Research Article

Praxis and Effectiveness of Pedagogy during Pandemic: An Investigation of Learners' Perspective

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Changes in the style of education, from traditional to e-learning to online education, will have enormous implications in all parts of human existence, particularly in a student's life, according to the current scenario. The underlying debate now is whether the curriculum design, the pedagogy, and the entire transformative process of online education should be progressive or regressive. The fundamental goal is to use technological platforms to make learning easier. The primary goal is to see if students have acclimated to the e-learning environment during the COVID-19 outbreak. How are students mentally dealing with it, with or without gratification? Are they dealing with computer phobia or simply enrolling in a course? The goal is to concentrate on the three E's: encourage, explore, and evaluate the process of online teaching and learning efficacy, based on input from millions of students worldwide. The study has comprehensively examined the principles, difficulties, and praxis of online educational pedagogy to map efficacy and efficiency. The critical contribution of the research is the result claiming the potentiality of technology and the obstacles students face while learning due to such digital mechanisms.

1. Introduction

In his research, Dalton [1] stated that the reform-based movement in teaching has revolved around a notion called "improvement of students" or "viewing education as a medium for a student's academic achievement" for decades. With this worldview, teaching effectiveness or practices included "standard statements," which are used as a guide to effective teaching. According to these standards, a teacher must be "competent, caring, and qualified." They also include actions such as curriculum revisions to incorporate more relevant content, timely evaluation and assessment of student performance, and increased opportunities to learn and grow. However, even during typical times, things have not been accomplished [2, 3], leaving the unusually stormy COVID-19 days so vulnerable. Indeed, the problems of improving schools and classrooms and reevaluating student performances have emerged through effective teaching pedagogy. Nodding [4], such as works of McLaughlin and Shepard [2], posed crucial issues about how pupils could reach such quality and achievement if they were not channeled.

Teachers are still unsure how to assist them in achieving success. As a result, there is a severe lack of pedagogical guidance even now. In certain countries, education is viewed as a critical tool for developing skilled workers who will help the country's socioeconomic growth. Detail probe in learning, contextual, constructivism, and mastery learning, is only a few of the crucial components used by the Malaysia Education Blueprint in 2013–2025 to improve teaching and learning effectiveness [5]. Many studies advocate that lack of synergy between principles of pedagogy, teaching practices, and learning theories is responsible for stagnation in teaching development [6–9]. Many people have been wondering how the education dilemma will be resolved with the arrival of the new coronavirus. New learning pedagogies and training programs are continually being created to help students achieve greatness online. The Catholic University of

America Center for Teaching Excellence recommended several training methodologies, including the Learning Management System (LMS), for dynamic communication with students spread across the country. The questions were as follows: (a) How do I have an online class with the learners? (b) How do you manage a large group of students virtually? (c) How can effective instruction be delivered to people both in the classroom (conventional technique) and on-screen (online approach) during contingent situations? Two internal aspects come with online learning, i.e., training the human mind to adapt to growing digitalization and use it wisely, and heterogeneity involved in teaching and learning pedagogies around the globe. No definite pedagogy has been used for online education [10–12].

It is essential to point out that when conventional learning and teaching are no longer a viable option, online learning may assist the maintenance of education in the middle of a pandemic by acting as a replacement that is flexible, accessible, and convenient [13–15]. In most educational settings, face-to-face learning was replaced with emergency remote instruction. The rationale behind this execution was to reduce the risk of teachers and students contracting the coronavirus while also ensuring that education would continue uninterrupted during the problematic situations of lockdown. The term "online learning systems" refers to web-based software that may distribute, monitor, and manage courses delivered via the Internet [16, 17]. These systems let instructors and learners connect online and exchange course information in a side-by-side fashion via tools like whiteboards, chat rooms, surveys, exams, discussion forums, and questionnaires. These properties may be found on the platforms. These may provide practical and easy means of accomplishing one's educational objectives. Nevertheless, due to the increased usage of online modes during COVID-19, it is vital to evaluate the efficiency of these modes in terms of teaching and learning from the perspectives of a variety of stakeholders. As a result, this research aims to investigate how learners in Saudi Arabia feel about the praxis and efficacy of the pedagogy that is being used during the epidemic.

2. Literature Review

Jones proposes strategies for student-centered learning in his book *The Student-Centered Classroom*, where he suggests that pupils remain independent of a teacher's directions, improvements, punishments, and so on. The first chapter establishes "autonomous learning" as a technique for students to handle their educational activities with the least amount of interference. The book's third chapter, "Motivation," through high-interest subject matter or sharing personal feelings with the instructors as a part of classroom learning, supports a subsection of this particular study. Jones discusses how motivation aids in developing a student's confidence [18–20].

New Pedagogical Challenges in the 21st Century: Contributions of Research in Education by Mynbayeva et al. [21] suggests innovative teaching methods in classroom pedagogy. In the twenty-first century, there are new pedagogical challenges. The book discusses pedagogy, theories, education, and training in the current turbulent times. The first chapter, which focuses on pedagogical innovation, has laid the groundwork for the study of effective online learning and its spread due to modernity and globalization. The digitization period, or Z generation pupils, has been highlighted, along with the corresponding renewal of instructional methodologies [22–24].

Coman et al. [25] mentioned both the negative and positive aspects of e-learning during the pandemic in their paper "Online Teaching and Learning in Higher Education during the Coronavirus Pandemic: Students' Perspective." The research was particularly interested in the opportunities and problems faced by Romanian institutions during COVID-19 in terms of knowledge distribution. It gave us a thorough look at the technical issues that frequently arise in online communication, such as instructors' lack of technological skills [26–28].

Crompton and Burke [29] present a report on material connected to mobile learning through mobile phones in higher education. In their work, "The Use of Mobile Learning in Higher Education: A Systematic Review," they discuss the goals, purposes, and outcomes of mobile learning as a community or as research to deliver instructional content. The term systematic review refers to a study that looked at 18–29-year-old college students from 2010 to 2016 in higher education institutions.

In a paper titled "Impact of Pandemic COVID-19 on Education in India," Jena [30] provides a detailed analysis of the pandemic while witnessing COVID-19 social distancing, lockdown protocols, and schools and colleges going "online." With technological aids, COVID-19 accelerated inevitable educational modifications and pedagogical transformations. Within the bounds of digitization, the influence on students was explored, and developing nations survived this dilemma.

Shaaruddin and Mohamad [5], in "Identifying the Effectiveness of Active Learning Strategies and Benefits in Curriculum and Pedagogy Course for Undergraduate TESL Students," provide enough information for the study to find or create student-centered approaches. A thorough examination of active learning practices among faculty members and recent graduates and their feedback, communication skills, and other elements is thought to be beneficial to online pedagogy and student participation.

Mahmood [31] addressed new educational tactics, specifically instructional strategies, in her research work "Instructional Strategies for Online Teaching in COVID-19 Pandemic." A series of tactics described in the study, such as developing an online learning strategy or flexible evaluation plans and voice management, present a wide range of arrangements and practices that encourage people to continue taking online courses.

Morgan [32] talked about how the International Society for Technology in Education (ISTE) and EdSurge work together to maximize the benefits of e-learning. The study identifies fourteen crucial components that must be present when using technology to disseminate knowledge. To have an effective teaching methodology in US schools and

colleges, it is necessary to ensure equity in Internet and technology distribution, support student-centered methods, reflect on students' emotional needs, and provide free high-quality Internet connectivity, among other things.

This study is supported by connectivism, a learning theory that holds that learning does not have to be limited to the mind and that being a knowledgeable and competent citizen in a digital society necessitates learners connecting in such a manner that they may utilize the network as an extension of their mind and body. Because learners are now interconnected with information sources and other resources through their electronic equipment, such as smartphones or laptops, connectivism maintains that the process and objectives of learning in a hyperconnected and interdependent world are different from learning in the predigital world [33]. This is because learning in the highly networked and connected world is more collaborative and participatory. To become knowledgeable and capable members of a digital society, students must become linked with one another to use the network as an augmentation of both their mind and body. This is the requirement of the connectivist perspective, which asserts that learning need not be confined to the mind alone [34, 35]. Therefore, from a connectivist point of view, the purpose of education is to more thoroughly and effectively link students with one another and with information resources in a tenacious manner. Students can make ongoing use of the network to solve problems. According to this point of view, technology can enhance educational opportunities by more effectively linking learners with one another and with information resources in a sustained way [36–38].

Another primary model which lends support to this research is PICRAT which is a model for the integration of technology into education that asserts that every use of technology either illustrates a passive, interactive, or creative (PIC) relationship between the student and the technology or has either a replacement, amplification, or transformation (RAT) impact on the instructional strategy being used. PICRAT operates on the premise that there are two fundamental questions that a teacher must address about any usage of technology in their classrooms. These are the following: (1) How do the students interact with the technology being used? (PIC: "passive, interactive, and creative.") (2) In what ways does the use of technology by the educator impact the more conventional methods? (RAT: "replace, amplify, and transform"). [39].

Today, digital technology is crucial to a better understanding of teachers' impressions and interests in instructions, curriculum design, and teaching actions. However, given the notion underlying the "will, skill, and tool model," the technology potential in teaching and learning is to aid the digitalization of education in most primary and secondary institutions [40]. In their research article "Factors Affecting School Teachers' Opinions of the Instructional Benefits of Digital Technology," Badia et al. [41] propose such results.

Medwell and Wray [42] highlight the movement in Chinese education to collaborative online learning (OCL), which has resulted in excellent teacher development. OCL

has proven to be effective as a method, and its adaption could aid in enhancing and synergizing instructors' theories and practices in post-COVID-19 days.

Harasim [43] elaborated on one positive element of technological learning in her book *Learning Theory and Online Technologies*. The author proposed that traditional pedagogy should not be altered solely through technology in school to achieve professional and personal communication changes in the twenty-first century. The functionalities of Google Meet, WeChat, Facebook, YouTube, and other social media platforms are reshaped when they are used in this way in a traditional classroom setting. The book focuses on the human responsibilities that come with different sorts of human thinking, learning, e-education, practitioners' skills, students' skills, etc.

Reviewing the related literature, we found no study in Saudi Arabian context on the learners' perceptions during the pandemic. Thus, to bridge this gap, the current study aimed to investigate learners' perspectives regarding praxis and the effectiveness of pedagogy during the COVID-19 pandemic.

3. Objectives of the Study

The present study accentuates the aspects of virtual pedagogy prospects and highlights its perspectives on online pedagogy.

The study aims to find an inclusive approach to reviewing the pandemic, its impact on education, and the paradigm shift from "offline" to "online" for a progressive learning system.

The study delineates positive and negative aspects of digitalization of education from students' viewpoint, which was changed suddenly by the pandemic.

The detailed qualitative research has furnished a reevaluation of the pedagogical process that includes both the usefulness and the reforms needed in the e-learning process for a student-centered environment.

4. Research Questions

How has the relationship been working between digital learning and strategies for student-centered learning?

How could online education and pedagogical challenges be mapped during the pandemic?

How has digitalization impacted the way learners physically or mentally deal with a transformative pedagogy and learning mechanism?

How are digital learning strategies or platforms turbulent during COVID-19 for the student?

5. Methodology of the Study

The present study follows a qualitative method to highlight students' perspectives and real-world obstacles when working with an online mode of pedagogy. The study examined the number of research papers and information linked to online education, pandemic, and pedagogy by evaluating the available contemporary literature. It gave

qualitative interpretation and a platform to discuss the negative and positive aspects of teaching during COVID-19. It also highlights the efficiency and effectiveness of virtual teaching, keeping learners' mental and physical aspects.

5.1. Concepts and Challenges of Effective Pedagogy in Virtual Classrooms.

What do we expect from our tutors during the pre-/post-pandemic period when we have a slew of knowledge, pedagogy, and technology issues, especially amid a pandemic? The functionality of pedagogy and the critical examination are essential issues for society. We have seen how important it is to theorize and conceptualize pedagogies for human transformation [44]. Pedagogy was once regarded as a "science of parenting and training," but it has since been renamed "science of upbringing and education." Micro-level communication is a concept in modern education that refers to pedagogy that includes space for interaction between students and between students and professors. Also known as macro-level communication, it occurs among students who are members of social groups, religious organizations, schools, and so on [21]. Theories have been developed to address issues not just at the level of internal conflicts between a teacher and a student but also at the macro-level communication [44].

According to Navarro-Rodríguez et al. [45], educational reform occurred in post-socialist countries. There are educational innovations that continue to represent western learning standards, knowledge dissemination strategies, a student-centered approach, standard assessment of student performance, etc. The structural and conventional understanding of pedagogy is through curriculum, procedures, and evaluation [46]. At the same time, the modernist view of it is to have appropriate defined boundaries and formal design. However, the paradigm in pedagogical understanding has taken a considerable shift toward online or e-learning networks for both students and teachers. TMPs (technology-mediated pedagogies) introduced new instructional methodologies that improved teaching and learning. TMPs, on the other hand, necessitate a higher level of technocratic literacy, which is more commonly found in technical institutions than in state-owned universities and colleges in developing countries. Because of its colleges' lifelong learning approach to cultivating a habit of using ICT in learning, technocratic human psychology is more frequent [47]. Critical pedagogy, a sort of liberatory pedagogy, focuses on marginalized pupils in schools, e.g., caste-based discrimination and disabled pupils. Such pedagogies and investigations are uncommon in practice; hence, inclusive pedagogy is more prevalent in theory than in practice [48].

Research determined that placing too much focus on a standardized curriculum and test might sometimes pressurize teachers to compromise on the uniqueness of individual students' problems. A teacher may be willing to focus on a student's social issues, which are often caused by tradition or power imbalances, but they may be afraid that doing so will jeopardize their position in the classroom. In her ethnographic study, Fine [49] concluded that this is how students feel alienated from the classroom and content.

Many studies have concluded that giving teachers autonomy in pedagogy to restructure the rigid curricula while assessing a student's condition, rereading research articles, and adjusting teaching methods to address the student's social issues will benefit the student [50].

5.2. Online or E-learning Methods: An Analysis of Students.

Several aspects of daily life—along with educational institutions, instructors, and students around the globe—have been affected due to COVID-19 [51]. From primary to higher education, it has been a continuous process for those who value education in society. Hence, to maintain social distancing and COVID-19 protocols, all universities, colleges, and schools were forced to shut down, which declined students' scope for traditional or face-to-face learning. From H1N1 Flu (2009) to SARS-CoV and COVID-19, outbreaks have forced all forms of government, be it monarchy or democracy, to restrict physical movement or traditional classroom facilities. The faculty members decided to utilize Information Communication Technology (ICT) to create online learning resources in academic fields. Hence, the pandemic outbreak had positive and negative impacts on face-to-face physical learning. Students were supposed to rely on distance learning classrooms, which has posed advanced challenges in front of the system [30].

5.3. A Perspective on Positive Aspects of E-learning.

The faculty members decided to utilize Information Communication Technology (ICT) to create online learning resources in academic fields. The knowledge supplied through ICT has impacted a student's cerebral capability and physical ability. Following the students' lead, the focus should first and foremost be on practicality and interest in the subject matter. It is not to be confused with ideal or recreational uses of technology but with sound learning and training goals. Students who favor online or distance learning unquestionably support technology in education. However, some people may object because it threatens their traditional interests, cultural norms, and cognitive abilities [52]. Secondly, the student's technological know-how or comfort with computer-based courses and technical applications piques their interest during the course's online delivery [53]. Third, students are satisfied as a result of live online classroom encounters. In online settings, immediate quality and delivery of lectures are critical to students' pleasure [42].

One important feature that contributes to student happiness is learning according to their schedule, setting their timetable anywhere and everywhere with a device in hand, and accessing different online resources [32]. Students who set their schedules and were given various options for cross-border dialogue with any instructor became self-regulated learners. Fourth, with face-to-face interactivity on-screen and colorful graphics, time-saving PowerPoint presentations (PPT) preserve their activeness in the content. Fifth, mobile learning would encourage the promotion of a multimodal or interdisciplinary education arrangement. In society, mobile learning must aid in the elimination of severe judgments about educational concepts, techniques, and

training [29], which was virtually achieved during the COVID-19 days. Sixth, the possibilities of radical changes in the educational paradigm, classifying education, human cognition, communication design, and response recorded, have seen massive transformation [54]. The prospects for fundamental changes in educational paradigms, classification systems, human thinking, English communicative design, and response recording have undergone significant modifications. Theory, pedagogical design, and technology have all been merged in online education or mobile learning.

While a theoretical perspective provides a framework, pedagogical design molds action with the aid of technology [44]. Seventh, e-learning or online learning improves the educational flow by simplifying numerous complex characteristics and ideas in education. The positive aspects of cross-border or cross-cultural engagement and students enrolled from many nations aid in acculturation [55].

5.4. Negative Aspects of E-learning.

The rapid transformation from conventional to virtual learning posed a range of challenges. It is a fact that very few people have access to the Internet, including Zoom, Google Meet, WebEx, and other services for online education [56]. 66.9% of instructors neither were ready to teach online nor had any prior experience with online learning platforms, according to a study conducted by School Education Gateway in the early days of the epidemic. What happens in impoverished nations is that learners come from a disenfranchised part of society, making access to Wi-Fi or 4G recharges on mobile phones for uninterrupted studying nearly impossible. Therefore, the first challenge in these volatile COVID-19 times is making education accessible and cheap to all ages [31]. Second, quality is the most severe problem in all aspects of Internet platforms. The content and lecture delivery are of poor quality. Technical issues degrade the quality of interaction between the teacher, students, and peers. When a lack of computer or mobile phone access is paired with human technical incapacity, it creates computer anxiety in humans. In the communication process, this has resulted in a loss of connectedness or a learner lacking physical or emotional intelligence. Third, COVID-19 has formalized the concept of "physical isolation" owing to virus dissemination; nonetheless, the isolation created by a lack of direct communication has had a mental influence on life. Students have felt lonely in online learning systems as a result of this. Fourth, the most significant advantage of online education is its flexibility, but the most significant disadvantage is the lack of interaction among faculties, students, and nonteaching staff.

Disassociation and poor institutional and individual progress stem from a lack of emotional connection and enhanced relationships. Fifth, classmates lose interest in the classroom communication process due to delayed feedback and demotivated self. Sixth, students are often disturbed by both internal and external disturbances. They usually copy and paste text from Google material and submit it as their assignment. This complicates teachers' regular evaluations. Students are quickly implicated in cheating and unethical practices during online examinations, which has raised severe concerns about online assessment systems or individual sense of responsible self [57]. Seventh, excessive hours spent in front of the computer or on a screen might cause eye disorders or weaken vision. Whether the need is to control computer anxiety, quality issues, or mental isolation, the online assessment system should always handle it [25].

5.5. Possible Suggestions for Providing Effective Online Learning during Pandemic.

Many instructors and students submit feedback to cope with the problems faced during the communication process to have an excellent online or e-learning process. In emerging nations such as South Asia, Latin America, and Africa, the change from traditional learning to recorded or live learning via networked software was tremendous. Mahmood [31] suggests that remote learning should concentrate on the following instructional strategies.

Voice management: During an online lesson, the teacher's voice is essential. A teacher must pause to engage a group conversation or hear more from pupils. Body language and eye contact are essential in traditional physical classes, just as pitch management and speaking abilities are essential in delivering a lecture in an online classroom.

Redefining teaching techniques toward blended learning: Blended learning functions according to the interest, knowledge level, comprehending capacities, and abilities of the students; i.e., it is a purely student-centric approach. It decreases students' dependence on a teacher. The blend is successful only when technology is used by both the teacher and student for classroom learning. At times, flexibility and scheduling when to learn constitute a challenge for some; therefore, the teacher can assist in developing technological, time management, and other skills required for progressive blended learning [58, 59]. The International Society for Technology in Education (ISTE) keenly emphasizes this aspect of technology in education.

Focusing on poor infrastructural issues: developing nations mainly have students who lack advanced technological gadgets and suffer from computer anxiety. They do not have access to smartphones and laptops, and the closure of institutional libraries and other facilities made them sluggish and despairing. Higher education institutions must synergize with experts from the telecommunication industry and their efficient tech support and connectivity. ISTE has described this as an aspect of ensuring equal distribution of resources. ISTE provided names of telecommunication companies like AT&T and Comcast, which implemented policies for those who were unable to pay their Wi-Fi bills but continued with the service during the pandemic. However, a report from Pew Research Center suggests that 25% of the youth belonging to low-income families earning less than $30,000 lack computer and laptop facilities [32].

Agile teaching and assessment techniques: Many students feel that the assessment policies and techniques lack agility, which means time involved from accessing the assigned homework, assignments, or an examination is without extra support and time as transportation-technology-human mobility has decreased during the pandemic.

Focusing on the emotional aspects, isolation and quarantines throughout the pandemic have depressed human minds to deal with COVID-19 situations. Students mainly demand a better physical and mental state. A teacher's responsibility is to regularly ask students about their mental health and teach motivation and achievement in academics. Students must be pushed toward a cheerful attitude during such stressful days, leaving behind concepts like perfection and extraordinary performances [31].

It is the best time to test if small modules are better than large and long classroom hours from big to small classroom lecture series. The activities can be divided into various small functions assigned within thirty minutes. This increases the retention and concentration of the students.

Creative and practical thinking: Learning material must promote innovation and creativity and improve technological services. The in-house atmosphere must inculcate a scope for introspection and further a discussion in the classroom (supported by Aristotle) to formulate an excellent analytical and creative mindset in students other than that of the traditional learning [60].

Assisting with self-learning materials: The preliminary information about the assignment, called pre-class content, must be sent through e-mail or any electronic source. This gives students a brief idea and knowledge about the subject matter, and then the instructor can deliver short self-made facilitating notes. A piece of prior knowledge will initiate a range of queries and discussions from the students' side.

5.6. Findings and Inferences of the Study. The study finds out that students encountered numerous problems during the pandemic because of inexperienced teachers.

The online systems are not very well equipped everywhere, and therefore, teachers and learners across the globe face the same problem of not handling the online systems properly.

The study's findings on online learning and educational reform dynamics serve as a template for future development. As part of the inevitable online learning conversation, numerous actions and critical ideas related to voice control, educational equality, and robust infrastructure are all suggested.

A detailed analysis of conventional to modern/online education is provided. During these contingent times, creative and practical learning, emotional components in learners, motivation, and leadership must all be addressed.

ISTE's recommendations for reforming online education have been essential and influential in teaching/learning through virtual platforms. Training teachers and in-service programs should be mandatory for atheists once a year to inculcate the new approach, method, and strategies in classrooms.

6. Conclusion and Future Discussion

During the COVID-19 crisis, governments worldwide (left, right, center) promised that broadband connections would be supplied to the public for simple access to online

schooling. However, the current situation exemplifies the saying "promises are made to be broken." The situation has deteriorated where computer labs in schools and colleges are devoid of computers, let alone technical equipment at home. Despite a large amount of voluntary social help, poverty-stricken areas cannot meet their fundamental necessities. Students have either been detached from education or begun to use it unethically to obtain a degree due to these situations. Teachers in developing nations have weak technical skills, and pupils with limited finances or low-income families cannot buy pricey devices to benefit from online education. They are the most affected, as low- and middle-income earners cannot leave their jobs to care for their children, despite having access to technology on occasion; they are the ones who confront the most severe difficulties. Such technical courses and help have been unavailable to students in particular categories.

Online programs have proven to be advantageous in terms of students' and faculty members' health because there are no other options for continuing education. Infrastructure, curriculum, and human development losses suffered by schools, colleges, and universities would not be recovered in the following fifty years. There has been a shift in the trend from traditional to e-learning, but there has also been a shift in the mindset of students choosing a course, enrolling, and evaluating themselves, which is diversified, unguarded, and random. In advanced or first-world countries, this type of online training has proven beneficial. The necessity of assessing e-learning platforms has been emphasized in several kinds of research [61, 62]. The outcomes of these surveys will assist in designing initiatives to enhance the e-learning system. With insufficient scientific resources in developing countries and the rising requirement for healthcare professionals, the necessity of adopting an e-learning platform has been highlighted [63, 64]. The current research findings demonstrated that with the correct understanding of the strengths and limitations of e-learning, it is feasible to offer a better instructional atmosphere for learners by making suitable modifications. Consequently, shifting educational programs to an online format might contain advantages such as independence from time and location limits, flexibility, interactivity, and quality management. Recent research by Romano et al. showed the influence of e-learning on ophthalmology education during the COVID-19 pandemic. They suggested that limits on COVID-19 have an adverse influence on medical graduate students [65].

Traditional classrooms are claimed to be appropriate for developing or underdeveloped countries in the South Asian region. Several factors given as realities, such as a lack of funds and technological or Wi-Fi access, are all current challenges experienced by many students. This has had a continual effect on their social and psychological lives. According to studies, over 70% of students consider traditional or face-to-face classroom learning is more successful and efficient than e-learning. Some of the studies that present students' perspectives discuss a lack of student-teacher interaction, which adds to the eradication of traditional classroom socialization. Physical connectedness was

necessary to eliminate caste-based discrimination, such as sitting on the same bench, eating from the same cafeteria, and instilling principles of acculturation, which are sometimes lacking in online learning. All experts agree that educational institutions should divide their responsibilities into curriculum development, pedagogical enhancement, technology infrastructure, etc. Students have also been dissatisfied because they have dropped out of classes in the middle due to inconvenient circumstances or a lack of interest.

This research also raises several critical questions that need to be answered to have a more profound knowledge of the factors contributing to student happiness in online learning during the COVID-19 epidemic. This research is among the first to give objective support for learners' assessments of how satisfied they are with online learning, according to the theory behind the research. In this sense, the research findings contribute to an expansion of our knowledge of the mechanism that underlies the connection between interaction and pleasure with online learning. Second, as a response to a question posed in the research by Ekwunife-Orakwue and Teng [66], this study aims to determine the features derived from the theory of transactional distance used to forecast a causal route for the mechanism of occurrence. This research also offers a new research platform for future investigations that provide a full picture of the benefits and drawbacks of online learning. According to what we discovered from the research, students must communicate with one another to raise their level of commitment and happiness with their online learning.

To create a sense of community and an online environment that emphasizes the participants' contribution to the learning process, it is suggested that educators or practitioners consolidate learning interactions as a core to plan, design, and deliver online learning. This means that educators should emphasize learning interactions as a core component in practice. It is essential to recognize the role that instructors play as facilitators of the learning process because these interactions enable students to learn, which affects participants' gratification and allows learners to construct their confidence in their ability to succeed in online academic life. While this is going on, the study results will also have some additional insight for decision-makers or institutions of higher learning that can be relied on to improve the current e-learning processes. This is because there is no recognized system for instructional quality measurement in the online learning context. In particular, the research provides evidence that the process of interactions might lead to student satisfaction with their online education by increasing their level of involvement. As a result, an e-learning system needs to be designed in such a way as to enhance students' autonomy and engagement in the learning process and to stress the attainment of this as the ultimate objective of education. In this way, students can increase their content knowledge, creative problem-solving skills, feeling of responsibility for their learning, and ultimately their future job performance.

According to the findings of this research, one can conclude that online teachers may require extra education in diverse subject areas to provide the most helpful support for their students. This is especially true in subject areas such as student learning, in which the most efficient teaching strategies may vary between online and face-to-face educational contexts. Instructors are an essential component of providing support for students. Since previous studies [67, 68] have discovered that online student engagement is linked to student results, online learning programs should consider including this subject in the training and development opportunities available to teachers. The findings of this study point to a few different ways for which more investigation may go. There is a need for more in-depth research to be conducted to identify the strategies for online education that boost student engagement, persistence, and performance. Even though this report demonstrates that educators in these four programs chose unstructured professional development over structured and systematic development to meet their most key problems, research is still needed to evaluate the efficiency of various types of unstructured professional development (such as short online tutorials, mentorship), to boost teaching practice in a digital context.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare that they have no conflicts of interest.

Acknowledgments

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