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## Online Learning and Barriers Encountered: A Case Study from an English Language Teaching (Elt) Context

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### **Abstract**

*Online learning has been widely practiced in higher education contexts across the globe. The researchers have approached it from different perspectives and focused on the different dimensions of online learning. This study was carried out to unpack the barriers encountered by students in online learning in English Language Teaching (ELT) context in Pakistan. Data gathered by means of cross-sectional survey research design were descriptively analyzed through SPSS. The findings revealed that the students faced various issues including technological, personal, educational, and environmental ones in online learning. These issues will help the policy makers, syllabus designers and teachers to take well informed, grounded decisions, design and plan actions, courses, and methodologies accordingly. The study will assist to facilitate students and improve online learning in future.*

**Keywords:** *digital linguistics, digital learning, Barriers in digital learning, technology, TIPEC framework.*

### **1. Introduction**

Technology is one of the foundations for implementing 21st-century learning. Unquestionably, organizing digital technology-based learning requires cutting edge technological skills and knowledge on part of the teachers. The ability of teachers to incorporate technologies in their methods in the classrooms will decide how well students learn, particularly in this digital era (Alexander, B., Adams Becker, S., & Cummins, M., 2016; Berutu, N., Delita, F., Astuti, A. J. D., Novira, N., & Wirda, M. A., 2019). Online learning is a form of education that uses Information and Communication Technology (ICT). There are two popular forms of online learning: fully online learning and partially online learning (Dhull and Sakshi, 2017). Fully online learning entails doing all educational activities online. Learning activities include synchronous and asynchronous activities while partially online learning allows for paper and digital learning resources (Liguori & Winkler, 2020). Social networking services (SNS), which provide free assistance and are widely used for both synchronous and asynchronous instruction, are now a part of English education (Citrawati, Suwastini, Jayantini, Artini, & Dantes, 2021). As part of e-learning, electronic devices and applications are employed in the learning process. E-learning enables virtual communication between experienced teachers and students. The first learning management system (LMS), such as WebCT (later renamed Blackboard), now developed using the Web: LMSs offer a platform for online instruction where information may be added and arranged (Bates, 2015). Min Pun (2013) investigates how technology is used in ELT in Nepal.

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He claims that English has evolved into as L2 and L3 for most people and even for some it serves as L1.

Technology and English language are globalized tools used by majority of people in the world. However, current data from the World Economic Forum indicates that most African and Asian nations confront a significant digital skills gap that affects the educational sector as well. For instance, in Pakistan the educational institutions have recently turned to digitalize their academic systems. There still exist several obstacles that prevent educational institutions from adopting online learning systems. Recent studies have recommended e-learning, although it is still unclear how well or effectively it can be used. First, no systematic empirical research has tried to look into and evaluate the key variables affecting the outcomes of e-learning. It is generally believed that e-learning fails to motivate students. Further, the effectiveness of remote learning mostly depends on the practical skills of the teachers and students. We know that a special cultural environment for distance learning also exists, which is quite new to students, professors, and educational institutions in Pakistan. Consequently, there arises the need of organizing proper workshops, seminars, and training programs on online learning for teachers and students that will help not only to equip them with E-learning skills but also create an E-learning environment correspondingly. The present study is an attempt to unpack the barriers faced by students in online learning in English language teaching classrooms in Pakistan.

This study bears importance both for teachers and students. The study aims to identify the main challenges related to the adoption and effective use of E-Learning systems in Pakistan, in an educational context where interest in distance learning has gain impetus very recently after covid-19 scenario. The research will help to identify learning barriers that will create efficient tactics and models for teaching English in the digital age, improving teaching practices in developing nations. A good understanding of these gaps and loopholes can lead to adoption of strategies and measures that will improve future E-learning practices considerably.

In view of the aforementioned background, the present research aims to investigate the barriers faced by students in online learning in English language teaching classes in Pakistan.

### 1.1 Digitalization and Language Learning

Digitization of language teaching and learning practices have been considerably increased in recent years. The research studies revealed that, despite various challenges in Asia and Africa, digital learning is still an essential requirement of the modern world. [Min Pun \(2013\)](#) examined the use of technology in ELT context in Nepal. The study reported that English has evolved into an L2 and L3 language for the majority of people and even served as an L1 for some but very limited number of them. Technology, including radio, movies, TV, and records, has long been utilized in Nepal to teach and study languages. Technology has emerged as important component of the society that enabling the people to comprehend the wider picture of the world and enhance certain skills related to language learning. Similarly, social networking services (SNS), which provide free assistance and are widely used for both synchronous and asynchronous instruction, are now a part of English education ([Citrawati, Suwastini, Jayantini, Artini, & Dantes, 2021](#)).

Language and literacy standards for ELT have been redefined in the digital age. A revolution in language usage has been made possible by the fast growth of ICT (Information and Communication Technology). Online contexts have made it possible to utilize creative and flexible spelling through the use of code hybridization, stylistic capitalization and punctuation, new genres and conversational structures, new social networks, and digital identities. The

traditional four-skill paradigm of text-based grammar study, which outlines the English language instruction curriculum, is no longer adequate for describing language and literacies in this information age (Lotherington, 2004). There is a potential correlation between (a) Digital empowerment and teachers' overall self-efficacy, and (b) the degree of digital empowerment and teacher self-efficacy attitudes of potential ELT teachers (Sarycoban, 2013).

## **1.2 Technology, Individual, Pedagogy and Enabling Conditions (TIPEC) Framework and Digital Learning**

The TIPEC framework has very rigorously explained and explored the teaching and learning process in relation to technology but unfortunately very limited number of studies have applied this framework (Bogoslov and Lundu, 2020). Based on the TIPEC framework, Krishnamoorthy and Soh (2021) evaluated 42 research studies. The evaluation sought to determine how much internet accessibility might impact the technology-based pedagogy used in Malaysian primary schools' science classes. Some researchers employed the TIPEC framework using various methodologies, in contrast to Bogoslov and Lundu (2020) and Krishnamoorthy and Soh (2021), who carried out their analyses utilizing a meta-analysis methodology. For instance, Diningrat, et al. (2020) used the TIPEC framework to analyze the pedagogical abilities of early childhood lecturers and study their views of impediments in online teaching practices. The research concluded that these instructors faced considerable obstacles related to pedagogical and enabling settings.

The present study looks at university students' views of the problems they experienced in ODL during the COVID-19 epidemic, will contribute fresh insight to the existing literature because studies employing the TIPEC framework to examine the challenges among students in ODL in Pakistan are still uncommon. No major advancements in online distance learning have been made in Pakistan, notably in Mardan Khyber Pakhtunkhwa. The study poses the following questions:

- What are the technological and individual barriers in language learning encountered by students digitally?
- What are the enabling conditions and pedagogical obstacles students face when learning a language online?

## **2. Research Methodology**

### **2.1 Research Design**

Cross-sectional surveys are one of the most often used survey designs because they allow researchers to analyze current attitudes, opinions, or practices by gathering data at a single moment in time (Creswell, 2012). Cross-sectional surveys may be thought of as a snapshot that provides an overview of the subject matter the researcher is interested in. (Hofer, Silwinski, & Flaherty, 2002). Cross-sectional studies have several benefits. Surveys are adaptable, may be utilized with a variety of populations, and can cover a wide range of human behaviors and situations. Additionally, cross-sectional studies cost less than experimental or other forms of research (Hofer, Silwinski, & Flaherty, 2002). Keeping in view the potential of cross-sectional survey study design, the present study has opted for the same and adopted a quantitative methodology.

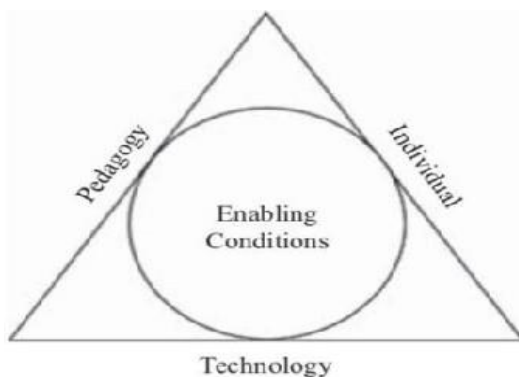
### **2.2 Data Collection and Participants**

It is ideal to use a large population in all types of study, but most of the time it is not feasible to include all subjects because the population is virtually infinite. For this reason, a convenience

sample from the MARDAN, i.e., students from three institutions (Abdul Wali Khan University Mardan, Government Post Graduate College for Women Mardan, and Government Post Graduate College for Boys Mardan) is used for the study. Members of the target population who meet certain practical criteria, such as easy accessibility, geographic proximity, availability at a specific time, or a willingness to participate, are included in the study through convenience sampling, a type of nonprobability or nonrandom sampling (Fink, 2003). The researcher collected data using an online questionnaire through WhatsApp and e-mails within Mardan. Further, the collected data is analyzed by using SPSS software. Further, the reliability of the obtained data was interpreted through Cronbach’s alpha by SPSS.

### 2.3 Theoretical Framework

To address the barriers on online learning, Ali, Uppal and Gulliver (2018) developed a theoretical framework comprised four components i.e. technological, personal, pedagogical, and enabling conditional (TIPEC). This framework not only contains comprehensive dimensions of obstacles and meets the characteristics of developing nations, but it has also the most recent in-depth qualitative reviews of online teaching research studies from 1990 to 2016 (Ali et al., 2018). The TIPEC framework used four conceptual categories—enabling, educational, personal, and technological elements for classification of the obstacles faced by the learners in online learning. Keeping in view the potential of the framework, the current study is guided by the same framework.



TIPEC Framework- (Ali et al., 2018).

### 3. Data Analysis

Figure 1, based on the theoretical framework, shows the design of the questionnaire which covered the following areas/dimensions.

**Figure 1:** Barriers in Distant Online Learning.

Dimensions	Barriers
Technological (T)	Technological Issue (T1), Technical Support (T2), Bandwidth Issues (T3), Software and Interface Design (T4)
Individual (I)	Effective Response (I1), Digital Skill (I2), Learning Environment (I3), Digital Knowledge (I4), And Financial Difficulties (I5).
Pedagogical (P)	Learning-Centered Approach (P1), The Relevance Of Course Content (P2), Pre-Course Orientation (P3), Immediate Response from Faculty (P4), Online Engagement, And Digital Education Material (P5).
Enabling Condition (E)	Rules And Regulation (E1), Security and Privacy Issues (E2), Policy Implementation (E3), Power Out-Rage (E4), Preference for Lms (E5)

The students' perception questionnaire has four dimensions: technological, individual, pedagogical, and enabling conditions. The items of the questionnaire which aimed to explore students' perception of barriers in emergency online learning are adopted from the TIPEC framework (Ali et al., 2018). Cronbach's alpha coefficient was calculated to assess the internal consistency of the data. The value of Cronbach's alpha was .97 which implied very good internal consistency and reliability. Further, to check the validity of the questionnaire Pearson with a two-tailed test is carried out ( $N-2=38$ ,  $p=0.05$ ) showing that its validity.

### 3.1 Findings

The findings of the study are organized question-wise. First, findings on RQ1 are given then followed by RQ2.

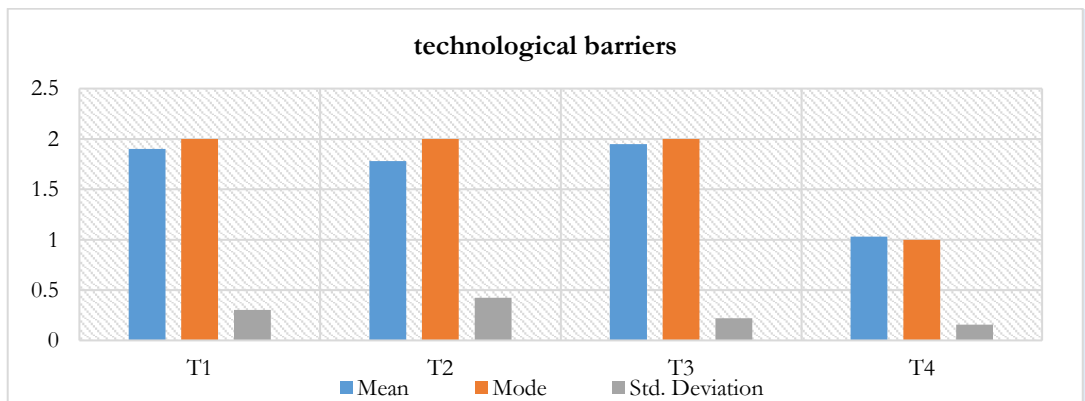
#### 3.1.1 Technological Barriers

In our endeavor to answer RQ1, the findings have highlighted that different variables were responsible for the technological barriers in online language learning. The study revealed that the students faced numerous technological challenges in their online language learning. These challenges include, technological issue (T1), technical support (T2), bandwidth issues (T3) and software and interface design (T4). The most common problem faced by the learners was bandwidth issues related to internet ( $M=1.95$ ,  $std=0.225$ ). Secondly, the findings showed that the technical issue of unforeseen problems of hardware or bugs ( $M=1.9$ ,  $std=0.34$ ) make it hard for the learners to access online learning. The third issue reported by the students was the unavailability of software and technical support with the  $M=1.78$  and  $M=1.03$  respectively. The data analysis revealed that bandwidth and connection challenges as well as a lack of technical personnel availability at the time had the highest rates. Figure 2 followed by graph statistically represent the findings on technological barriers with mean, mode, and standard deviation.

**Figure 2:** Statistics of Technological Barriers.

statistics		T1	T2	T3	T4
N	Valid	40	40	40	40
	Missing	0	0	0	0
	Mean	1.9	1.78	1.95	1.03
	Mode	2	2	2	1
	Std. DEV	0.304	0.423	0.221	0.158

\*T1-5 Technological Barriers.



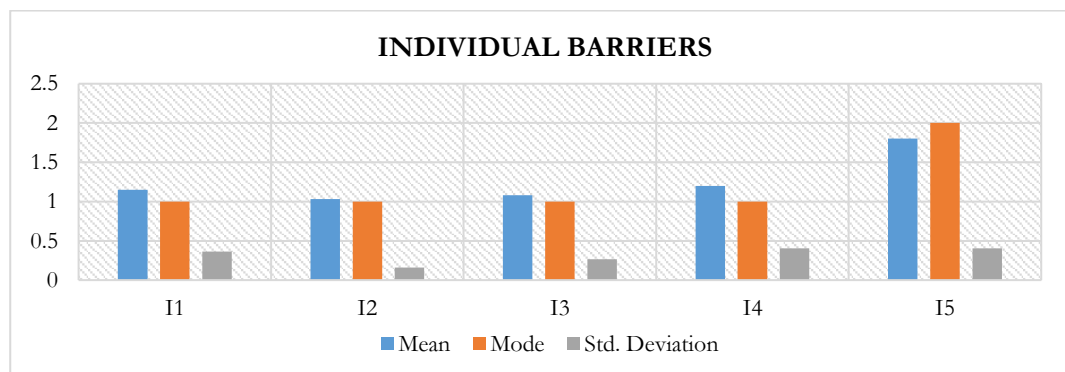
### 3.1.2 Individual Barriers

The research showed that Individual barriers including effective response (I1), digital skill (I2), learning environment (I3), digital equipment (I4), and financial difficulties (I5) were the other challenges the students encountered in their online language learning. The findings reported that budgetary limitations (I5: M=1.8, std=0.405) were one of the major challenges faced by the students. The other obstacles faced by the learners were the lack of availability of equipment (I4 with the M= 1.2.), effective response (I1: M=1.15), digital skills (I2: M=1.03), and learning environment (I3:M=1.08). Figure 3 followed by graph statistically represent the findings on individual barriers with mean, mode, and standard deviation.

**Figure 3:** Statistics of Individual Barriers.

statistics		I1	I2	I3	I4	I5
N	Valid	40	40	40	40	40
	Missing	0	0	0	0	0
Mean		1.15	1.03	1.08	1.2	1.8
Mode		1	1	1	1	2
Std. dev		0.362	0.158	0.267	0.405	0.405

\*I1-5 Individual Barriers.



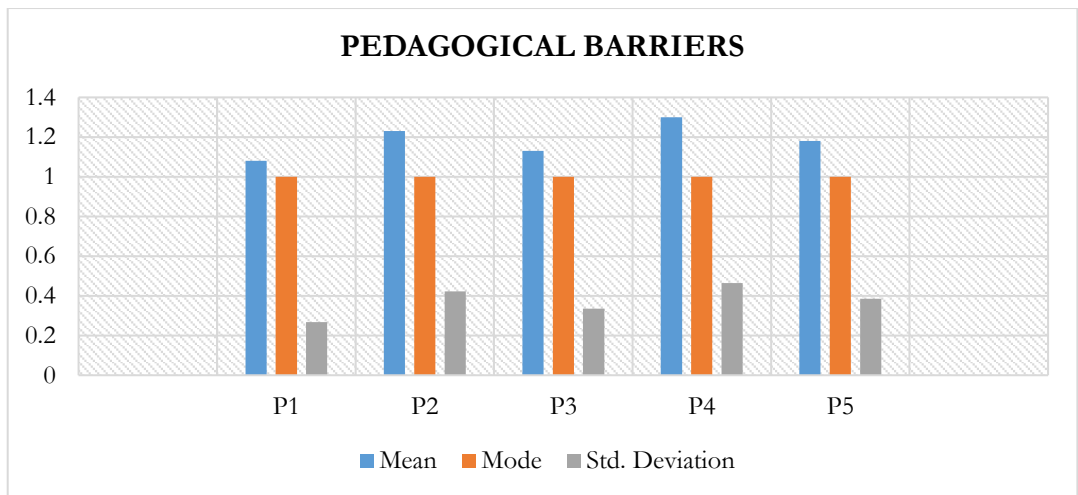
### 3.1.3 Pedagogical Barriers

In order to answer RQ2, pedagogical barriers include learner-centered approach (P1), the relevance of course content (P2), pre-course orientation (P3), immediate response from faculty (P4), online engagement, and digital education material (P5). The analysis showed that relevance of the course content has the highest mean value (P2: M=1.23). While other factors i.e. learning- centered approach (P1: M=1.08), pre-course orientation (P3: M=1.13), immediate response from faculty (P4: M=1.3) and online engagement (P5:M=1.18) too contributed to the barriers that affected online learning.

**Figure 4:** Statistics of Pedagogical Barriers.

statistics		P1	P2	P3	P4	P5
N	Valid	40	40	40	40	40
	Missing	0	0	0	0	0
Mean		1.08	1.23	1.13	1.3	1.18
Mode		1	1	1	1	1
Std. Dev		0.267	0.423	0.335	0.464	0.385

\*P1-5 Pedagogical Barriers.



Findings revealed that course design received almost the lowest mean score comparing to other factors. Despite its importance as the first step in creating an effective online teaching and learning environment. The components of effective practice and how to use them must be made known to teaching professionals. Intentional design (social networking, pertinent information, and educational results), interventions (progress evaluations, missing-assignment notifications, and score warnings), individualized support (conferencing, social networking, learning materials), formative and summative assessments), and learner analytics are some examples of pre-enrollment materials. However, moving from traditional face-to-face learning to just online learning needs proper educational reform.

The abrupt shift to distant learning via E-Learning systems has several effects. The results indicated that the lack of the ability to do practical activities online or in the absence of such resources, the activities were mostly centered on theoretical level. The findings showed that there is a dearth of a learning-centered approach, relevancy, accurate course content, concept clarity, prompt teacher reaction and digitally illiterate staff, hindering the teaching and learning process.

### 3.1.4 Enabling Conditions

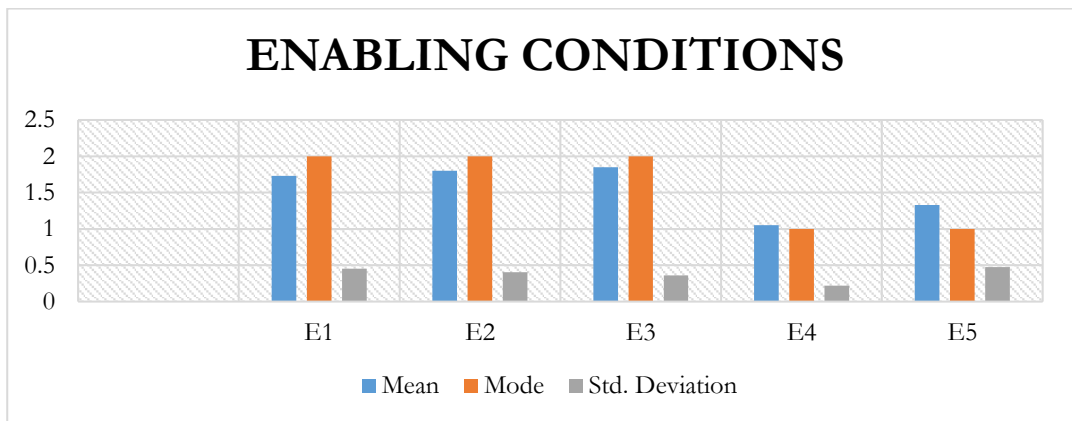
Results revealed that enabling factors also remained the key barriers in hindering the online learning capability of students. Enabling conditions include rules and regulation (E1), security and privacy issues (E2), policy implementation (E3), power out-rage (E4), preference for LMS (E5). The findings outlined that policy implementations (E3: M=1.85) have the highest contribution to barriers affecting learning language online while other factors (E1:M=1.73, E2: M=1.8, E4: M=1.05, and E5:M=1.33) have lesser contributions. In this vein, it is important to understand that the laws and policies should be intended to support the normalization of distant learning and enabling the studied setting. In emergency scenarios, enabling conditions have a completely new meaning and include taking steps to guarantee that educational activities may continue without putting the participants in danger. The lack of national emergency plans that can be executed right away exemplifies the difficulties. Meanwhile, the issue with the encountering security issues i.e. security of student, employee, and teacher personal information is threatened by the openness of e-learning platforms. The prior results seems in line with [Gudanescu \(2010\)](#) findings. While the issue with power outage could be linked to the fact that the dependability of the power service typically relies on where people reside, this

barrier might be characterized as unusual. In this instance, implementing virtual learning is difficult due to a power outage issue in Mardan. Hussain (2007) argued that, it is one of the biggest hurdle experienced from the viewpoint of the students. With regard to the issue concerning failure to execute policy i.e. consistency that all pertinent laws are considered when developing e-learning strategies to avoid governmental restrictions. Such restrictions on institutional and national policies and management techniques have been pointed by (Selwyn, 2007). In addition to the lack of obtaining written consent from participants and a failure on the side of e-learning service providers to protect confidentiality (Olt, 2002). It seems that learners complete unique culture is what contributes to their distressing views toward distance learning. Therefore, it is important to keep in mind that each individual has a certain learning style and expectations when developing e-learning (Pratt, 1991).

**Figure 5:** Statistics of Enabling Conditions.

statistics		E1	E2	E3	E4	E5
N	Valid	40	40	40	40	40
	Missing	0	0	0	0	0
Mean		1.73	1.8	1.85	1.05	1.33
Mode		2	2	2	1	1
Std. Dev		0.452	0.405	0.362	0.221	0.474

\*E1-5 Enabling Conditions.



#### 4 Conclusion and Recommendations

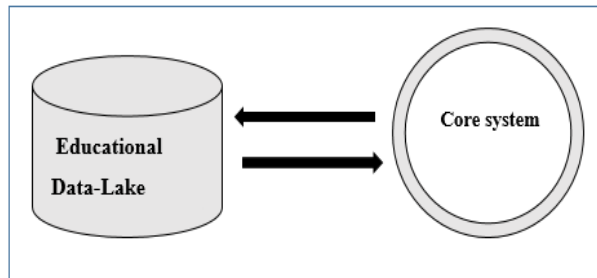
This study sought to better understand how students perceived hurdles to learning through learning management system adoption and general pedagogical abilities. The cumulative data report indicated a high rate of technological barriers, especially bandwidth issues are among the most significant ones. At the individual level, the important barrier encountered by students is the lack of devices such as laptops and tabs. Besides, the lack of digital skills and knowledge also contributed to the pool of barriers of online learning. At the pedagogical level, a lack of a learner-centered approach, less knowledge of digitalization of staff, no pre-course orientation, and a lack of feedback were the main obstacles reported by the participants. In addition, no appropriate evaluation strategy was used, making it impossible for the instructor to evaluate the contributions of the pupils. Further, enabling conditions failure of the policy implementation was the greatest hurdle. The following are some of the recommendations.



## Recommendations

- The study recommends implementing and use the Edu4ALL Learning Framework. The framework aims to revolutionize education as a result of the Covid-19 epidemic. It is conceptually designed and experimentally grounded (Mahmood, Dbouk, Sbeity, & Zein, 2022). Through the developed Edu4ALL Learning Framework, there is a connection between the e-learning technologies and pedagogies of educational facilities and their principles of remote learning and the philosophy of distance learning to support the development of learning communities, autonomous learning, and flexible learning. The paradigm enables synchronous and asynchronous tools for interactive and collaborative learning. Even if direct teaching is not replaced by emergency remote teaching, learners and educators will be able to access content and communicate with one another through social platforms and learning management systems. "Education for All (Edu4All)" is a smart and strategic e-education framework that implements a single integrated e-solution as an e-learning institution that satisfies and fulfils the national teaching and learning objectives.

**Figure 6:** Edu4All Framework.



- The anticipation method (preemptive response) can be used to identify the specifications of the software and hardware platform, internet speed, and the appropriate facilities for virtual teaching, which need to be translated into standard procedures by the institution. Barriers like technology infrastructure, bandwidth issues, and software and interface design are examples of such barriers. Institutions must set up an IT staff that can respond swiftly to carry out installation, operation, and maintenance in the meantime due to the technical support barrier.
- Some proposals in the pedagogy area might be divided into different phases using the REM framework. To swiftly adjust to the shift in teaching techniques, the absence of faculty training in the area of learning technologies needs to be addressed. This may be done by giving the instructors with ICT training. The instructors and the institutions need to work together to produce a quick reaction in this absorption stage to address the issues of material delivery, such as the requirement for extra time to connect with students and the absence of real-time feedback. Making the educational material in virtual environments more engaging. All the resources, settings, and infrastructure required to perform online learning must be made available during the reconfiguration and restoration stages to make both short- and long-term modifications. The modern learning paradigm known as connectivism, which was founded by George Siemens and Stephen Downes, is based on their work. This learning trend broadly refers to the implementation of learner-centred learning in a digital environment where knowledge is created through connections (Siemens, 2005).

- Institutions can supply gadgets like tablets or laptops that are suitable and equipped with internet packages at the anticipating stage to remove barriers connected to financial elements and inequality of access related to online learning. Further students should be given knowledge of using these gadgets. In addition, the Prime Minister should expand laptop-related programs beyond universities to include Graduate Degree colleges where students may not have the financial means to purchase laptops.
- At enabling conditions, the prime barrier was a security issue, lack of confidentiality, and power outage. The institutions need to make policies regarding security issues where the students often have a digital phobia. The policies should be implemented at ground level.

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