

Tertiary EFL Teachers' Attitudes Toward Digital Integration in the Post-COVID-19 Landscape

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Abstract

COVID-19 substituted the normal with a new normal, shifting the paradigm of teaching and learning English in both the pandemic and post-pandemic periods. The forced shift toward online learning and the incorporation of digital technology brought significant changes to the ELT setting. This research focused on the attitudes of Bangladeshi tertiary-level teachers toward digital lectures, digital resources, and cutting-edge technologies in post-pandemic classrooms influenced by tech integration during the COVID-19 crisis. To meet the objectives, a cross-sectional research design was implemented to describe tertiary EFL teachers' attitudes toward digital lectures, digital resources, and cutting-edge technologies in post-pandemic EFL classes. A total of 61 participants from 15 universities across Bangladesh, selected through purposive sampling, participated in the study. Data were collected using a 15-item questionnaire designed around a 5-point Likert scale. The results indicated that teachers held positive attitudes toward digital lectures due to their flexibility and interactivity, and digital resources for their accessibility and adaptability. Cutting-edge technologies were also viewed favorably, though teachers emphasized the need for further training to maximize their effectiveness. These findings imply that the Bangladeshi EFL teachers held positive attitudes toward applying digital technology in post-COVID EFL classes.

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Introduction

The COVID-19 pandemic has had lasting effects that have continued to shape global educational approaches even after the pandemic's end. Shrestha et al. (2021) state that the educational activities have faced severe disruptions during COVID-19. The number of affected learners was almost 1.6 billion from over 200 countries where social distancing has significantly disturbed traditional educational practices, but it has provided educators with an opportunity to become acquainted with digital learning (Pokhrel & Chhetri, 2021). Virtual learning during the pandemic left teachers no choice but to adopt digital technology, though they encountered enormous challenges while developing technological knowledge (Sajib, 2023). However, it is also true that the pandemic created enormous opportunities for educators. Aminullah et al. (2019) observes that the advantages afforded by new information technology have made life easier for teachers in the 21st century.

To better understand changes in educational affairs worldwide during the 21st century, the timeline of this century so far can be divided into three major periods: the pre-COVID, the COVID, and the post-COVID. Due to the introduction of virtual teaching platforms, the experience of emergency remote teaching and learning (ERTL) during the pandemic might have permanently changed the nature of teaching and learning, as noted by Roshid et al. (2022). In an EFL setting, the inclusion of digital technologies has become a fundamental element (Mudra, 2020), as with nearly every other branch of education. The adoption of technology in the EFL domain has been increasing, with COVID-19 serving as a critical catalyst for its widespread integration. This has resulted in noticeable changes in post-COVID education, especially in English language teaching, where some traditional pedagogical practices may have undergone irreversible changes, suggesting a paradigm shift. Learners are now routinely exposed to digital English language learning content through digital technologies, which has prompted EFL teachers to familiarize themselves with education technologies that benefit their learners. Digital lectures created using multimedia elements including audio recordings, slides, and images (Boffey et al., 2010) were a crucial tool for EFL teachers during the pandemic. In the post-COVID era, alongside the resumption of traditional (i.e., in-person) classes, teachers' technological skills have significantly improved because of the forced integration of technology. Teachers' attitudes toward the use of technology in EFL classrooms have likely changed since COVID, although the pre-and post-pandemic situations can both be considered stable with traditional classes being the norm. However, Khaerani et al. (2023) deem post-COVID teaching to be more flexible due to greater integration of supporting technologies, including the internet and cloud-based teaching platforms. In addition, educators can save time, increase personalization, and reduce workloads and costs with the help of modern technologies including artificial intelligence and machine learning.

In the post-COVID era, learners are increasingly aware of open and digital resources available through websites and cloud platforms (Wang & Li, 2021). Due to their instructional nature, these resources have been described as acting like language teachers themselves (Xie et al., 2018). The technologies introduced in the pandemic through online lectures, educational resources, and emerging tools have significantly influenced the way language teachers use technology in the aftermath. Their approaches to teaching with technology as a tool and resource, and more specifically, their attitudes toward

adopting advanced technologies for English instruction have created a significant impact in the post-COVID era. Alakrash and Razak (2021) find that the EFL students and teachers from Malaysia carry a positive approach towards the dynamic educational setting and the role of digital technologies. These findings reflect not only the progressive outlook of society but also the growing global importance of technology-based education. Understanding EFL teachers' attitudes toward digital technology in the post-COVID era is therefore essential for advancing EFL pedagogy.

Numerous studies have explored teachers' attitudes toward technology use during the COVID-19 pandemic, marking it as a new paradigm in the EFL setting. During this period, both teachers and students became highly reliant on online learning. Hence, several studies focused on their attitudes toward digital technology in EFL classes during the pandemic. Štemberger and Konrad (2021) examined how digital technologies contribute to developing digital competence among Slovenian students and teachers. Dweikat and Hasan (2021) opine that people are addicted to different types of ICT. They also note that mobile phones make people's lives easier and are accessible for EFL learners beyond time and place. Gao and Zhang (2020) analyzed how foreign language teachers adapted to online teaching during that period. Khlaisang et al. (2021) investigated how teachers perceive the use of technologies while enhancing students' thinking skills. Similarly, Aminullah et al. (2019) and Cahyani and Cahyono (2012) explored EFL teachers' attitudes and challenges related to using ICT in Indonesian classrooms. Sajib (2023) examined the potential and limitations of online ELL classrooms as an alternative instructional mode. However, only a handful of studies focused on the attitudes of teachers toward the application of digital technology in post-COVID EFL classes, especially in Bangladeshi tertiary EFL settings. This research seeks answers to the following questions, aiming to bridge these gaps, by drawing a line between Bangladeshi tertiary teachers' attitudes and the role of digital technology in the post-COVID EFL classes.

1. What's the attitude of the EFL teachers toward digital lectures in the post-COVID classes?
2. What is the perception(s) of the EFL teachers toward the use of digital resources in the post-pandemic EFL classes?
3. What are teachers' views on employing cutting-edge technologies in post-COVID EFL classes in order to enhance students' English language skills?

Literature Review

In the pre-COVID era, a number of studies identified that the use of technology had a major association with teaching English effectively (Wu et al., 2011). Technology has traditionally supported learners' enthusiasm and engagement in EFL classes. However, the association between English language teaching and the use of technology is being redefined during the pandemic due to the forced shift to online learning. Teachers had to adopt almost all forms of technologies like ICT and cutting-edge technologies in their EFL classes. This led the study to examine the attitude of teachers towards digital lectures and digital materials in the post-COVID era. Several studies have explored teachers' attitudes not only before but also during COVID-19, when teachers had to shift online in response to the emergency to continue helping their learners develop their English language skills. In alignment with Erben et al.'s (2008) stance that purposeful technology

use can enhance learner engagement and support language development, English language teachers still hold this view today. They are capitalizing on learners' increased familiarity with technology that was introduced during the pandemic. This has led teachers to evolve their post-pandemic ELL/EFL classes by redesigning their lectures and the resources in them, and by integrating cutting-edge technologies to make learning more effective and efficient.

Teachers' Attitudes toward Digital Lectures

Researchers around the world have concluded that, due to educators' responses to COVID-19, pre-COVID and post-COVID EFL are bound to have major differences. In addition, innovations in technology will have a long-term impact on both English teaching and learning in the post-COVID phase. Wei Bao (2020) suggests five key areas including high-levels of participation, functional delivery, strong relevancy, contingency plans and ample assistance which were prioritized while learning online to safeguard learners' safety and learning during the COVID-19 crisis. University teachers and students' satisfaction level regarding online learning significantly increased after the pandemic. (Xu, 2023).

Adopting digital technology in classes depends on teachers' positive attitude (Onalan & Kurt, 2020). Teacher participants feel positive if they are willing to use computers in EFL classes. Onalan and Kurt (2020) also identified that teachers consider classroom learning to be effective and efficient through the use of computers. Triana and Nugroho (2021) had similar findings about digital lectures derived from online learning platforms like Moodle. The students in the study developed by Nartiningrum and Nugroho (2020) found online activities fruitful and beneficial while learning the course content. Liu et al. (2022) compared digitally integrated classrooms with flipped classrooms and described smart classrooms as efficient, autonomous, diversified, and personalized. The effectiveness of digital lectures is encouraging for EFL teachers and empowers them to be more involved in shaping the post-COVID teaching paradigm.

Aminullah et al. (2019) explored that the use of ICT can make learning effective and efficient. Hakim (2020) also found the integration of Technology during COVID-19 effective, and teachers trained during that time can now apply their skills to create more efficient and engaging post-pandemic classes. While the initial shift to online learning aimed to sustain engagement during the pandemic, the prolonged crisis led learners to adapt their attitudes and habits toward digital lectures. Mudra (2020) found that learners' frequency of engagement with online reading materials grew due to their interest in the content, which led them to develop their digital literacy. This prompted teachers to make their lectures more interesting through increased use of technology (Rahayu et al., 2022). Hakim (2020) found that technology-driven online EFL classes were engaging for students. Jeba (2022) also noted that regardless of learner autonomy a class can be more interesting than a face-to-face class if teaching and learning turns digital. Experience gained during the COVID-19 crisis helped teachers in post-COVID EFL classrooms continue enhancing their lectures using technology. It is now widely recognized that the internet provides authentic materials that support English language development by being effective, engaging, and useful (Ilter, 2009).

Cahyani and Cahyono (2012) examined teachers' readiness to enhance language teaching through technology, highlighting that teachers can go beyond storing and sharing

materials to actively support English language development. However, the researchers consider the flexibility to be a top advantage of remote learning. The English language teachers only came to completely recognize this benefit during the COVID-19 period, when they experienced digital lectures firsthand. Triana and Nugroho (2021) highlight the flexibility of structured online learning for its potential to enhance learners' competence. Similar outcomes can be achieved in post-COVID EFL classes by using technology to create digital lectures. Khaerani et al. (2023) identified digital lectures beneficiary in the post-COVID offline classes as it helped students to develop their intellectual capacities. Another advantage is that teachers can easily share lectures via smartphones and computers, which are compatible with ICT tools (Triana & Nugroho, 2021). In addition, cloud technology has been proven to be a beneficial tool for sharing digital lectures during COVID-19. Khlaisang et al. (2021) describe cloud technology as flexible and useful for teaching, learning, and planning, noting that learners can also access lessons via mobile phones. The inclusion of various activities and media in digital lectures helps to engage learners while promoting interactivity. Triana and Nugroho (2021) emphasize the role of creative lecturers in designing interactive learning activities, and note that digital classes can also facilitate interactive discussions.

The rise of emerging technologies and social networking was largely driven by the COVID crisis, as teachers adopted them to enhance classroom interactivity (Emelogu et al., 2022; Onyema, 2019; Sajib, 2023). These technologies can continue to enhance interactivity in post-COVID EFL classes through digital lectures. In addition, common smartphone applications including Google Classroom, Google Translate and YouTube can be seamlessly integrated into face-to-face classes. These tools offer learners unrestricted access to supplementary materials and support autonomous learning. Similarly, Aditya (2021) notes that technology integration can make the learning environment more accessible and student-friendly.

Teachers' Attitudes toward Digital Resources

In spite of the disruptions caused by COVID-19, teachers still carried out their teaching activities effectively with the help of digital resources and digital platforms (Liu et al., 2022). Learners and teachers become comfortable to adopt digital resources and digital platforms to smoothen teaching and learning processes. Mudra (2020), Pratolo and Solikhati (2020), and Aditya (2021) emphasize the importance and effectiveness of digital resources in the EFL classes. However, the perceived importance of digital resources in EFL teaching and learning largely depends on the attitudes of EFL teachers.

Huang et al. (2019) emphasize the value of digital resources in enhancing teaching and learning through greater accessibility. Teachers are also able to monitor learners' progress and promote learning through video conferencing and collaboration platforms like Google Meet, Zoom, etc. Similarly, Pratolo and Solikhati (2020) highlight the benefits of technology tools such as laptops, tablets, and smartphones in English language instruction. They note that smartphones, in particular, offer learners flexibility by extending learning beyond the classroom through a wide range of educational apps. Aditya (2021) reports that during the pandemic, teachers found digital technology supportive while learning remotely. This technology remained essential in contemporary EFL classrooms despite the disruptions caused by the COVID-19 pandemic. Echoing

this, while Gao and Zhang (2020) acknowledge the serious challenges of 2020, these difficulties prompted renewed technological understanding and improved digital literacy.

COVID-19 helped learners become more confident and autonomous through the use of digital resources. Digital resources such as YouTube, Wikipedia, Google Dictionary, and Google Translate were used extensively during the COVID period, which helped both learners and teachers. According to Alakrash and Razak (2021), modern technologies support learners to undertake self-study. Khlaisang et al. (2021) observe that smartphones and laptops enable learners to engage across diverse learning environments, while well-designed activities help them solve complex problems and develop thinking skills through collaboration. Similarly, Liu et al. (2022) note that in a smart classroom, learning resources help develop learners' independent learning ability and increase their interest in learning. Furthermore, Khlaisang et al. (2021) espouse a positive outlook toward mobile technology, noting that it is suitable for collaborative, student-centered, and self-directed learning. While Henderson et al. (2015) acknowledge that modern technology supports learners' self-organization, they also conclude that it has limited impact on overall outcomes in higher education institutions. However, most researchers agree that digital resources increase EFL learners' self-learning abilities. Moreover, due to the inclusion of digital resources after the pandemic, learners' self-directed learning skills have grown further. Similarly, Aditya (2021) notes that her teacher participants also believed that digital learning would enhance the students' independence in learning and make them more autonomous. During COVID, students continued their studies online, and EFL students browsed digital resources to solve their problems and develop their ideas.

Triana and Nugroho (2021) observe that by using search engines such as Google, EFL students can easily get information. They also note that recent technology has packaged all social media applications into smartphones, and users can easily browse without any usage restrictions. According to Emelogu et al. (2022), cutting-edge technologies not only have the ability to simplify the authoring, posting, acquiring, and circulation of digital media but also have the capability to be easily accessed by learners anywhere and anytime. On the other hand, digital resources are becoming more popular due to their adaptable capacity. Khlaisang et al. (2021) also note that due to the nature of digital resources, they can be accessed more quickly during learning. Dweikat and Hasan (2021) also studied this topic, and their teacher participants mentioned various benefits of using smartphones including their portability and accessibility features. Khlaisang et al. (2021) identify the characteristics of mobile technology. According to them, this device is small in size, easy to carry, and has an internet connection, and for these reasons, it is being used in primary school teaching. Dweikat and Hasan (2021) further observe that, while people today rely heavily on various information and communication technology (ICT) tools, mobile phones specifically have contributed to making daily life more convenient. They also note that the widespread use of portable devices has created opportunities for students to engage in foreign language learning beyond temporal and spatial limitations.

In addition, following COVID-19, the teachers found the importance of using digital content to motivate the learners. Fansury et al. (2020) procured similar findings about the digital content but also acknowledged their capacity to be integrated into various digital resources, which ultimately makes the learning process easier. Although educational technologies are not new, the crisis necessitated learners' increased expertise. In this context, Zhao and Watterston (2021) urge the need for blended learning as a standard

mode to organize students while considering the experiences gathered during the COVID-19 crisis which should continue, especially the online parts in the post-pandemic phase as well. Rahayu et al. (2022) emphasize ensuring proper access to digital technologies and learning resources. Onyema et al. (2019) mention that learners' diverse needs can be met through the application of proper educational technologies. Zhao and Watterston (2021) add that, as a result of COVID-19, schools will have a unique opportunity to positively and proactively change, better education with technology may take place, creative ways to make education more equitable will be found, including reducing the digital divide. According to Zhao and Watterston (2021), the COVID-19 pandemic presents a unique opportunity for schools to make proactive, positive changes in education. This includes improving learning through better use of technology, finding creative solutions to make education equitable for everyone, and lessening the digital divide. So, it is clear that if the technology is properly accessible, digital materials can be completely attainable in the post-COVID EFL classes.

Teachers' Attitudes toward Using Cutting-Edge Technologies

During COVID, teachers and students found themselves compelled to use digital technologies, even though many were initially unfamiliar with them. Additionally, teachers often lacked familiarity with underutilized software and apps. Onalan and Kurt (2020) found their teacher participants' self-confidence was lower while integrating less commonly used software and applications. They gradually adapted to digital technologies but often didn't fully exploit their potential due to limited training opportunities. Nonetheless, they demonstrated increased confidence when engaging with technologies they were accustomed to through personal use (Onalan & Kurt, 2020). Alakrash and Razak (2021) also emphasize that expertise in hardware and software alone is insufficient for achieving professional teaching; teachers need to bridge the gap between teaching methodology, technology, and subject matter. Štemberger and Konrad (2021) identified positive attitudes among both teachers and students toward digital technology in education, although some reservations and limitations remained.

In the post-COVID era, teachers have become more familiar with technology, but the technologies themselves have continued to evolve and become increasingly complex (Pratolo & Solikhati, 2020). The adoption of cutting-edge technology presents opportunities and benefits. Onyema et al. (2020) notes that those who integrated emerging technologies into their teaching methods before the COVID-19 outbreak tended to experience more benefits than those who adopted them later. The integration of modern or cutting-edge technologies has opened new avenues in the English language learning context. In their review article, Klímová et al. (2023) identify several significant accomplishments led by cutting-edge technologies, including the advancement of lexical and grammar structures, enhanced reading comprehension and writing skills, improved confidence in English writing, heightened proficiency in listening and speaking, a better understanding of daily conversations, and overall fluency enhancement. Moreover, free and open resources are modifiable to meet the needs of teachers (Triana & Nugroho, 2021).

Additionally, technology-based learning settings offer adaptability and easy access to tailored learning activities (Khlaisang et al., 2021). In the post-COVID era, teachers have grown accustomed to using digital technology in EFL classrooms, largely due to the

perceived benefits and practical value it brings. Kohnke and Zou (2021) highlight that technology-affiliated classes have the capacity to motivate, engage, and facilitate collaboration among EAP (English for Academic Purposes) students, creating an authentic language learning environment. Similarly, Hakim (2020) indicates that technology-led classes ensure a relevant learning process, complete with authentic assessment methods. Ilter (2009) identified some advantages of technology affiliated EFL classes including informal learning, hands-on processes, genuine engagement activities and inventive projects.

Furthermore, modern online collaborative tools like Kahoot, wikis, and Google Docs have the capacity to ensure an equal opportunity to participate and engage anonymously, which creates a safer learning space where teachers can provide feedback anonymously and students can take risks without fear of making mistakes (Kohnke & Zou, 2021). During COVID, Hakim (2020) argued that the effective use of digital resources benefited both EFL learners and teachers by promoting collaboration with experts worldwide and offering multimedia language-learning experiences to a global audience. Similarly, Ilter (2009) indicates that technologies help weak learners explore their potential and create rich vocabularies by providing excellent authentic materials and daily conversations.

Theoretical Framework

In his Technology Acceptance Model (TAM), Davis (1989) identified the role of external factors in influencing users' perceived usefulness and perceived ease of use when accepting technology. During the pandemic, EFL teachers' attitudes and responses towards the use of digital technologies showed that teachers perceived the usefulness of these technologies not only during the crisis but also afterward.

Following the TAM model (Figure 1), this study aims to identify teachers' attitudes toward using digital lectures, digital resources, and cutting-edge technologies in the post-COVID context. This study considers teachers' beliefs regarding the extent to which digital technologies enhance teaching and learning as Perceived Usefulness (PU). In addition, teachers' perception of the ability to use digital technologies with minimal effort is considered as Perceived Ease of Use (PEOU). Teachers' overall attitudes toward the integration of digital technologies in post-pandemic EFL classes are expected to be shaped by these two constructs. This aligns with Davis's (1993) hypothesis that a user's attitude toward a system significantly influences whether they will actually use it.

Accordingly, the overall attitude of the teachers towards the application of digital technologies in the post-COVID setting is investigated through the dimensions of Perceived Usefulness (PU), Perceived ease of use (PEOU). Aligning this framework, teachers' attitudes toward digital lectures, digital resources, and cutting-edge technologies are translated as outcomes of these two TAM constructs.

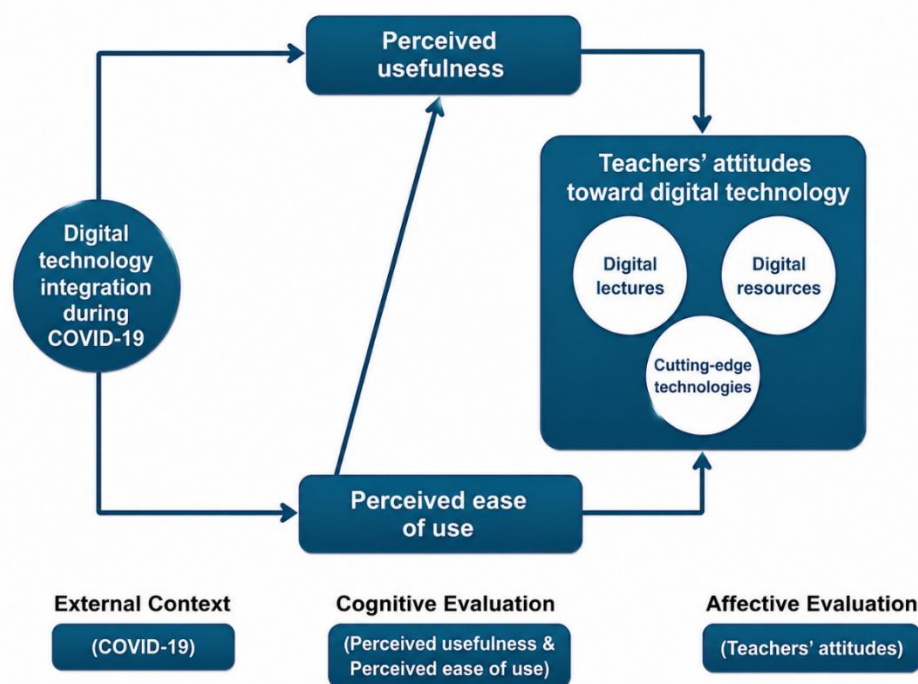


Figure 1: Adapted Technology Acceptance Model from Davis (1993)

Methodology

Research Design

This research is designed to identify teachers' attitudes in the post-COVID-19 landscape, specifically measuring their perspectives on digital lectures, resources, and cutting-edge technologies integrated during the pandemic. Therefore, the researchers chose a cross-sectional research design to explore the dynamics of the current attitudes of EFL teachers in the post-pandemic period. Furthermore, the cross-sectional design facilitated an efficient investigation of tertiary EFL teachers' attitudes toward digital lectures, digital resources, and cutting-edge technologies in post-pandemic classes through efficient data collection procedure and analysis (Bryman & Bell, 2019). In accordance with the design, the data were collected through a quantitative strategy, which were later analyzed to identify patterns and overall tendencies in teachers' responses. The quantitative design aided in analyzing the trend of integrating digital technology to evaluate the overall tendencies of Bangladeshi tertiary EFL teachers (Creswell, 2012). In addition, the closed-ended questionnaire enabled the researchers to pose specific, focused questions, allowing for the collection of measurable and observable data aligned with the objectives of this study (Creswell, 2012).

Sample

This research design identified the participants based on purposive sampling due to their likelihood to be a source of rich information in the researched area (Bryman & Bell, 2019). They also possessed the experience of teaching English in the post-pandemic era. In addition, non-probability sampling in the form of purposive sampling helped this research gain varied insights about teachers' attitudes toward digital technology and to measure the mindset associated with the technologies in a post-COVID EFL class (Dörnyei, 2007). A total of 61 teachers from 15 different private and public universities in

Bangladesh participated in this study. This was considered an appropriate sample size due to time limitations, access to the respective teachers, and lack of funding (Creswell, 2012). In addition, considering the objectives of this study, only the teachers teaching the English language were considered and selected for this study. It is also important to note that all participants were teaching at the tertiary level, which helped ensure the data reflect authenticity and timeliness regarding their attitude toward digital technology in the post-pandemic era.

Instrument

In order to measure teachers' attitudes toward digital technology in post-COVID EFL classes, a 15-item questionnaire was designed under four sections. The first section collected teachers' demographic information, including their teaching experience during the pandemic and the post-pandemic periods. The second section collected opinions from the teachers about their attitudes toward digital lectures, and the third and fourth sections were designed to figure out teachers' attitudes toward digital lectures and cutting-edge technologies in post-COVID EFL classes, respectively. To ensure the questionnaire addressed the research questions effectively, it was newly developed based on thematic definitions from the literature and previous studies (Alhabdan, 2021). Adapting an existing instrument was not feasible, as no existing questionnaire fully addressed the unique context and variables of this study. Being an emerging research topic, existing instruments did not capture the specific attitudes toward digital lectures, digital resources, and cutting-edge technologies in post-COVID EFL classrooms. Furthermore, adapting an existing instrument would have required substantial changes, potentially compromising its validity (Patten, 2017). The three key variables—digital lectures, digital resources, and cutting-edge technologies—were defined through a review of studies on post-COVID digital integration. During this process, the Technology Acceptance Model (TAM) provided the conceptual basis to operationalize teachers' attitudes toward the integration of digital technology. The questionnaire focused on the two core TAM constructs: Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) to align the theoretical framework adopted in this study. Items addressing the effectiveness, accessibility, pedagogical value, learner engagement, and benefits of digital technologies were developed to reflect teachers' perceptions of usefulness, whereas items related to flexibility, convenience, adaptability, confidence, and ease of accessing or modifying digital materials reflected perceived ease of use. The overall evaluation of teachers' responses across these two dimensions was interpreted as their attitude toward integrating digital lectures, digital resources, and cutting-edge technologies in post-pandemic EFL classrooms (Table 1). All items were closed-ended and introduced to the participants through a five-point Likert scale, from 'strongly disagree' to 'strongly agree', which included a neutral midpoint to capture a range of responses (McDonough & McDonough, 2014). Two experts in the field of ELT thoroughly reviewed the questionnaire for inconsistency and correlation among the items before dissemination. Considering the total sample size, the reliability of the questionnaire was measured after collecting 10 responses from the teachers (Table 2). Cronbach's alpha was used to measure internal consistency through SPSS version 25.0. The value was measured as 0.766 after considering all 15 items, whereas based on the standardized item, the Cronbach's alpha value was recorded as 0.780. As the value was > 0.7 (0.766), it can be said that the questionnaire had internal consistency, aligned with the research objectives,

and was comprehensible to the participants (Cortina, 1993). However, the lowest corrected item-total correlation was recorded at 0.422 for question items 3 and 9, which indicates a slightly weaker contribution to overall reliability. These items could be addressed in future research by rephrasing them for better clarity and alignment with the construct. Additionally, piloting the revised items with a similar participant group may further refine their contributions to reliability.

Table 1

Questionnaire Domain	Item No.	Indicator	TAM Construct
Digital Lectures	1	Effectiveness and efficiency	Perceived Usefulness
	2	Interesting classroom	Perceived Usefulness
	3	Flexibility and sharing	Perceived Ease of Use
	4	Interactive learning	Perceived Usefulness
	5	Accessibility	Perceived Usefulness
Digital Resources	6	Accessibility	Perceived Usefulness
	7	Self-learning	Perceived Usefulness
	8	Convenience of browsing	Perceived Ease of Use
	9	Adaptability to portable devices	Perceived Ease of Use
	10	Attainability of materials	Perceived Ease of Use
Cutting-edge Technologies	11	Confidence in using technology	Perceived Ease of Use
	12	Additional benefits	Perceived Usefulness
	13	Ease of modifying materials	Perceived Ease of Use
	14	Authentic learning environment	Perceived Usefulness
	15	Safe learning environment	Perceived Usefulness

Note: The questionnaire items were conceptually aligned with the Technology Acceptance Model (TAM). Teachers' overall attitudes toward digital lectures, digital resources, and cutting-edge technologies were interpreted through the combined evaluation of Perceived Usefulness (PU) and Perceived Ease of Use (PEOU).

Table 2: *Cronbach's Alpha Internal Consistency for the Reliability of the Quantitative Data Collection Tool*

Case Processing Summary			
		N	%
Cases	Valid	10	100.0
	Excluded ^a	0	.0
	Total	10	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.766	.780	15

Cronbach's alpha internal consistency

Data Collection

To collect data from the teachers, this study used both electronic media and face-to-face measures to enhance the rate of data collection and to remain consistent with the cross-sectional methodology adopted by this study. Electronic data collection was introduced through Google Forms due to its familiarity and quick mode of dissemination (Creswell, 2012), and then the forms were circulated to the participants through different social media platforms (e.g., Messenger, WhatsApp, etc.). At the same time, hard copies of the questionnaire were provided to the teachers during campus visits. It should also be noted that the teachers were informed about their ethical rights before processing the questionnaire. It was ensured that the participants provided their consent before data collection.

Data Analysis

Descriptive statistics were used to analyze the quantitative data collected in this study. This helped the study to explore the gathered data to meet the objectives of the study (Creswell & Clark, 2017). This study used SPSS version 25.0 in order to analyze teachers' attitudes toward digital technology in post-pandemic EFL classes. Teachers' demographic status, including their designation, institution, gender, teaching experience, and most importantly, their experience of teaching in both pandemic and post-pandemic online teaching, are displayed in percentile form in pie charts (Figures 2, 3, 4, 5, 6, and 7). The second section presents the study's analysis, including the mean, median, mode, standard deviation, and overall mean score to measure teachers' attitudes toward digital lectures, digital resources, and the application of cutting-edge technologies in their post-pandemic EFL classes (Tables 3, 4, and 5). It should also be noted that there were no missing values found in any of the 15 items. In addition, the responses are also shown as percentages (Table 6), with 'strongly agree' and 'agree' combined into a single 'agree'

category to provide a clearer and more concrete representation of the respondents' opinions. Although the findings are depicted aligning the three technology domains examined in this study, the interpretation of the descriptive statistics was informed by the underlying TAM constructs of Perceived Usefulness (PU) and Perceived Ease of Use (PEOU).

Ethical Approval

This research was undertaken in strict conformity with the ethical regulations of the Research Ethics Committee, World University of Bangladesh, which approved the research protocol (Approval number: WUB/REC/22023-07-00001).

Findings

The demographic data show that teachers with designations ranging from lecturers to professors participated in this study, though over 59% of the teachers were lecturers and more than 26% were assistant professors (Figure 2). The teachers represented 15 different institutions, including both private and public universities (Figure 3). Among the teachers, more than 54% were female, whereas almost 46% were male (Figure 4). Though most of the teachers (47.54%) had experience teaching for 0–5 years (Figure 5), a significant number of teachers (13.11% + 13.11% = 26.22%) had teaching experience for more than 10 years. Teachers' experience teaching through online modalities has also been considered, and the data show that over 86% of the teachers taught online during the pandemic, while under 14% had no opportunity to teach at that time (Figure 6). Interestingly, similar results were found when teachers' post-pandemic online teaching experiences were recorded (Figure 7)

Figure 2: Designation of the Teachers

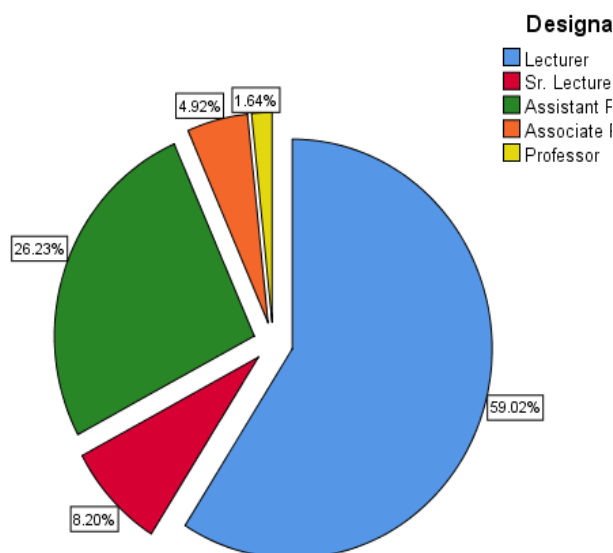


Figure 3: Teachers' Teaching Institutions

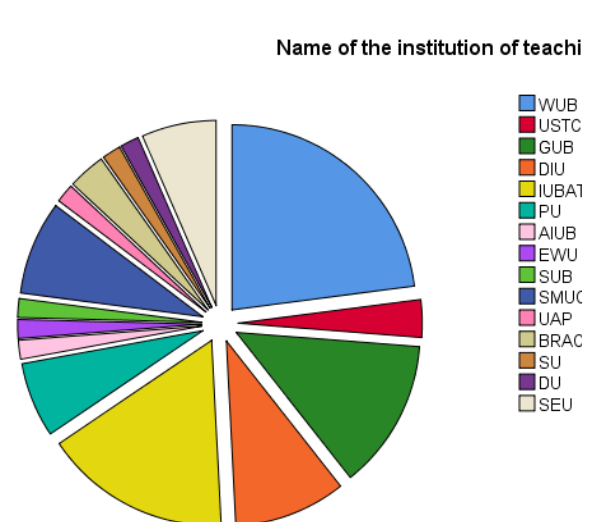
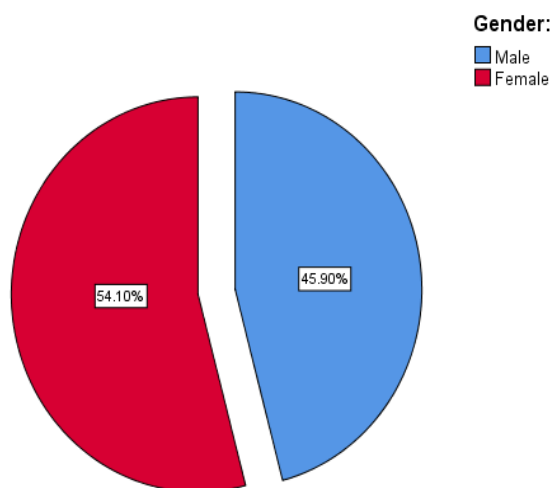
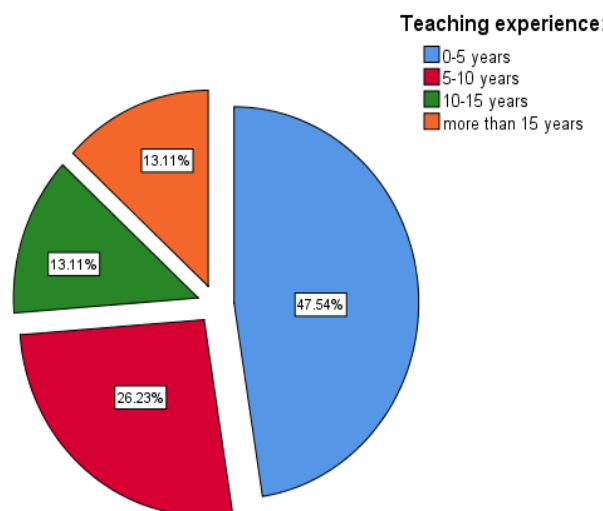
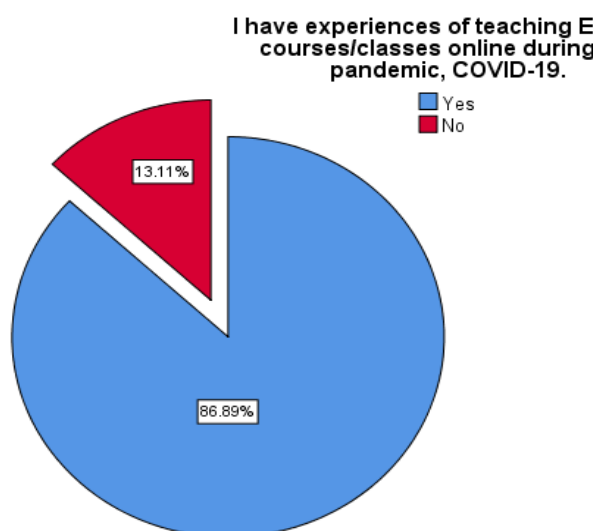
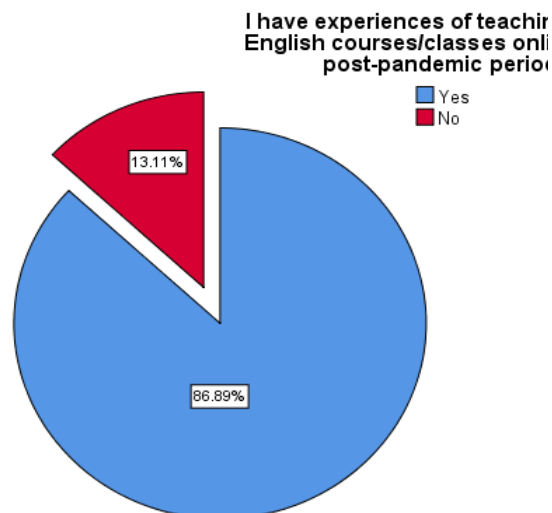


Figure 4: Gender**Figure 5: Teaching Experience****Figure 6: Teachers' Online Teaching Experience During COVID-19****Figure 7: Teachers' Online Teaching Experience in the Post-Pandemic Period**

To address research question 1, a set of five items were used, and the overall mean score (3.9) (Table 3) suggests that the teachers ($n = 61$) felt very positively toward the use of digital lectures in their post-pandemic EFL classes. A mean score of 4.49 ($SD = 0.674$) indicates that the teachers felt highly positively toward digital lectures, as 98.4% agreed that they would create digital lectures in the post-COVID EFL classes due to their flexibility and sharing capacity. However, the teachers felt comparatively less positively toward the ability of digital lectures to make a post-pandemic EFL class interactive (mean

= 3.51, SD = 1.105), as only 59% agreed with this viewpoint. They expressed very positive attitudes toward the application of digital lectures in order to make a post-pandemic EFL class interesting (mean = 3.89, SD = 0.915) (77.1% agree), effective and efficient (mean = 3.84, SD = 0.952) (75.5% agree), and accessible (mean = 3.77, SD = 0.864), (70.5% agree).

Table 3: *Teachers' Attitudes Toward Digital Lectures*

Teachers' attitudes toward digital lectures	N		Mean	Median	Mode	Std. Dev.
	Valid	Missing				
1. English language teachers will create digital lectures due to its effectiveness and efficiency in the post-COVID period.	61	0	3.84	4	4	0.952
2. Digital lectures will make the English language classroom more interesting in the post-COVID period.	61	0	3.89	4	4	0.915
3. Due to the flexibility of digital lectures, English language teachers can easily share them through smartphones or laptops.	61	0	4.49	5	5	0.674
4. Digital lectures can make learners interactive in a post-COVID English language learning class.	61	0	3.51	4	4	1.105
5. Teachers can create an easily accessible learning environment through digital lectures in a post-COVID English language learning class.	61	0	3.77	4	4	0.864
Overall score	61	0	3.9	4.2	4.2	0.902

Teachers' attitudes toward digital lectures

To examine the second research question, another set of five items were used, and the overall mean score was 4.09, as shown in Table 4. It suggests that the teachers ($n = 61$) were very positive toward the use of digital resources in their post-pandemic EFL classes. The high mean score of 4.26 (SD = 0.656) indicates that the teachers were highly positive toward digital resources, as 91.8% agree that they were popular due to their adaptability to portable devices. However, teachers were comparatively less positive toward the ability of digital resources to enhance EFL learners' self-learning abilities (mean = 3.67, SD = 1.044) as only 62.3% agreed with this statement. In addition, they showed positive attitudes toward digital resources due to their ability to make teaching and learning more

accessible (mean = 4.23, SD = 0.761) (91.8% agree), convenience while browsing them (mean = 4.16, SD = 0.663) (88.5% agree), and complete attainability when accessing them (mean = 4.11, SD = 0.877) (86.9% agree) in the post-COVID EFL class.

Table 4: Teachers' Attitudes Toward Digital Resources

Teachers' attitudes toward digital resources	N		Mean	Median	Mode	Std. Dev.
	Valid	Missing				
6. Digital resources will make teaching-learning more accessible in the post-COVID EFL class.	61	0	4.23	4.00	4	0.761
7. EFL learners' self-learning ability has risen after the pandemic due to the inclusion of digital resources.	61	0	3.67	4.00	4	1.044
8. Browsing digital resources for developing English language has become more convenient in the post-COVID EFL class.	61	0	4.16	4.00	4	0.663
9. Digital resources are getting popular due to their adapting capacity in portable devices.	61	0	4.26	4.00	4	0.656
10. Digital materials can be completely attainable in the post-COVID EFL class if the technology is properly accessible.	61	0	4.11	4.00	4	0.877
Overall score	61	0	4.09	4.00	4	0.800

Teachers' attitudes toward digital resources

Another set of five items were used to address the third research question, and the overall mean score was 3.98, as shown in Table 5. This means that all the teachers ($n = 61$) were very positive toward the use of cutting-edge technologies in their post-pandemic EFL classes. The teachers' high positivity can be identified from the 91.8% who agreed about the additional benefits of cutting-edge technologies, as also shown by their mean score of 4.21 (SD = 0.581). However, compared to other variables, teachers were less positive toward the use of cutting-edge technologies to create a safer space (mean = 3.69, SD = 0.786) for learning English in the post-pandemic period, as only 62.3% teachers agreed with this opinion. Nonetheless, they were very positive toward their ability to easily modify open materials (mean = 4.11, SD = 0.733) (86.9% agree) and to create an authentic language learning setting in the post-COVID period (mean = 3.87, SD = 0.763) (73.7% agree). The findings also revealed that 80.3% of teachers felt they would require additional time to be confident enough to use cutting-edge technology (mean = 4.00, SD = 0.837).

Table 5: *Teachers' Attitudes Toward Using Cutting-Edge Technologies*

Teachers' attitudes toward using cutting-edge technologies	N		Mean	Median	Mode	Std. Dev.
	Valid	Missing				
11. Teachers will need more time to be confident to use cutting-edge or new technology in the post-COVID EFL class.	61	0	4.00	4.00	4	0.837
12. Teachers embracing cutting edge or new technology will have additional benefits in the post-COVID EFL class.	61	0	4.21	4.00	4	0.581
13. Teachers will be able to easily modify open materials to prepare lectures for the post-COVID EFL class through the use of cutting-edge or new technology.	61	0	4.11	4.00	4	0.733
14. Cutting edge or new technology will help the English language teachers to create an authentic language learning setting in the post-COVID period.	61	0	3.87	4.00	4	0.763
15. Cutting-edge or new technology will create a safer space for learning English in a post-COVID class.	61	0	3.69	4.00	4	0.786
Overall score	61	0	3.98	4.00	4	0.740

Teachers' Attitudes Toward Using Cutting-Edge Technologies

Table 6: *Teachers' Attitudes towards Digital Integration*

Factors		SA	A	N	D	SD
		Percentage (%)				
Teachers' attitudes toward digital lectures	1. English language teachers will create digital lectures due to its effectiveness and efficiency in the post-COVID period.	23	52.5	9.8	14.8	0
	2. Digital lectures will make the English language classroom more interesting in the post-COVID period.	23	54.1	13.1	8.2	1.6
	3. Due to the flexibility of digital lectures, English language teachers can easily share them through smartphones or laptops.	54.1	44.3	0	0	1.6
	4. Digital lectures can make learners interactive in a post-COVID English language learning class.	18	41	18	19.7	3.3
	5. Teachers can create an easily accessible learning environment through digital lectures in a post-COVID English language learning class.	16.4	54.1	21.3	6.6	1.6
	6. Digital resources will make teaching-learning more accessible in the post-COVID EFL class.	36.1	55.7	4.9	1.6	1.6
Teachers' attitudes toward digital resources	7. EFL learners' self-learning ability has risen after the pandemic due to the inclusion of digital resources.	23	39.3	21.3	14.8	1.6
	8. Browsing digital resources for developing English language has become more convenient in the post-COVID EFL class.	29.5	59	9.8	1.6	0
	9. Digital resources are getting popular due to their adapting capacity in portable devices.	36.1	55.7	6.6	1.6	0
	10. Digital materials can be completely attainable in the post-COVID EFL class if the technology is properly accessible.	32.8	54.1	8.2	1.6	3.3
Teachers' attitudes toward using cutting-edge technologies	11. Teachers will need more time to be confident to use cutting-edge or new technology in the post-COVID EFL class.	26.2	54.1	14.8	3.3	1.6
	12. Teachers embracing cutting edge or new technology will have additional benefits in the post-COVID EFL class.	29.5	62.3	8.2	0	0
	13. Teachers will be able to easily modify open materials to prepare lectures for the post-	27.9	59	11.5	0	1.6

COVID EFL class through the use of cutting-edge or new technology.

- | | |
|--|---|
| <p>14. Cutting edge or new technology will help the English language teachers to create an authentic language learning setting in the post-COVID period.</p> <p>15. Cutting-edge or new technology will create a safer space for learning English in a post-COVID class.</p> | <p>18 55.7 21.3 4.9 0</p> <p>13.1 49.2 31.1 6.6 0</p> |
|--|---|

Teachers' Attitudes towards Digital Integration

The findings imply that the teachers would develop a strong relationship with digital lectures in the post-COVID period due to the lectures' flexibility, sharing capacity, and ability to make classrooms more engaging, effective, accessible, and interactive. Teachers' positivity toward digital resources implies a growing affinity for digital lectures, as they were deemed valuable for their adaptability, accessibility, convenience, attainability, and support for self-learning. Although teachers acknowledged the need for more time to confidently use cutting-edge technologies, the implications remain positive, given their benefits in modifying open materials, fostering authentic language learning, and creating safer spaces for English learning post-pandemic.

Discussion

The study contributes substantially to the current understanding of EFL teachers' attitudes toward digital technology in post-COVID EFL classes in Bangladesh. It gathers strong evidence regarding teachers' satisfaction with digital lectures, digital resources, and cutting-edge technologies. In line with the Technology Acceptance Model (TAM), these positive attitudes can be understood by identifying teachers' perceptions of the usefulness and ease of use of digital tools, especially as technology becomes a growing phenomenon in their professional practice within the post-pandemic landscape.

The present study indicates teachers' positive perceptions of digital lectures for making post-pandemic EFL classes flexible, shareable, interesting, effective, and efficient. Such perceptions suggest that teachers understand the pedagogical value of digital lectures in supporting flexible instruction and improving classroom management. These findings are consistent with Augustin et al. (2024), who argued that the effective integration of digital technologies enhances teachers' instructional practices. This result is also consistent with Scagnoli (2019), who observed that in online classes, the integration of video lectures may not only boost content engagement but also contribute positively to students' overall learning experience. Similarly, Apoko and Warni (2022) found that even EFL preservice teachers exhibited higher levels of motivation in developing digital learning videos, despite experiencing difficulties in sourcing materials.

Though most EFL teachers are generally positive toward digital lectures, a significant portion is less optimistic about their ability to make post-pandemic EFL classes interactive. Teachers' relatively lower ratings for interactivity and accessibility indicate that some still adore face-to-face classes for immediate feedback, spontaneous communication, and collaborative learning. Consequently, digital lectures are recognized

as supplementary tools rather than a complete replacement of traditional classroom instruction. Previous studies support this nuanced educational value. Leung (2017), for example, reported that tertiary students acknowledged the contribution of digital lectures to their learning, although they did not regard them as replacements for face-to-face instruction. Similarly, while exploring hybrid limits, Kokoç et al. (2020) demonstrated that video lectures improve learning outcomes in e-learning environments for learners with varying levels of sustained attention. Viewed through the TAM framework, these findings indicate that teachers perceived digital lectures as both useful and relatively easy to use, thereby fostering positive attitudes toward their continued integration in post-pandemic EFL classes.

Teachers also demonstrated strongly positive attitudes toward digital resources, highlighting their continued importance in supporting language teaching after the pandemic. Teachers have become increasingly familiar with locating, adapting, and integrating digital materials following several years of technology-supported instruction. As digital resources provide immediate access to authentic, diverse, and adaptable learning materials, teachers are likely to perceive them as convenient tools for improving teaching effectiveness while simultaneously reducing the effort required to prepare instructional content. Such perceptions correspond to the TAM constructs of perceived usefulness and perceived ease of use, which together contribute to favorable attitudes toward technology integration.

The present findings are consistent with previous studies examining the role of digital resources in language education. Santosa (2017) demonstrated that integrating digital resources within flipped learning significantly improved Indonesian Generation Z students' English proficiency, highlighting the combined benefits of technology-enhanced learning and digital materials. Likewise, Fauziyah et al. (2023) found that platforms such as YouTube, Quizizz, and Duolingo enhanced students' speaking performance, illustrating the pedagogical value of digital resources in post-pandemic EFL classrooms. Rahimi (2024) further reported that, despite initial challenges relating to digital literacy and limited technological infrastructure, teachers increasingly embraced innovative online learning activities in the post-COVID period. The current findings also resonate with Ermawati et al. (2021), who reported that teachers experienced difficulties in locating curriculum-aligned digital listening materials, despite relying extensively on platforms such as YouTube. Collectively, these studies suggest that although challenges remain, teachers recognize digital resources as highly useful and accessible components of post-pandemic EFL instruction.

Regarding cutting-edge technologies, the findings indicate that teachers generally held positive attitudes toward adopting cutting-edge digital technologies in post-pandemic EFL classes. This positive perception may reflect teachers' growing awareness that technologies such as artificial intelligence, adaptive learning systems, and other emerging digital tools offer opportunities to personalize instruction, increase learning authenticity, and improve instructional efficiency. Such findings indicate strong perceptions of usefulness, as teachers recognized the additional pedagogical benefits provided by these technologies.

These findings support previous research on technology integration in language education (Huang et al., 2019; Tanjung, 2020; Alakrash & Razak, 2021; Rocque, 2022; Al-

Khresheh, 2024). Rocque (2022), for instance, emphasized that artificial intelligence technologies enhance learning personalization and improve educational outcomes. Similarly, Alakrash and Razak (2021) reported that widespread adoption of digital tools positively influenced language teaching and learning, reinforcing the value of integrating cutting-edge technologies into EFL classes.

Nevertheless, although teachers recognized the educational benefits of cutting-edge technologies, they expressed comparatively lower confidence regarding their ability to create an authentic and safer learning environment. This finding suggests that teachers' perceptions of usefulness have developed more rapidly than their perceptions of ease of use. Cutting-edge technologies, according to Haque and Al-Mamun (2025), continue to evolve rapidly, requiring continuous professional development, institutional support, and practical experience before teachers feel fully confident in applying them effectively. Consequently, teachers appear willing to adopt these technologies while simultaneously recognizing the need for more time to be fluent and confident. Similar observations were reported by Al-Khresheh (2024), who found that experienced teachers regarded technologies such as ChatGPT as tools for enhancing rather than replacing their professional expertise. Likewise, Huang et al. (2019) demonstrated that teachers' positive attitudes towards educational technology were strengthened by greater access to technological resources and institutional support. These findings suggest that increasing opportunities for professional development and sustained technological support may further enhance teachers' confidence in integrating cutting-edge technologies into post-pandemic EFL classes.

Recommendations, Limitations and Scope for Further Study

This study found that teachers viewed the use of digital technology positively in post-pandemic EFL classes. Similar findings were identified by Onyema (2019), where participants acknowledged the integration of modern technologies as beneficial to developing learning experiences. To increase learners' motivation and interactivity in an EFL class, this study recommends that tertiary EFL teachers strengthen their affiliation with digital technology. Teachers can design their lectures digitally and disseminate digital resources for better accessibility in the classes. Additionally, the adoption of modern or cutting-edge technologies may help EFL teachers design classes more effectively and efficiently.

This study acknowledges the limited number of participants as its major limitation. Though the data reflect teachers' positive attitudes toward digital technology, it was found that many of the teachers were less motivated to participate in this study. Additionally, the shortage of time also hindered the ability to collect data from more participants, which ultimately restrained this study from generalizing its findings to all tertiary teachers in Bangladesh. This study only measures teachers' attitudes toward digital lectures, digital resources, and the applications of cutting-edge technologies, whereas teachers' attitudes toward other aspects—such as learners' evaluation through digital technology, technology-led interactive classes, and preparing digital content—remain unexplored.

The limitations identified by this study provide opportunities for future research. This study suggests that teachers' true perceptions of using digital technology in post-pandemic EFL classes could be further understood through qualitative methods. In-

depth interviews and open-ended responses may reveal richer insights into teachers' attitudes toward adapting to digital technologies after the pandemic. Moreover, gathering larger and more diverse data across Bangladesh could increase generalizability and strengthen the claims made here, which consider only three variables. This would open avenues for future researchers to investigate other variables, such as teachers' attitudes toward digital evaluation, interactive digital classes, and content creation, to comprehensively measure Bangladeshi teachers' attitudes toward digital technology.

Conclusion

Teachers' positive attitudes toward digital lectures, digital resources, and cutting-edge technologies support the TAM, as their cognitive and affective responses predict the actual use of digital technology. The findings reveal teachers' strong intentions to use digital technologies in the post-pandemic phase. Given the widespread adoption of digital technology—accelerated by the COVID-19 pandemic—it is only a matter of time before it contributes to almost every aspect of EFL pedagogy. Portable and cutting-edge technologies have made it easier for tertiary EFL teachers to remain engaged with digital tools not only during the COVID-19 crisis but also afterward.

This research explored teachers' positive attitudes toward using digital technology in post-pandemic EFL settings, specifically through digital lectures, digital resources, and cutting-edge technologies. This dependency emerged during the COVID crisis, when teachers had to pivot to online teaching as an emergency measure. While Bangladeshi EFL teachers are generally not considered highly techno-savvy (Howlader, 2022), the results indicated that the tertiary teachers still held a very supportive attitude toward integrating digital technologies in the post-pandemic period. Digital technology has significant potential in post-pandemic Bangladesh, given the rising significance of digital learning in the country's higher education sector (Rahman, 2020). However, it is important to note that technology alone is not sufficient to motivate learners; instead, lessons should be embedded in well-designed technological classrooms with strong pedagogical considerations (Ilter, 2009). Encouragingly, this understanding appears to be emerging among Bangladeshi EFL teachers, as reflected in the participants' attitudes. The current study serves as concrete evidence to support the viewpoint that teachers are highly positive toward the use of digital technologies and are ready to adapt cutting-edge tools in their post-pandemic EFL classes.

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