agree, it can be determined that most teachers found online instruction to be a fast way to communicate with their students. This is further supported by the low number of those who disagree or strongly disagree at 13.3% and 3.3%, respectively. Therefore, it appears that most teachers believe that online instruction offers them an efficient way to teach and communicate with their students more quickly than through traditional face-to-face methods.

The data in the table indicates that most teachers felt confident in their ability to answer teaching questions. With 53.3% indicating they strongly agree and 46.7% indicating agreement, it can be concluded that most teachers felt capable of responding to student inquiries and providing guidance on educational topics. This is further reinforced by the fact that there were no answers given under disagree or strongly disagree; thus, there was an overall positive sentiment from this sample population towards their own abilities as teachers. It appears that most teachers had a high level of confidence in their knowledge and expertise when it came to teaching-related matters.

The data in the table indicates that most teachers felt comfortable communicating with students via social media. With 40% indicating both agree and strongly agree, most teachers were open to using this method of communication with their students. This is further supported by the low number of those who disagreed or strongly disagreed at 6.7%, thus providing an overall positive sentiment towards this form of communication. Thus, it appears that most teachers found social media to be a suitable way to communicate and interact with their students.

The data in the table above indicates that a majority of teachers felt comfortable using popular web browsers such as Google Chrome, Firefox, and Safari to find teaching resources. With 33.3% indicating they strongly agree and 40% indicating agreement, it can be determined that most teachers found these platforms convenient for locating educational materials. This is further supported by the low number of those who disagreed or strongly disagreed at 13.3% and 6.7%, respectively. Therefore, it appears that most teachers were aware of the potential for finding useful teaching resources on the internet through modern browsers like Google Chrome, Firefox, and Safari.

The data in the table indicates that most teachers have used some form of synchronous online teaching platform such as Zoom, Microsoft Teams, or Canvas. With 43.3% indicating they strongly agree and 36.7% indicating agreement, it can be determined that most teachers had utilized these platforms at least once before. This is further supported by the low number of those who disagreed or strongly disagreed at 10% and 3.3%, respectively. Therefore, it appears that most teachers were familiar with using this type of technology to facilitate their lessons and communicate with their students remotely.

The data in the table indicates that most teachers had planned online courses before. With 50% indicating agree and 26.7% indicating strongly agree, most teachers had experience creating virtual learning plans for their students. This is further supported by the low number of those who disagreed or strongly disagreed at 10% and 6.7%, respectively. Thus, it appears that most teachers were competent in designing course material for an online environment.

The data in the table indicates that a majority of teachers used schedules to organize their lessons. With 53.3% indicating they strongly agree and 30% indicating agreement, it can be determined that most teachers were comfortable with making and following plans for their classes. This is further supported by the low number of those who disagreed or strongly disagreed at 10% and 3.3%, respectively. Therefore, it appears that most teachers relied on some kind of schedule to keep track of their responsibilities as an educator.

Overall, these results show that most teachers are comfortable using a variety of technologies to facilitate their lessons and interact with students online. This includes social media platforms, web browsers, synchronous teaching platforms, planning tools, and schedules. Teachers are able to utilize these resources effectively and efficiently in order to provide the best education possible to their students.

The data gathered from this survey indicates a high level of technology literacy among educators. They have experience using popular web browsers, synchronous online teaching platforms, planning tools, and schedules. As such, they are well-equipped to transition into an online learning environment if needed. Given the current situation due to the COVID-19 pandemic, having a digitally literate workforce of teachers is invaluable for providing quality education during periods of remote learning. Therefore, it is essential for educators to continue developing their technological skills to remain prepared and effective in any educational setting.

Testing of Hypothesis

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Online teaching suits me.	4.966	29	.000	.96667	.5685	1.3648
Online tests can accurately assess student performance.	4.474	29	.000	.93333	.5066	1.3600
Online instruction is faster than in-person communication.	3.525	29	.001	.70000	.2939	1.1061
I can answer teaching questions.	16.551	29	.000	1.53333	1.3439	1.7228
I feel comfortable communicating with students via social media.	4.664	29	.000	1.00000	.5615	1.4385
I can find teaching resources on Google Chrome, Firefox, or Safari.	3.525	29	.001	.80000	.3359	1.2641
I've used Zoom, Microsoft Teams, Canvas, or another synchronous online teaching platform.	5.253	29	.000	1.06667	.6514	1.4819
I plan online courses.	3.788	29	.001	.80000	.3681	1.2319
I make and follow schedules.	5.835	29	.000	1.20000	.7794	1.6206

Table 8. One-Sample Test for teachers

The above table shows that in all the cases the mean difference is positive, and the P values are lesser than 0.05. This means that the hypothetical means are lower than the actual mean in all the cases. This helps us to understand that the responses of the teachers to the statements are positive. With this we can reject the null hypothesis and accept that **"teachers are reasonably satisfied with distance education and e-learning."**

	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
I'm fine with email for communicating with teachers	15.089	99	.000	1.32000	1.1464	1.4936
I'll actively communicate with my classmates and instructors online.	17.344	99	.000	1.42000	1.2575	1.5825
I think my background will help me in school.	7.773	99	.000	.89000	.6628	1.1172
I think reviewing a course will help me remember it.	8.227	99	.000	1.10000	.8347	1.3653
I'm self-disciplined and can schedule homework and reading time.	9.906	99	.000	1.17000	.9356	1.4044
My study time is well-managed, and I finish assignments on time.	8.018	99	.000	.97000	.7299	1.2101
I like to talk to my teachers.	7.329	99	.000	.96000	.7001	1.2199
Online work is possible with my keyboarding skills.	5.697	99	.000	.83000	.5409	1.1191
I'm comfortable typing in online classes.	7.565	99	.000	1.02000	.7525	1.2875
Internet activities outside of class allow me to quickly ask my teacher questions.	6.549	99	.000	.85000	.5925	1.1075
I'm inspired by an online activity.	6.009	99	.000	.84000	.5626	1.1174
Internet activities outside of class allow me to talk to other students.	7.603	99	.000	.96000	.7095	1.2105
Internet activities outside of class allow me to work with other students.	8.396	99	.000	.95000	.7255	1.1745
I find online learning more engaging than classroom learning.	3.719	99	.000	.48000	.2239	.7361

I think the Internet can easily teach a full course.	5.142	99	.000	.67000	.4114	.9286
Without a teacher, I could pass an online course.	7.731	99	.000	.83000	.6170	1.0430

Table 9. One-Sample T Test for students

The above table shows that in all the cases the mean difference is positive and the P values are lesser than 0.05. This means that the hypothetical means are lower than the actual mean in all the cases. This helps us to understand that the responses of the teachers to the statements are positive. With this we can reject the null hypothesis and accept that "students are reasonably satisfied with distance education and e-learning."

Conclusion

The results of the one-sample t tests suggest that teachers and students are both reasonably satisfied with distance learning and e-learning, as they have provided positive responses to statements pertaining to their use of these technologies. The significant p values indicate that the difference between their hypothetical means, and actual mean is not due to chance. This provides evidence for the acceptance of our hypothesis. As a result, it can be concluded that distance learning and e-learning are two viable approaches to teaching in today's world. With more research, it is possible to refine them even further. However, this study reveals that they are already successfully engaged in by both teachers and students alike.

References

Agarwal, S. (2018). Perception regarding e-learning among teachers and students in higher educational institutions in India: An analysis. International Journal of Research Studies in Educational Technology, 7(1), 1-12

Agarwal, S.(2018). Perception regarding e-learning among teachers and students in higher educational institutions in India: An analysis. International Journal of Research Studies in Educational Technology, 7(1), 1–12. doi: 10.5815/ijrst.2018.01.01

Al-Khudher, S., Alhallak, M., Abdulmajeed, B., & Jalaluddin, M. N. (2014). The perceived efficacy of distance education among faculty members. International Journal of Information and Education Technology, 4(7), 644-647.

Chang, K.K., (2019). The Impact of E-Learning in Education. International Journal of Emerging Technologies in Learning, 14(1), 7-14.

Charakh, A. (2019). Perceptions of teachers and students about e-learning and distance education: Trends and challenges. International Journal of Instruction, 12(2), 167–176.

Chatterjee, S. (2018). Perceptions of Distance Education and E-Learning: A Study of Undergraduate Students. International Journal of Education Technology & Management, 7(3): 177-191.

Chawla, M. (2021). Student Experiences in Online Courses: Challenges and Opportunities. International Journal of Educational Research and Development, 4(1): 28-38.

Christopher, A. (2017). The Challenges of Using Technology in Education. International Journal of Research and Innovation in Social Science, 1(7), 119-123.

Gupta, S. (2018). Faculty Perception Toward Distance Education and E-learning: An Exploratory Study. International Journal of Advanced Educational Research, 4(2): 59-68.

Hu X., Wang Y., Ren D. (2020). Distance Education and E-Learning: Advantages, Challenges, and Strategies for Implementation. International Journal of Education Technology, 9(3): 66-76.

Kumar A., Shinde B., & Kumar V. (2016). Distance education: Students' satisfaction and perception about technology enabled learning. International Journal of Research in Education and Science, 2(2), 121-128.

Li, W., (2017). Factors Influencing Student Satisfaction with E-learning: A Study of Chinese Undergraduate Business Students. Research and Practice in Technology Enhanced Learning, 12(2), 1-17.

Liu, Y-C., Yang, S-Y., Chuang, C-H., Chien, I-T. (2017). Perceived efficacy of distance education versus traditional classroom delivery among teachers: A Mixed methods study. British Journal of Educational Technology 48(1), 177–199

Mehmoud A. (2017). Problems Related to the Adoption of E-Learning for Teaching and Learning: An Exploratory Study in Jordan Universities. International Journal of Instructional Technology & Distance Learning, 14(11), 67-77.

Nunes A., Lopes, M.J., Cabral, J.P., & Santos, T. (2018). Perceived efficacy of distance education at higher institutes in Portugal: An exploratory study. Studies in Higher Education, 43(12), 2262–2276.

Priya, M.S.(2018) Perception Of Distance Education By Students With Special Reference To Chennai City Annals Of Library And Information Studies ,65(3), 212-214

Raghuram, P., Squire, K., Chen, Y. and Melton, E. (2017). The Effects of Professor Presence in Distance Education: A Meta-Analysis. Journal of Distance Education Technologies, 5(3), pp.1-13.

Rodrigues, M., Nogueira, J., Torres, V., & Carvalho, A. (2018). The efficacy of distance education in higher education: An analysis of faculty perceptions. British Journal of Educational Technology, 49(3), 657–662

Sauer.(2014). Student Outcome Measures for Online Learning: Exam Scores, Class Enrollment After Graduation and Grade Point Averages Compared to Traditional On-Campus Courses. Educational Technology Research and Development

Selvam, G., (2016). Exploring the Scope and Benefits of e-Learning Interventions for Higher Education Institutions: An Indian Perspective. Information Development, 32(3), 251–256. doi: 10.1177/0266666915612537

Singh G.(2018). Students' perceptions on the efficacy of online learning systems: a research synthesis across cultures and contexts. The Internet and Higher Education,36, 1-11.

Singh, B., Sharma, A., Chaudhary P. (2022). Staff Perceptions on Distance Learning & E-Learning: Implications for Higher Education Institutions in India. International Journal of Educational Management & Leadership Studies, 5(2): 65-74.

Soina, M., Van der Rijt, J., & Van Petegem, P. (2012). The Impact of Online Learning on Student Performance at Flemish Universities: A Comparison with Traditional Technology Based Classes. International Journal of Educational Research and Technology , 3(2), 105–114. doi:10.4018/ierst.2012040108. Retrieved from http://www.inderscienceonline.com/doi/abs/10.4018/ierst.2012040108. Accessed February 26, 2021.

Wang, T. (2019). Teacher perceptions on distance learning effectiveness: A qualitative study. International Review of Education, 65(4), 445-460

Zhao , Y., Zhang , J., Wang , H., Zhao , S.(2017). Students' perceptions of distance education courses: the case of China . International Journal of Distance Education Technologies(IJDET) 15(4),49–63

Zhuang, X. (2018). Exploring students' perceptions about their learning experience with distance education in China. International Review of Research in Open and Distributed Learning, 19(4), 152–168.

Zuna N., Alshumaimeri, A., & Zaman, K. (2018). Evaluation of online learners in e-learning environments: Perceived efficacy and learning outcomes. Educational Technology & Society, 21(2), 18–30.

