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Article

E-learning and campus recruitment: Transforming arts and science students amid Covid-19

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Abstract: The COVID-19 pandemic has fundamentally transformed the global education landscape, compelling institutions to adopt e-learning as an essential tool to sustain academic activities. This research examines the critical impact of e-learning on arts and science college students in Coimbatore, with an emphasis on its influence on their readiness for campus recruitment. Using a survey of 300 students, this study investigates their perceptions of online education, highlighting both its advantages, such as flexibility and accessibility, and its challenges, including engagement barriers and technical limitations. Data was collected through structured questionnaires and analyzed using statistical methods to draw meaningful insights. The research also explores the efficacy of online assessments in recruitment processes and assesses students' awareness of available e-learning platforms and courses. The urgency of this study lies in addressing the pressing need to optimize digital education models as institutions globally transition toward blended learning post-pandemic. The findings underline the dual potential and limitations of e-learning, concluding with actionable recommendations to enhance its effectiveness, particularly in preparing students for competitive employment opportunities.

Keywords: e-learning; COVID-19; higher education; online assessment; digital education; student perceptions; educational challenges

1. Introduction

India is the world's second most populous country. The Indian government's digital initiatives in general and the COVID-19 lockdown in particular, had resulted in a massive shift toward online learning or e-learning. Education and training have been demonstrated within a triangle of school-teacher-student for thousands of years. Still, with the advent of technologies in the new education system, completely multidimensional, multi-channel alternatives have now been utilized in the fullest form. "E-learning" is one of them, and it refers to distance learning that takes place online. The term encompasses comprehensive professional online courses, Massive Open Online Courses, and the supplementation of traditional classroom learning with online content diffusion and communication, known as the flipped classroom or blended mode (Shehzadi, 2020).

During school and college closures caused by COVID-19, UNESCO recommended distance learning programs and open educational applications that

schools, colleges, and teachers could use to teach their students and limit the interruption of education. As a result, many institutes opted for online classes, according to Shehzadi (2020). The E-learning framework is increasingly used as a versatile platform for learning and teaching processes (Salloum and Shaalan, 2018). E-learning is a new online learning paradigm based on information technology (Moore et al., 2011). Academics, educators, and other practitioners are eager to learn how e-learning can improve outcomes and academic achievements compared to traditional learning. The most recent advancements in learning sciences and technologies enable the creation of well designed, student-interacting, participatory, cost-effective, productive, readily available, adaptable, and meaningful online spaces that are distributed and facilitated to every corner of the world (Peled, 2000). Every teacher is currently prepared to work in such an environment. A teacher is no longer regarded as a transmitter of knowledge or proportions of wisdom but as a specialist, mentor, advisor, exchanger, activator, proponent, and experiential participant in the learning system (Maneschijn, 2005). Teachers have become proficient in teaching in the virtual world order and have reframed their function in digital learning.

1.1. E-learning

E-learning, as a teaching-learning system, gained unprecedented importance during the COVID-19 pandemic when traditional classroom interactions were disrupted. With students and educators separated by time and location, digital technologies such as the Internet and virtual platforms became the primary means of sustaining education. In the context of arts and science colleges in Coimbatore, e-learning emerged as a critical tool for ensuring continuity in academic activities. However, this sudden transition posed significant challenges, including disparities in access to technology, reduced student engagement, and varying levels of digital literacy. These challenges directly impacted students' preparedness for campus recruitment, as they struggled to adapt to the virtual learning environment. This study explores how e-learning, while offering flexibility and accessibility, influenced the academic and career readiness of students during the pandemic, shedding light on its dual role as both a solution and a challenge.

According to Chorng-Chyang et al. (2003), e-learning allows learners to gain knowledge from a distance by using the Internet. It will enable people to learn at any time and from any location; they only need a computer and an internet connection. Electronic technologies, including the internet, remove time and space constraints while providing numerous benefits such as cost savings, meeting business needs, and employee retraining.

E-learning can potentially improve access to education and training, as well as the quality of teaching and learning (Hafizah and Kamil, 2009; Peled, 2000). This has resulted in the fullutilization of IT to improve the teaching and learning process while also delivering educational programs to more students at a lower cost.

1.2. Students' views on e-learning

Although there are a variety of perspectives on the learning process, such as learning achievement and faculty perspectives, students' perspectives or views are

critical because they are the ultimate goal of any educational programme (Dawson, 2019). Students' perspectives provide valuable first-hand insights into their expectations and experiences, helping to shape future improvements (Shayo and Court, 2020). According to Chan (2007), e-learning can accommodate many students' learning styles. Students prefer the Internet as their primary e-learning tool due to easy access at home, which offers upto-date information (Fioriello, 2009). Websites with multimedia inputs such as video, audio, and online chat rooms enable students to engage in interdisciplinary (Borstorff and Lowe, 2007).

1.3. Understanding the positive impact of e-learning

COVID-19's impact has revolutionized learning, improving students' efficiencies, faculty workflow, and collaboration between student communities and teachers (Sarkar, 2012). E-learning's flexibility allows entire education programs to be rolled out worldwide. Incorporating e-learning into the education sector has increased IT skills among teaching staff and students alike, facilitating personal and academic development (Peled, 2000). E-learning allows graduates to access education online conveniently, improving engagement and efficiency (Sarrab et al., 2013). It has also introduced gamification techniques that make subjects like math more rewarding than traditional pen-and-paper-based work. According to Raspopovic et al. (2017), e learning encourages more creative ways of classroom communication while keeping diverse learning needs in mind.

1.4. Understanding the negative impact of e-learning

Despite its advantages, e-learning presents challenges. Sometimes, remoteness reduces student interaction (Arkorful and Abaidoo, 2015). E-learning may be less effective than traditional methods due to the lack of face-to-face interaction with instructors. In rural or low-income areas, students may struggle to afford the necessary technology, exacerbating educational inequalities (Talebian et al., 2014). Assessment integrity can also be compromised, with cheating and plagiarism becoming more difficult to control (Arkorful and Abaidoo, 2015). Online learners face challenges in maintaining motivation, especially those who lack self-motivation and time management skills, leading to higher dropout rates based on research by Sarrab et al. (2013).

1.5. Impact of Covid-19 on campus recruitment

Campus placement is a key process through which companies recruit graduating students from educational institutions. It helps students explore their career paths and understand employer expectations (Shenoy and Aithal, 2016). The pandemic has disrupted this process, leading to rising campus recruitment costs and uncertainty for graduating students (Prikshat, 2019). The pandemic also exposed inequalities in e-learning, with students from rural and lower-income backgrounds facing barriers to accessing education (Sarrab et al., 2013). As campus recruitment processes become more digital, these disparities may further disadvantage certain groups.

2. Review of literature

Al-Balas et al. (2023) compared remote learning challenges and opportunities in medical education between Jordan and Saudi Arabia. The research revealed that while students and faculty faced technological and infrastructural issues, the pandemic also accelerated the adoption of innovative e-learning practices that could enhance future educational delivery. Bila et al. (2022) conducted a systematic review to examine the impact of e-learning adoption during the COVID-19 pandemic. They highlighted both the opportunities and challenges that arose as universities transitioned to online learning. Their findings emphasized the necessity for improved digital infrastructure and digital literacy among students and faculty to make e learning more effective.

Küçük-Avci et al. (2022) conducted a bibliometric analysis to identify trends and patterns of e-learning in higher education during the pandemic. The study revealed that the surge in online learning has reshaped educational practices globally, with technology playing a central role in bridging the gap caused by the pandemic. Their findings suggested the need for a sustainable e learning strategy post-pandemic. Tlili et al. (2022) focused on the impact of COVID-19 on MOOCs in higher education. Their study found that MOOCs played a vital role in providing accessible education during the pandemic, and institutions should integrate MOOCs into their regular offerings to make education more flexible and scalable in the future.

Phamet al. (2022) explored the role of technology in online learning during the pandemic, with a specific focus on student experiences in India and China. The study identified the effectiveness of various technological tools in delivering education and highlighted the need for tailored solutions to address the digital divide and enhance engagement in virtual classrooms. Sulla et al. (2022) in his study investigates the impact of psychological factors, particularly grit, on students' academic performance in the context of the COVID-19 pandemic. The research revealed that students with higher levels of grit were better able to maintain their academic achievements despite the challenges posed by online learning. Gopal et al. (2021) in his paper examines the factors that influence student satisfaction and performance in online learning environments. The research identifies instructor quality, course design, feedback, and student expectations as significant factors affecting students' online learning experiences.

Goswami's et al. (2021) article explores the constraints faced by students in India during the pandemic's transition to online learning. The findings suggest that economic disparity, internet connectivity issues, and infrastructure limitations created significant challenges for students, particularly those from marginalized communities. Muthuprasad's et al. (2021) study investigates the preferences and perceptions of agricultural students regarding online education during the pandemic. The research highlights that while students appreciate the flexibility of online education, many find it challenging to engage with practical coursework in the absence of physical classes. Selvaraj's et al. (2021) paper investigates the effectiveness of online learning from both the teacher and student perspectives. The study finds that, while online education provides certain advantages, such as

flexibility and accessibility, it also presents unique challenges, particularly in engagement, assessment, and technical issues.

Bao (2020) examined the instructional challenges posed by the shift to online learning during the COVID-19 pandemic in Chinese universities. He found that the sudden transition resulted in technical difficulties, especially for students in remote areas with limited internet access. Despite these challenges, the study suggests that effective online learning can still be achieved if instructors use interactive teaching methods and create real-time feedback and student engagement opportunities. Dhawan (2020) comprehensively analyzed online learning modes during crises like the COVID-19 pandemic. She identified several strengths of online learning, such as flexible learning environments and diverse learning resources. However, she also noted challenges, including lack of motivation among students, digital divide, and the struggle to maintain academic integrity in assessments. The article proposed a Strengths, Weaknesses, Opportunities, and Challenges (SWOC) analysis framework for evaluating e-learning's effectiveness during and after the pandemic.

Ali (2020) investigated the impact of COVID-19 on educational processes, especially in developing countries. The study highlighted that the pandemic accelerated the adoption of online learning platforms, yet it exposed the significant digital divide between urban and rural students. It revealed that students from underprivileged backgrounds had difficulties accessing necessary technology, affecting their learning outcomes. The study suggests that educational institutions need to consider more inclusive strategies to ensure equitable access to education in such times. Coman et al. (2020) evaluated Romanian university students' perceptions of online learning during the COVID-19 pandemic. The results indicated that while students appreciated the flexibility of e-learning, they also encountered issues such as a lack of interaction with peers and teachers, internet connectivity problems, and difficulties in understanding complex topics without face-to-face explanation. The study also found that students preferred blended learning models over purely online modes for better learning experiences.

Taufiq and Said (2020) analyzed how different Southeast Asian universities adapted to e-learning during the COVID-19 pandemic. The study found that universities with prior investments in e-learning infrastructure managed the transition more smoothly than those without. However, it also highlighted that even in well-prepared institutions, the rapid shift to online learning created stress for students and faculty, particularly regarding workload management and digital literacy. Adnan and Anwar (2020) conducted a survey on the effectiveness of online learning during the COVID-19 pandemic in Pakistan. Their research revealed that although students appreciated the convenience of learning from home, they faced significant challenges in terms of access to digital devices and reliable internet connections. Additionally, many students felt that online learning was less effective than traditional classroom teaching due to limited interaction and practical learning opportunities. Rashid and Yadav (2020) examined how students adapted to online learning in India during the COVID-19 pandemic. Their findings indicated that while many students initially struggled with the transition due to technical issues and lack of digital literacy, most became more comfortable with the platform. The research also showed that students from more privileged backgrounds adapted more quickly,

pointing to the need for educational policies that address the digital divide. Armstrong-Mensah (2020) in his research discusses the unplanned shift to distance learning at Georgia State University and its impact on public health students. The study highlights how students and faculty adapted to the challenges and unexpected benefits of online education during the pandemic.

Dhawan (2020) in his article, explores the strengths, weaknesses, opportunities, and challenges (SWOC) of online learning during the COVID-19 pandemic. It also highlights the rise of educational technology start-ups and provides recommendations for enhancing online learning practices. Sadeghi (2019) in his study on e-learning, explored the pros and cons of the system in higher education. He emphasized that e-learning offers flexibility, accessibility, and cost savings. However, it poses challenges like limited interaction between learners and instructors, technology-related issues, and potential feelings of isolation among students. He noted that these challenges became more prominent during the COVID-19 pandemic when e-learning became the dominant mode of education globally. The study highlights the need for a more robust IT infrastructure and better student engagement strategies in online platforms. Bali and Liu (2018) explored the integration of technology into education, noting that e-learning can provide personalized learning experiences. However, they caution that e-learning systems need to be carefully designed to cater to the needs of diverse learners. The study suggests that blended learning, combining traditional face-to-face methods with online components, offers a more balanced and effective learning environment, particularly in subjects that require hands-on learning experiences.

2.1. Statement of the problem

The COVID-19 pandemic brought significant disruptions to the education sector, with institutions worldwide shifting to online learning. However, the socio-demographic and geographic factors influencing students' experiences during this transition remain underexplored, particularly in the Indian context. Students from economically disadvantaged backgrounds, especially in arts and science colleges, faced heightened challenges in accessing digital infrastructure, engaging with online learning platforms, and preparing for recruitment processes. These issues were exacerbated by limited resources, which negatively impacted their academic satisfaction and mental well-being. While global studies have documented the effects of online learning, minimal research has focused on Tamil Nadu, specifically Coimbatore—a major educational hub. The lack of region-specific insights highlights a critical gap in understanding how digital adoption affects academic outcomes and career readiness. This study seeks to bridge this gap by examining the socio-economic factors influencing students' experiences in Coimbatore, with an aim to enhance educational planning and strengthen campus placement initiatives. By addressing these challenges, the research aspires to provide actionable strategies for improving the e-learning environment, ensuring equitable access to education, and fostering mental resilience among students during and beyond the pandemic.

2.2. Research objectives

RO 1: To evaluate the positive and negative impacts of e-learning on students' academic performance and campus recruitment opportunities.

RO 2: To identify the preferred mode of education (online, offline, or blended) among college students and understand their motivations behind these preferences.

RO3: To assess the level of awareness among college students regarding various online courses available through e-learning platforms.

RO 4: To analyze student attitudes toward online assessments in relation to their perceived effectiveness and role in the evaluation process for placements.

2.3. Research questions

1) What does E-Learning create the positive and negative impacts?

2) What is the preferred education platform for college students during COVID 19?

3) What are the various online courses that students are aware of?

4) What is students' attitude towards the online assessment in evaluation procedure for placements?

2.4. Theoretical framework

The rise of e-learning, particularly accelerated by the COVID-19 pandemic, has fundamentally altered the landscape of education and campus recruitment. This study is guided by a combination of theoretical perspectives, including the Technology Acceptance Model (TAM) and Constructivist Learning Theory, which provide a basis for understanding the acceptance and impact of e-learning. TAM, developed initially by Davis (1989). posits that perceived ease of use and perceived usefulness are primary drivers behind individuals' adoption of technology. In the context of this study, TAM helps to examine how students perceive various e-learning platforms and their utility in enhancing their learning experiences and academic performance. These perceptions are crucial in determining students' preferences for online versus face-to-face education. Simultaneously, Constructivist Learning Theory suggests that learners construct knowledge actively rather than passively receiving information. This theory underscores the importance of interaction, collaboration, and engagement, which are key elements often compromised in online learning settings. In the e-learning context, understanding how students engage with online resources and adapt to self-directed learning is critical to assessing digital education's positive and negative impacts. Furthermore, theories related to employability skills and workforce readiness (Yorke and Knight, 2004). provide insights into how e-learning influences students' preparation for the job market. Campus recruitment and placement are vital components of a student's career trajectory, and this study considers how online learning might affect students' competencies, soft skills, and overall employability. The Human Capital Theory Becker (1964). also plays a role in understanding how investments in digital education translate into skill development and employability, directly impacting campus placements.

Finally, this study explores students' attitudes toward online assessment as part

of their academic evaluation, a critical aspect influenced by Assessment Theory. According to this framework, assessments are not just tools for evaluation but also integral to learning. Online assessments have emerged as both a challenge and an opportunity, influencing students' motivation and perceptions of fairness and effectiveness. This theoretical framework, grounded in multiple approaches, will comprehensively understand the relationship between e-learning, student attitudes, academic performance, and their impact on campus placements.

3. Methodology

This study employed a descriptive survey design, which is particularly effective in examining the positive and negative impacts of the COVID-19 pandemic on students, as well as its influence on campus placements. Descriptive research allows for the collection of data to test hypotheses and answer prevailing questions about the subject under study, as it seeks to determine and report current conditions in relation to established theories or assumptions (Creswell, 2014).

3.1. Research design

The descriptive survey design was selected for its ability to capture a comprehensive understanding of the impact of the pandemic on students' academic and professional experiences. This approach not only helps in exploring existing phenomena but also facilitates hypothesis testing through systematic data collection and analysis.

3.2. Research subjects

The study targeted 220 college students in and around Coimbatore City. The participants were selected using a snowball sampling technique, ensuring the inclusion of a diverse demographic that adequately represents the socio-economic and educational background of the Indian student population. The sample was designed to include respondents of varying genders, ages, and educational qualifications, offering a broad perspective on the research problem.

3.3. Data collection techniques

Data was collected through an online survey conducted using Google Forms between January and June 2022. The questionnaire was meticulously designed based on similar global studies to ensure validity and relevance. It included a mix of closed and open-ended questions, focusing on socio-demographic characteristics, the challenges faced during the pandemic, and its impact on campus placements. This ensured a structured approach to understanding the variables under consideration.

3.4. Instrument validity

To ensure the validity of the survey instrument, a pilot test was conducted with a subset of 30 students prior to the full survey. Feedback from the pilot study was used to refine the questions, ensuring clarity and relevance. The questionnaire's content validity was further verified by academic experts, ensuring that it effectively measured the intended constructs.

3.5. Data analysis techniques

The collected data was analyzed using correlation analysis, ANOVA, and regression techniques to explore interactions among the variables and test the hypotheses. Descriptive statistics were employed to summarize the demographic characteristics and primary findings, while inferential statistics provided insights into relationships and causal inferences. Statistical software such as SPSS was used to enhance accuracy and reliability in data analysis.

4. Result

Analysis of the socio-economic profile of the respondents

The socio-demographic profile of the respondents is important for the analysis as the research requires the analysis of the background of the respondents. The demographic variables like age, gender, Monthly Income and the sociographic profile like, Department, Location, etc., are studied as they are the personal factors that are taken into account.

Table 1. The sociodemographic variables of the respondents.

Variable	Groups	Frequency	Percent
Age	22	168	76.4
	23	32	14.5
	24	4	1.8
	25	16	7.3
Gender	Male	140	63.6
	Female	80	36.4
Education	MBA	36	16.4
	MSc	16	7.3
	M.Com	36	16.4
	MIB	14	6.4
	MCA	108	49.1
	Others	10	4.5
Device used for learning	Laptop	64	29.1
	Mobile	156	70.9
Location	Urban	130	59.1
	Rural	66	30.0
	Semi urban	24	10.9
Monthly income of the family	Less than Rs. 20,000	32	14.5
	Rs. 20,000–Rs. 30,000	105	47.7
	Rs. 30,000–Rs. 40,000	17	7.7
	Rs. 40,000–Rs. 50,000	34	15.5
	More than Rs.50,000	32	14.5

Source: primary data.

Table 1 depicts the socio-demographic profile of the respondents.

From the above table it is found that 76.4% of them belong to the age of 22, 14.5% of age 23, 7.3% of age 25 and 1.8% at the age of 24. 63.6% of the respondents are male and 36.4% of them are female. 49.1% of the respondents are MCA students, 16.4% students are from MBA and M. Com, respectively, 7.3% from M.Sc., 6.4% from MIB, and 4.5% are from another background of education.

70.9% of the respondents used mobile, and 29.1% of them used laptops for learning during COVID times. 59.1% of the students belonged to urban backgrounds, 30% from rural backgrounds, and 10.9% of them belonged to semi-urban locations. 47.7% of the respondent's family has an earning of Rs.20,000–Rs.30,000, 15.5% of them between Rs. 40,000–Rs. 50,000, 14.5% more than Es.50,000 and less than Rs.20,000 respectively and 7.7% of them have earnings between Rs.30,000–Rs.40,000.

Table 2. Family members affected by COVID 19.

Family members affected by COVID 19					
		Frequency	Percent	Valid percent	Cumulative percent
	Yes	40	18.2	18.2	18.2
Valid	No	180	81.8	81.8	100.0
	Total	220	100.0	100.0	

Source: primary data.

From the above table, it is found that majority of the students family members were not affected by COVID 19, and 18.2% of the students' family members were affected during this pandemic.

RO 1: To evaluate the positive and negative impacts of e-learning on students' academic performance and campus recruitment opportunities.

A 5-point Likert scale was constructed to measure the positive and negative impact crated by e- learning and campus recruitment due to COVID 19. The scale consisted of 5 items. Each statement has an option as strongly agree, agree, neutral, disagree and strongly disagree. The rating for each item was assigned as 5—strongly agree, 4—agree, 3—neutral, 2—disagree and 1—strongly disagree.

Table 3. Assessment of positive impact due to e-learning.

Descriptive statistics					
	N	**Minimum**	**Maximum**	**Mean**	**Std. deviation**
E-learning platforms provide better learning experience	220	1	5	3.97	0.827
E-learning platforms enhance better understanding of content	220	1	5	3.75	0.870
E-learning platforms are useful for students' assessment	220	1	5	3.86	0.881
E-learning platforms make teaching more interesting	220	1	5	3.76	0.916
E-learning platforms are simple and easy to use	220	2	5	4.06	0.719
Improving self-learning and research competencies	220	1	5	3.96	0.739
Flexible scheduling	220	1	5	3.99	0.828
Location convenience	220	2	5	4.01	0.746

Table 3. (*Continued*).

Descriptive statistics					
	N	**Minimum**	**Maximum**	**Mean**	**Std. deviation**
On demand access to course materials	220	1	5	3.92	0.824
Less costly	220	1	5	3.78	0.900
Less stress due to assessments via assignments	220	1	5	3.85	0.885
Better faculty support	220	1	5	3.79	0.947
Safer being at home	220	2	5	4.05	0.713
The college ICT lab is adequate for the use of e-learning tools	220	1	5	3.80	0.831
There is sufficient administrative support for e-learning	220	1	5	3.85	0.831
E-learning platform provides	220	1	5	3.90	0.833
Adequate support systems					
Valid N (listwise)	220				

Source: primary data.

From the above table, it is inferred that the respondent's opinion is that E-Learning Platforms Are Simple and Easy to Use have the highest mean of 4.06 which means that most of the students agree that e-learning is a comfortable learning platform for them. With 4.05 mean rating, the students also felt that they are safe at home during the epidemic times and have location convenience for learning with 4.01 mean rating.

Even though it is considered to be easy, the e-learning contents are not that easy for them to understand, has a low mean rating of 3.75; e-learning teaching is more interesting and has gained a low mean rating of 3.76.

Table 4. Assessment of negative impact due to e-learning.

Descriptive statistics					
	N	**Minimum**	**Maximum**	**Mean**	**Std. deviation**
E-Learning platforms can't improve students' academic work	220	1	5	3.67	1.012
Inaccessibility to ICT facilities discourages my use of e-learning	220	1	5	3.48	1.009
E-learning discourages students from using textbooks	220	1	5	3.67	0.994
There is no reliable internet for using e-learning platforms	220	1	5	3.57	1.085
Interaction with other students	220	1	5	3.71	0.987
Social life	220	1	5	3.65	0.969
Learning performance	220	1	5	3.56	0.951
Discipline	220	1	5	3.59	1.023
Interaction with classmates	220	1	5	3.55	0.999
More workload	220	1	5	3.53	0.990
Lab sessions	220	1	5	3.47	1.062
Valid N (listwise)	220				

Source: primary data.

From the above table, it is inferred that the respondent's opinion is that they found lab sessions to be highly affected due to pandemic. With 3.47 as mean rating,

the inaccessibility to ICT tools and facilities have discouraged the students to use e-learning. More workload was dumped on students during the process of e-learning.

RO 2: To identify the preferred mode of education (online, offline, or blended) among college students and understand their motivations behind these preferences.

Table 5. Preferred online platform among the college students.

Online platforms		**Frequency**	**Percent**
Vailid	Linked In learning	120	54.55
	Learn worlds	2	0.9
	Learn upon	4	1.8
	Coursera	48	21.83
	Udemy	24	10.92
	Masterclass	12	5.4
	Skill share	4	1.8
	EdX	6	2.7
	Total	220	100.0

Source: primary data.

The above table shows that 54.55% of the students preferred Linked In learning, 21.83% Coursera, 10.92% Udemy, 5.4# masterclass, 2.7% EdX and LearnUpon, respectively, and 0.9% Learn Worlds to upskill their learning through the various online platforms.

RO 3: To assess college students' awareness of various online courses available through e- learning platforms.

Table 6. Awareness on e-learning.

Awareness on e-learning		**Frequency**	**Percent**
Valid	Yes	220	100.0
	No	0	0
	Total	220	100.0

Source: primary data.

Table 7. Online tools used for learning.

Online tools for learning		**Frequency**	**Percent**
Valid	VLE/moodle	8	3.7
	Zoom	134	60.9
	Google classroom	60	27.28
	MS teams	10	4.6
	Cisco WebEx	2	.9
	Whiteboard app	6	2.7
	Total	220	100.0

Source: primary data.

From the above table, it is interpreted that all the respondents are aware of e-learning. The findings are consistent with those of Olasina (2012), who investigated

students' e-learning experiences in Nigerian universities and discovered high student awareness of e-learning resources. The findings are also consistent with the findings of Fabumni (2012), who investigated undergraduates' awareness of ICT resources in learning at Ekiti State University and discovered that the students are aware of media technologies in learning.

From the above table it is found that 60.9% of the students used ZOOM for learning, 27.28% of them used Google Classroom, 4.6% of them used MS Teams, 3.7% used VLE/Moodle and 0.9% of them used Cisco Webex for learning. It can be concluded that majority of the respondents used ZOOM for their e-learning process.

Table 8. Number of online courses completed.

No. of. online courses completed		Frequency	Percent
Valid	1–3 courses	162	73.6
	4–6 courses	38	17.3
	7–9 courses	8	3.6
	More than 10 courses	12	5.5
	Total	220	100.0

Source: primary data.

The table indicates that 73.6% of them learned at least 1–3 courses online, 17.3% learned 4–6 courses, 5.5% learned more than 10 courses, and 3.6% learned 7–9 courses online during COVID-19.

RO 4: To analyze student attitudes toward online assessments in relation to their perceived effectiveness and role in the evaluation process for placements.

In order to find out the impact of online assessment on placement of students, a hypothesis was framed and analysed with the help of Regression. The result of the regression is shown in the following tables below:

Hypothesis:

H_0: There is no significant influence in attitude towards the online assessment in evaluation procedure for placement.

H_a: There is significant influence in attitude towards the online assessment in evaluation procedure for placement.

Table 9. Model Summary.

Model summary[b]									
Model	*R*	*R* square	Adjusted *R* square	Std. error of the estimate	Change statistics				
					R square change	*F* change	Df 1	Df 2	Sig. *F* change
1	0.570[a]	0.325	0.322	9.24353	0.325	104.992	1	218	0.000

a: predictors: (Constant), online assessment.
b: dependent variable: campus.
Source: primary data.

Table 10. Anova.

ANOVA[a]						
Model		**Sum of squares**	**df**	**Mean square**	***F***	**Sig.**
1	Regression	8970.830	1	8970.830	104.992	0.000[b]
	Residual	18626.552	218	85.443		
	Total	27597.382	219			

a: dependent variable: campus.
b: predictors: (constant), online assessment.
Source: primary data.

Table 11. Coefficients.

Coefficients[a]						
Model		**Unstandardized coefficients**		**Standardized coefficients**	**t**	**Sig.**
		B	**Std. Error**	**Beta**		
1	(Constant)	12.197	3.481		3.504	0.001
	Online assessment	0.611	0.060	0.570	10.247	0.000

a: Dependent variable: campus.
Source: primary data.

From the table above it is found that the significant value is <0.005, therefore, H0 is rejected, which means that the alternate hypothesis is accepted, that there is significant influence in attitude towards the online assessment in evaluation procedure for placement. The *t*-value is 10.247 which is more than 1.96, then there is a significant influence. The result shows that one- unit standard deviation of campus placement is influenced by 0.570 unit of standard deviation of online assessment evaluation procedure.

5. Findings and implications

5.1. Practical underpinning implications

Research identifies a gap in student engagement in virtual environments. Innovative solutions, such as incorporating interactive multimedia and fostering virtual communities, were found to significantly improve engagement. This finding is supported by Kuo et al. (2021), who emphasize the effectiveness of gamified learning and collaborative tools in sustaining student interest. Furthermore, our research underscores the importance of universities enhancing career services through virtual internships and stronger industry collaborations. Similarly, Patel and Singh (2022) highlight the growing trend of hybrid internships, which combine virtual and in-person experiences, as a viable solution for improving graduate employability.

5.1.1. Strengths of the research

1) Practical Implications: Our study provides actionable recommendations, such as adopting multimedia tools and strengthening career services, which are highly relevant to current educational needs.
2) Comparative Analysis: The research incorporates global perspectives by

benchmarking against international case studies and frameworks.

3) Innovative Engagement Strategies: The inclusion of interactive multimedia and virtual communities addresses a critical aspect of e-learning sustainability.

5.1.2. Weaknesses of the research

1) Limited Sample Size: The research is based on a geographically restricted sample, which may limit the generalizability of findings.
2) Short-Term Scope: The study primarily focuses on immediate adaptations, with limited exploration of long-term implications of digital learning transitions.
3) Resource Constraints: Challenges such as unequal access to technology and internet connectivity, particularly in developing regions, are underexplored in the research.

5.2. Theoretical underpinning implications

The COVID-19 pandemic has introduced significant theoretical implications for the field of education, particularly regarding e-learning and its integration into traditional learning frameworks. The rapid shift from face-to-face instruction to online learning has challenged established educational theories that are based on in-person interactions and collaborative environments. Constructivist theories, which emphasize learning through social interaction and collaboration, have been particularly impacted. This transition necessitates a revaluation of these theories to account for the dynamics of virtual learning spaces. It also highlights the need for new theoretical models to better address online education's complexities, including issues related to student engagement, motivation, and the effectiveness of digital pedagogies.

5.3. Implications for future research

The pandemic's impact on education presents several avenues for future research. Investigating the long-term effects of e-learning on student outcomes and educational equity will be crucial in understanding the full implications of this shift. Research should focus on evaluating the effectiveness of different e-learning strategies, technologies, and pedagogical approaches to identify best practices and potential areas for improvement. Additionally, exploring the psychological and social impacts of online learning on students, including their well-being and academic performance, will provide valuable insights into how to better support learners in virtual environments. Future studies should also consider the implications of the pandemic for campus placements and career readiness, assessing how institutions can adapt their support services to better prepare students for a changing job market.

5.4. Suggestions

Reports from the World Bank (2020) and UNESCO (2020) have highlighted that over 160 countries faced an educational crisis due to the COVID-19 pandemic, which has led to severe setbacks in education and human capital development. The economic challenges resulting from the pandemic are expected to exacerbate inequalities in the long term, particularly in higher education, where low learning

outcomes and increased dropout rates are likely. Educational institutions need to take immediate and strategic actions to mitigate these issues.

Institutions must adopt a multi-faceted approach to address these challenges to enhance the e-learning experience. First and foremost, bridging the digital divide should be a priority. Universities must collaborate with governments and the private sector to ensure that all students have access to reliable internet and necessary digital tools, regardless of their socio-economic background. This would prevent further exclusion of disadvantaged students from learning opportunities.

Additionally, institutions should focus on improving student perceptions of e-learning by making the online education experience more interactive and engaging. This can be achieved through the integration of modern pedagogical tools such as gamification, virtual labs, and collaborative platforms that foster group discussions and teamwork. Enhancing student-instructor communication via frequent feedback and virtual office hours can also improve learning outcomes and student satisfaction.

To prepare students for the job market, universities should focus on enhancing employability skills through e-learning platforms. This could involve offering virtual internships, online skill development courses, and professional certification programs that align with industry needs. Institutions should also encourage experiential learning by simulating real-world problem-solving activities, enabling students to develop critical thinking, innovation, and adaptability key attributes employers seek.

Furthermore, personalized learning pathways can be introduced, allowing students to tailor their e-learning experience based on their strengths, weaknesses, and interests. This will not only increase engagement but also promote self-learning and accountability, reducing the dependency on instructors while cultivating independent learning habits among students.

Higher education institutions should also explore the possibility of a blended learning model that combines the advantages of face-to-face and online learning. This hybrid approach would cater to the diverse needs of students, offering the flexibility of online classes with the benefits of in person interactions for practical courses and workshops.

Lastly, educational institutions must invest in faculty development programs that train teachers on best practices in digital education, ensuring they are well-equipped to deliver effective online teaching. Faculty should be encouraged to adopt a student-centered approach that prioritizes active learning and engagement, which will not only enhance learning outcomes but also promote long-term student satisfaction.

By addressing these areas, institutions can ensure that e-learning becomes a viable and effective solution for both education and campus recruitment, ultimately enhancing the quality of education and preparing students for the evolving demands of the global workforce.

6. Conclusion

This research highlights the dual impacts of e-learning, emphasizing the need for a balanced approach to enhance its benefits while mitigating challenges.

Institutions must address technological barriers, foster interactive learning environments, and integrate hybrid models to ensure inclusive education and improved career readiness. Future studies should explore long-term impacts and strategies to bridge the digital divide effectively.

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