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**Evaluating the Transformative Effects of Online Learning on Teaching
Approaches and Students' Achievement: The Case of First-year
Students at English Department of Biskra University**

Dissertation Submitted in Partial Fulfillment of the Requirements for the **Master's Degree in
Sciences of the Language**

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Declaration

I, **BENHAMIDA** Amira, confirm that this dissertation, submitted in pursuit of a master's degree, is the result of my own efforts. All content is original unless otherwise cited.

Furthermore, I certify that this work has not been presented for any degree or qualification at any other university or institution.

This research work was conducted and completed at MOHAMED KHIDER University of BISKRA, ALGERIA.

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Dedication

قال الله تعالى ﴿وَأَخِرُ دَعْوَاهُمْ أَنِ الْحَمْدُ لِلَّهِ رَبِّ الْعَالَمِينَ﴾
سورة يونس -10-

This dissertation is dedicated to my family, whose unwavering love and support have been my foundation throughout this journey. To my idyllically lovely parents, for instilling in me the value of education and for always believing in me even when I doubted myself. Your sacrifices have not gone unnoticed, and I am eternally grateful.

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Abstract

The success of online learning systems depends on the experiences and attitudes of both students and teachers. This research paper focuses on the attitudes of teachers and first-year English students at Mohamed Khider University of Biskra towards online learning. The primary goal of the study was to evaluate the transformative effects of online learning on teaching approaches and student achievement, while also highlighting students' and teachers' perceptions and attitudes towards online education. The study aimed to identify factors influencing these attitudes, also to highlight the malpractices of online education and suggest the most effective ones for both teachers and students, as well as the most suitable platforms to facilitate this process. The researcher uses the quantitative approach. At this point, two questionnaires were distributed to 100 students and 30 teachers. The findings indicated that first-year students generally have positive attitudes towards online learning and mixed attitudes when it comes to teachers' perspectives. Furthermore, the study identified key factors influencing these attitudes, including proficiency with online educational technologies, the quality of the online learning system, internet connection quality, and the level of teacher interaction. Finally, the recommendations, the limitations and suggestions for future research are also discussed.

Keywords: Online learning, Online Education, Students Engagement, Online Resources, Teaching Approaches, Quantitative Approach.

List of Acronyms and Abbreviations

BBC: Blackboard Collaborate

CML: Computer Managed Learning

COVID-19-: Corona-Virus Disease 2019

ECS: Effective Communication Skill

EFL: English as a Foreign Language

GBSRS: Game-Based Student Response System

ITL: Information Technology Literacy

LMS: Learning Management System

MOODLE: Modular Object-Oriented Dynamic Learning Environment

OC: Online Course

PC: Personal Computer

PDF: Portable Document Format

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ملخص الدراسة

General Introduction

1. Background of the Study

The global COVID-19 pandemic has encouraged deep changes across various sectors, most notably in the domain of education. This crisis has necessitated the closure of physical campuses in colleges and schools, thereby highlighting the performance of online learning to ensure the uninterrupted flow of education. Accordingly, there has been a worldwide shift towards online modes of educational delivery. This transformation has left a significant imprint on the educational landscape, including Algerian universities. In response to this exceptional situation, these institutions have transitioned to online learning, using various platforms and tools such as Moodle, Zoom, and Google Meet to serve as their learning management systems. Online education, also known as e-learning, has transformed the way people access and engage with educational content. It leverages digital platforms and the internet to offer a wide range of courses and programs, making learning accessible to a global audience. Online education has begun as an educational paradigm devoid of geographical chains, allowing students to engage in classes, participate in discussions, and interact with peers from any location.

In the current context, this research tries to thoroughly investigate the perspectives of both students and teachers in Biskra regarding the implementation of online education. This significant shift from traditional to online learning has been initiated not only to prioritize the safety of students and faculty but also with the overarching goal of ensuring the uninterrupted flow of the educational process across all academic institutions. The primary objective is to guarantee that, notwithstanding the new challenges faced by Biskra and nations globally, all students maintain access to their educational opportunities. The motive behind this transition is grounded in the recognition of the crucial role online education plays in adapting to modern circumstances. It serves not only as a protective measure against external threats, such as public

health crises, but also as a mechanism for ensuring the resilience and sustainability of education in the face of unforeseen challenges. The adoption of online education in Biskra, therefore, goes beyond a mere response to immediate concerns; it reflects a commitment to the long-term viability and accessibility of education.

Online education is experiencing a dynamic transformation. This evolution is characterized by the incorporation of interactive tools, multimedia resources, and adaptive learning methods, transforming it into a transformative force within the domain of education. The integration of these innovative elements not only enhances the overall learning experience but also positions online education as a pivotal and influential player in the global educational landscape.

Online education is increasingly becoming a preferred choice for individuals seeking lifelong learning opportunities and those aiming for career development. The adaptability and accessibility afforded by online platforms contribute to their popularity, enabling learners to engage with educational content in diverse ways.

2. Review of Literature

In online learning, interaction is a very important element: the number of online interactions is closely related to the performance of the students (Bravo-Agapito et al., 2021). Of course, students noticed that online learning also brought some positive aspects, such as time savings, flexible schedule, lecture capture and the fact that they feel more relaxed during the courses (Lup & Mitrea, 2020). Any definition of e-learning must settle the issue of what is and what is not e-learning (Guri-Rosenbilt, 2005).

An agreement on how to define e-learning could help research and researchers go forward in identifying models and practices for applying e-learning and in determining the key factors for better and more effective use of this type of teaching and learning: “There is a

pressing requirement to understand better the nature of e-learning, as an educational innovation, and to evolve contextually derived frameworks for change which align with organizational culture and practice” (Rossiter, 2007). Even though students are the positive side of an online class, other participants i.e., teachers, have mixed opinions about online class.

According to Ballew (2017), 74% of the online instructors opined that the promotion development program must be added to the school program to enhance the teaching ability of the instructor. Many students believed that degrees obtained through online classes are not as valid as a traditional method of classroom teaching. This may affect the desire of students to register in online courses. So, there is a need for awareness programs regarding the importance of online learning (Allen & Seaman, 2010; Bejerano, 2008). Teachers should analyse what is currently presented and what is the better way to present the way to subject to a complete understanding of course by examining “Faculty perceptions,” “training,” “mentoring,” and “best practices” (Agustina & Cahyono, 2017; Dja’far et al., 2016). For the effective conducting of an online class, there is a need of skills that students may need to handle online classes, such as: ability to learn revised learning practices, capacity to develop new vocabulary and ability to discuss with teacher in patience (Eastmond, 1995; Gibbson, 1998; Kearsley, 2000).

After reviewing the existing literature, it became apparent that there is a gap in research pertaining to the perceptions of both teachers and students in the context of online classes, especially considering the increasing compulsion for educational institutions to adopt e-learning. To address this gap, a survey was conducted to gather insights from both educators and students regarding their experiences with online learning.

3. Statement of the Problem

During the COVID-19 pandemic, many universities around the world, including Algerian ones, which previously used mainly traditional education (Brock & Alexiadou, 2013)

were forced to switch to e-learning. This new, innovative solution can be used in many universities to adjust the way of learning to the changing situation.

The perception and evaluation of e-learning by students during the pandemic, and the identification of the advantages and disadvantages of this type of education, are interesting and worthy of investigation. Online education is known for its flexibility, accessibility, and technology-driven approach. It has demonstrated effectiveness, particularly when well-designed and aligned with both students and teachers' needs. The discourse on online education is inexorably shaped by the confluence of historical underpinnings, present challenges, and future opportunities. This exploration seeks to inform the broader understanding of this evolving educational concept.

Algeria has recently embarked on integrating online learning and electronic platforms into its educational system, with a particular focus on college students. It is one such fastest growing trend in the educational uses of technology (Means et al., 2013). This initiative involves the development of new systems, the implementation of diverse course designs, tasks, and the utilization of platforms. However, this novel approach faces significant challenges and real-world problems, which impede its potential for users. This research aims to investigate the perceptions of students and instructors in the English division of Biskra University regarding the usage of e-learning. The study seeks to identify these challenges and proposes recommendations to facilitate the effective adoption and use of online education for enhanced learning outcomes.

4. Aims of the Study

The general aim of this study is to investigate and understand the varying perspectives of both students and teachers regarding the use of e-learning among first-year students at Biskra University.

In depth, this study aims to:

- Explore the advantages and disadvantages of university online education from both students' and educators' perspectives.
- Investigate the difficulties associated with the move to online learning greatly shape how educators teach, impacting the level of engagement and participation from students in learning activities.
- To highlight the malpractices of online teaching and learning and suggest the most effective ones for both teachers and students, as well as the most suitable platforms to facilitate this process.

5. The Research Questions

This research seeks to answer the following research questions:

- **RQ 01:** What are the benefits and drawbacks of online university education as perceived by students and teachers?
- **RQ 02:** How do the challenges of shifting to online learning impact educators' teaching approaches and influence student engagement and participation?
- **RQ 03:** What are the most suitable practices and platforms considered most effective in facilitating performance for both students and educators?

6. The Research Hypotheses

The following research hypothesis are proposed based on the previous research questions:

- **RH 01:** Students and educators perceive several benefits and drawbacks associated with online university education. Advantages include flexible scheduling, the ability to access diverse resources and materials, and opportunities for a personalized learning experience. However, some challenges are noted, such as the potential for reduced social

interaction, technological hurdles, and difficulties in maintaining student engagement and motivation.

- **RH 02:** The shift to online learning presents opportunities for educators to refine their teaching methods and enhance student engagement and participation. Adapting to this new environment encourages innovative instructional strategies and offers the potential for more personalized learning experiences, developing a dynamic virtual classroom atmosphere.
- **RH 03:** Several practices and platforms are recognized for their effectiveness in supporting both students and educators in the online learning environment.

7. The Research Methodology

▪ Data Collection Method

To achieve the objective of this study, the researcher uses the quantitative approach. Two questionnaires will be distributed to the students and instructors of the English Department in Biskra University. This methodology helps the researcher in meeting research needs by employing suitable data collection methods, allowing for a more comprehensive understanding of the questionnaires' results which will be included in the dissertation.

▪ Population and Sampling Technique

The research conducted two surveys: one targeting the student population and the other directed towards teachers. A questionnaire will be distributed to a sample of 100 students, drawn from the entire first-year student population. A separate questionnaire will be administered to 30 randomly selected teachers from the English division department. This study used a Five-point Likert scale to gather feedback from both teachers and students for e-learning. This scale ranged from one, indicating strong disagreement, to five, representing strong agreement. To ensure the questionnaires' effectiveness, a study was conducted, and the questionnaires were

reviewed. Students were asked to share their views on how online learning has impacted their educational experience and questions were tailored to assess their comfort with the tools and methods used in online classes, while instructors were queried about the impact of online teaching practices and their level of comfort in achieving them. This aspect aimed to understand the extent to which instructors felt at ease with the transition to virtual teaching methodologies. Questions centred on their proficiency with online teaching tools, adaptability to the digital classroom environment, and overall comfort in navigating the various elements of conducting classes online.

The population of the study will be first-year students of English division at Mohamed Khider University of Biskra. The selection of this category was not arbitrary; rather, it was based on specific reasons, which include:

- The first year marks a critical transition from secondary to higher education, and understanding their experiences with online learning can provide valuable insights into this adjustment phase.
- First year students' fresh experiences with online learning platforms and their immediate feedback can offer relevant and current insights for educational improvements.
- Due to the limited prior exposure and relative unfamiliarity with the subject matter, first-year students are likely to hold a multitude of diverse viewpoints and perspectives.

8. Significance of the Study

This study is necessary for developing online education. Understanding perspectives of students and teachers informs tailored teaching methods, improving the overall educational experience. The research produces online learning environments, identifying strengths and addressing challenges for more effective classrooms. It explores factors impacting student engagement, guiding strategies to enhance motivation in the online learning process.

Investigating teachers' perspectives informs professional development needs, ensuring effective use of online platforms and fostering positive learning environments. Findings contribute to quality assurance, maintaining high standards for reliable virtual instruction. The study has policy implications, guiding decisions for the growth of online education. As a valuable addition to academic discourse, it benefits researchers and educators, laying a foundation for future research in online education.

9. Delimitations of the Study

The researcher has mainly concentrated on the following aspects to delimit the scope of the study under investigation:

- The selection of first-year students majoring in English at Biskra University is deliberate. This specific cohort is chosen because, at the initial stage of their academic journey, these students encounter unique challenges in adapting to online learning. Their reliance on prior experiences during this transitional period aligns with the objectives of our study.
- Conducting questionnaires for both teachers and students has been instrumental in addressing existing gaps and gathering valuable data. This information serves to guide enhancements in online education, raise the overall learning experience, and actively contribute to the continuous development of effective educational practices in the digital age, specifically within the context of Biskra University.

10. Demystifying Terminology

To contribute to the clarity of this research work, we helped define a host of terminologies used by the researcher in this work:

Online Education: it encompasses the provision of educational content, courses, and degree programs through digital platforms and the internet. It enables remote learning, allowing

students to engage in educational activities without being physically present in a traditional classroom setting.

ITL: also known as technology literacy or digital literacy, refers to the knowledge, skills, and abilities required to use technology tools, devices, and resources effectively and responsibly. The concept of IT literacy is not limited to just computers and the Internet but can be applied to any technological device. It involves learning how to operate hardware and software, navigate interfaces, troubleshoot common issues, and stay updated with technological advancements. Essentially, IT literacy is about being able to navigate and utilize technology efficiently and effectively.

COVID-19- Coronavirus Disease 2019: a highly spreadable virus first documented in December of 2019. It subsequently led to a global pandemic, affecting millions of people worldwide.

Learning Management System (LMS): is a software application or online platform designed to manage, deliver, and track educational courses, training programs, and learning initiatives. It provides tools for organizing course content, administering assessments, facilitating communication, and monitoring learner progress.

11. Structure of the Dissertation

The subsequent outline provides an overview of the structural framework to which the dissertation follows:

Chapter One: Addresses a thorough analysis of how students engage with online learning, offering an in-depth exploration of the benefits and drawbacks inherent in this educational approach. The focus lies on clarifying the positive aspects of e-learning, and how it contributes to the improvement of students' academic proficiency. Additionally, the study explores the challenges and drawbacks that students may face in the process of navigating online learning

environments. Also, it covers an overview of educators' involvement in online education, offering a thorough exploration of the merits of e-learning in enhancing their instructional methodologies. Simultaneously, the research analyses the challenges faced by educators, providing a detailed analysis of the multifaceted nature of their experiences in the digital teaching landscape.

Chapter Two: Identifies The difficulties faced in moving to online learning significantly shape how educators teach, impacting how actively students participate in learning activities, ideal practices and platforms for enhanced online education for both students and educators involve considering a variety of factors such as simplicity, interactive features, and accessibility based on specific educational objectives, technological requirements, and the preferences of both students and educators to determine the most suitable option for a particular learning environment.

Chapter Three: Presents the findings derived from the collected data, covering its description, categorization, analysis, and interpretation, eventually leading to the drawn results.

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Chapter One

Chapter One:**Perspectives of Educators and Students Towards Online Education**

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Introduction

With the advancement of technology and the Internet, educational institutions are changing their learning techniques to meet the demands of users in providing an ideal learning environment. Chapter One explores the insights and attitudes of both teachers and students toward online education. It starts by clarifying what online education needs and identifying its core components. It highlights the significance of online learning in modern educational contexts and examines its diverse forms, as it presents a balanced discussion of the benefits and challenges associated with online education, acknowledging its potential and limitations. The chapter also investigates educators' and students' views on virtual classrooms, shedding light on their experiences and the effects of online learning on their involvement and roles as it provides a basic understanding of online education from the perspectives of those engaged in it. It ends by presenting a detailed view of online education from the perspectives of those directly involved.

1.1 Definition of Online Education

Online education involves both online teaching (focusing on the instructor's role) and online learning (focusing on the learner's role). Such a mode, as asserted by them, requires separation of teacher and learner in space and sometimes in time and the use of educational media to connect teacher and learner (Zhang & Cui, 2010). It is the education that is provided online by some electronic devices like computers, smartphones, laptops, etc. while connected to the internet is known as online education, this type of education is also called e-learning. Schools and colleges started to use online education when traditional learning became impossible during the pandemic. When someone uses online education more effectively it shows it is more effective than face-to-face classes.

According to Dhull and Sakshi (2017), online learning is a form of distance learning which encompasses a range of technologies such as the world wide web, email, chat, new

groups and texts, audio, and video conferencing, delivered over computer networks to impart education. It helps the learner to learn at their own pace, according to their own convenience. Online education is a great source of education which is available all the time (24/7) for the students. It is possible only because of the incredible invention of electronic devices (like mobile phones, laptops, and computers) and the accessibility of the internet. Today, many institutions of higher learning offer online instruction with integrated web-based instructional tools (Rodriguez, Ooms, & Montanez, 2008).

Online education has become more flexible for students to learn anything from anywhere at any time. This kind of learning flexibility cannot be attained in the traditional classroom. Online education includes audio, video, text, animations, and virtual instructions that are provided to the students by the teachers. These are the techniques used to impart knowledge and skills to students so they can go on to become experts in their fields. Song (2010) defined online learning as the education that occurs only through the web. It does not consist of any physical learning materials issued to student or actual face to face contact.

It is mostly associated with activities involving computers and interactive networks simultaneously. The computer does not need to be the central element of the activity or provide learning content. However, the computer and the network must hold a significant involvement in the learning activity. Also, it is into content readily accessible on a computer. The content may be on the Web or the Internet, or simply installed on the computer hard disk. Berteau (2009) defined online learning as an alternative to distance education which integrates multiple technologies with the use of the internet, which provides the transmission of information, such as testing and assessment, that the learners need in the learning process.

1.1.1 Technology-Driven Definitions

This category mostly includes definitions from private companies and a few academics that emphasize the technological aspects of e-learning, while presenting the rest of its characteristics as secondary. The definitions in this category portray e-learning as the use of technology for learning as the following:

1. “E-learning is the use of electronic media for a variety of learning purposes that range from add-on functions in conventional classrooms to full substitution for face-to-face meetings by online encounters” (Guri-Rosenblit, 2005).
2. “E-learning is distance education through remote resources” (Marquès, 2006).

1.1.2 Delivery-System-Oriented Definitions

This category presents e-learning as a means of accessing knowledge (through learning, teaching, or training). In other words, the focus of these definitions is the accessibility of resources and not the results of any achievements. Representative samples from this category include the following:

1. “E-learning is the delivery of education (all activities relevant to instructing, teaching, and learning) through various electronic media” (Koohang & Harman, 2005).
2. “E-learning is an on-line education defined as the self-paced or real-time delivery of training and education over the internet to an end-user device” (Lee & Lee, 2006).
3. “E-learning is the delivery of a learning, training or education program by electronic means” (Li, Lau & Dharmendran, 2009).
4. “E-learning is defined as education delivered, or learning conducted, by Web techniques” (Liao & Lu, 2008).

1.1.3 Communication-Oriented Definitions

This category considers e-learning to be a communication, interaction, and collaboration tool and assigns secondary roles to its other aspects and characteristics. Representative examples of these definitions, which come mostly from the academic and communication sectors, include the following:

1. “E-learning is education that uses computerized communication systems as an environment for communication, the exchange of information and interaction between students and instructors” (Bermejo, 2005).
2. “E-learning is learning based on information and communication technologies with pedagogical interaction between students and the content, students and the instructors or among students through the web” (González-Videgaray, 2007).

1.1.4 Educational-Paradigm-Oriented Definitions

This category defines e-learning as a new way of learning or as an improvement on an existing educational paradigm. Most of the authors falling into this category work in the education sector. Some of the most representative examples of these definitions include the following.

1. “E-learning is the use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to resources and services, as well as remote exchange and collaboration” (Alonso et al., 2005).
2. “E-learning is a broad combination of processes, content, and infrastructure to use computers and networks to scale and/or improve one or more significant parts of a learning value chain, including management and delivery” (Aldrich, 2005).
3. “E-learning is defined as information and communication technologies used to support students to improve their learning” (Ellis, Ginns & Piggott, 2009).

4. “E-learning refers to educational processes that utilize information and communications technology to mediate synchronous as well as asynchronous learning and teaching activities” (Jereb & Šmitek, 2006).

1.2 Elements of Online Education

Online education involves a variety of elements aimed at facilitating effective learning in a digital environment. Key components of online learning environment include Learning Management Systems (LMS), which represent sophisticated software platforms integral to the facilitation of online courses within academic institutions.

Learning management systems (LMS) are online software systems used to support various instructional, learning and assessment activities, and are central elements of many university course delivery systems (Turnbull et al., 2021; Weaver et al., 2008; Yueh & Hsu, 2008). These systems serve as centralized digital frameworks, systematically organizing and optimizing the delivery of educational content. In doing so, LMS platforms provide a structured environment conducive to efficient management of course materials, assessments, and communication channels between students and instructors. Through these platforms, educational institutions can administer and monitor the learning experience, fostering a cohesive and effective online learning environment.

Digital content within the educational context comprises a diverse collection of materials, including videos, interactive quizzes, discussion forums, and e-books. The increased demand of digital content has resulted in more revenue generation for digital content publishers (Weinstein, 2010). These resources play a critical role in actively involving learners and fostering a thorough and all-encompassing learning experience. To include a variety of formats, such as multimedia elements and interactive assessments, digital content caters to different learning preferences. Another important aspect of digital content adoption is the users’

environment-friendly nature (Haytko & Matulich, 2008). Its significance lies in its ability to captivate learners' attention, promote participation, and contribute to a well-rounded educational journey. In essence, the utilization of these digital materials enhances the overall quality and effectiveness of the learning process.

Interactivity is a central design and evaluation construct for online communities. Among the intended outcomes of interactivity in online communities are engagement, sociability, the group's potential to stick together, cooperation, and longevity (Rafaeli & Sudweeks, 1997). The design of online courses should prioritize the promotion of active learning by incorporating interactive elements like quizzes, assignments, and discussion forums. The virtual settings enable less-assertive participants to compose their thoughts (Hewitt, 2001), while allowing more time for all participants to reflect on and respond to the contributions of others (Poole, 2000).

This approach serves the double purpose of reinforcing the learning process and enhancing the overall engagement with educational content. Through interactive components, students are encouraged to participate actively in their learning experience, fostering a deeper understanding of the subject matter. The use of quizzes and assignments, in particular, provides opportunities for application and reinforcement of acquired knowledge. According to Dhull and Sakshi (2017), online learning is a form of distance learning which encompasses a range of technologies such as the world wide web, email, chat, new groups and texts, audio, and video conferencing, delivered over computer networks to impart education. It helps the learner to learn at their own pace, according to their own convenience. Discussion forums facilitate collaborative learning and the exchange of ideas among students, enriching the educational experience by encouraging thoughtful discourse and shared awareness.

The increased use of technology in the classroom and the growth of online learning in general helped spawn the growth and development of faculty development and eLearning

centres during the 2000s (Tobin & Behling, 2018). A fundamental aspect of online education is ensuring accessibility and flexibility for learners, irrespective of their geographic location or scheduling constraints. This involves presenting course materials in diverse formats to cater to various learning preferences. The provision of flexible learning paths accommodates different styles and paces, allowing students to engage with the content at their own convenience. The aim is to remove barriers related to time and location, making educational resources readily available to a broader audience. In essence, prioritizing accessibility and flexibility contributes to an inclusive learning environment that adapts to the diverse needs and circumstances of learners.

Online learning means the use of technological devices, the Internet as a tool. Adedoyin and Soykan (2020) noted that technical issues, socio-economic factors, human and pet intrusion, digital competence, assessment and supervision, and heavy workload can affect the effectiveness of online learning. Integrating technological aids into the educational framework, such as multimedia resources, simulations, and virtual labs, constitutes a valuable strategy for enhancing the learning experience. This approach aims to augment the engagement and relevance of educational content through the use of technology. Multimedia resources, including videos and interactive presentations, serve to captivate learners' attention and convey information in a dynamic manner. Song (2010) defined online learning as the education that occurs only through the web. It does not consist of any physical learning materials issued to student or actual face to face contact. Pure online learning is essentially the use of e-learning tools in a distance education mode using the web as the sole medium for all student learning and contact. Simulations and virtual labs provide practical, hands-on experiences that deepen understanding and simulate real-world scenarios.

According to Brophy (1987), motivation to learn refers to a student's stable disposition to find academic activities as satisfying and worthwhile and, therefore, strive for knowledge

and mastery in different learning situations. As a general trait, most individuals who display motivation to learn find learning intrinsically rewarding (Brophy, 1987). Successful online education depends on promoting motivation and engagement among learners through well-defined learning objectives, interactive content, and avenues for feedback and assessment. Clear learning goals provide learners with a sense of purpose, while interactive content, such as quizzes or discussions, serves to support their interest. Regular feedback and assessment opportunities not only guide learners but also contribute to a sense of progress and achievement. The integration of engaging content and learning activities plays a pivotal role in preserving learner interest throughout the course. The emphasis on motivation and engagement is fundamental to cultivating a positive and effective online learning environment.

Feedback is a crucial yet challenging part of teaching and learning (Kluger & DeNisi, 1996; Sadler, 1989; Shute, 2008). Offering timely and constructive feedback on learners' performance is essential in guiding and enhancing the learning process. Assessments should be thoughtfully designed to measure learning outcomes accurately, ensuring they serve as effective tools for evaluating understanding and progress. Also, feedback provides learners with valuable insights into their strengths and areas for improvement. This constructive input empowers students to refine their understanding and skills, fostering continuous growth and development throughout the educational journey.

Peer instruction is a specific evidence-based instructional strategy that is well-known and widely used, particularly in physics (Henderson & Dancy, 2009). In the realm of online education, various features are commonly integrated to promote interaction among learners, such as discussion forums and collaborative projects. These elements serve to cultivate a sense of community within the virtual learning environment, contributing to an enriched overall learning experience. Through participation in discussions, students can engage with their peers, share insights, and collectively enhance their understanding of the course material. This

communal aspect not only promotes a supportive learning environment but also provides learners with diverse perspectives, broadening their comprehension and contributing to a more universal educational experience.

Ensuring access to support resources is vital in aiding learners to overcome challenges and enriching their overall educational experience. These resources encompass technical assistance, tutoring services, and supplementary learning materials. Berteau (2009) defined online learning as an alternative to distance education which integrates multiple technologies with the use of the internet, which provides the transmission of information, such as testing and assessment, that the learners need in the learning process. Technical support is crucial for resolving any issues related to the online learning platform, ensuring a smooth learning experience. Tutoring services offer personalized assistance, addressing individual learning needs and providing guidance on challenging concepts. Supplementary learning materials serve to complement the main course content, offering additional resources to deepen understanding.

As Brindley (2014) emphasized, “studying at a distance requires maturity, a high level of motivation, the capacity to multi-task, goal-directedness, and the ability to work independently and cooperatively”. Furthermore, she stated that distance learners are expected to plan their academic programs, set their study schedules, balance their studies with other responsibilities (work/family), communicate proficiently in writing, find, and use learning resources well, and read and synthesize efficiently. Those distance learners studying in cohorts are expected to collaborate effectively with their peers in virtual groups, and those studying in self-paced courses are often expected to create their own learning networks (Brindley, 2014).

Personalization in the context of education involves customizing learning experiences according to individual learners' needs and preferences, a practice that has the potential to markedly enhance learning outcomes. A key argument for the efficacy of personalization can be drawn from empirical demonstrations that learning gains in one-on-one tutoring are up to

two standard deviations higher than in conventional classroom instruction (Bloom, 1984). This approach extends to the incorporation of adaptive learning technologies, which dynamically adjust learning content and pace based on the learner's performance. Educators try to create a more responsive and effective learning environment, allowing each student to progress at a pace and in a manner that aligns with their unique strengths and learning style. Online education has not only changed the landscape for distance education but has greatly impacted higher education as a whole across the globe" (Kentnor, 2015).

1.3 The Importance of Online Education

The Importance of Online education is undeniable as everyone has gone through the busy schedule, including students and that's why they prefer online courses in order to be self-directed in learning while managing their time. According to Lieberman & Linn (1991), there is most likely that online training is not just adaptable yet additionally a viable approach towards acquisition, however, it demands self-needy and self-began learners. Presently online instruction is an extremely dynamic and a simple method for teaching-learning process yet to get prevailing in online training students must be self-controlled.

There is lack of close and personal cooperation in web-based learning and chances for self-bearing make it difficult to ensure students improve abilities in spite of constructive outcomes for aptitude improvement. The essence of online education lies in its transformative potential to democratize access to knowledge, foster global connections, and enhance learning experiences across various fields around the world. E-learning caters to different types and varieties of learning approaches by utilizing much interactive content available on the internet (Songkram et al., 2015). This flexibility is particularly beneficial for those who live in remote areas or work full-time jobs that limit their ability to attend traditional classes. Online learning has made it possible for more people to pursue higher education and professional development opportunities. Online education not only enhances subject

knowledge but also develops crucial transferable skills such as communication, critical thinking, and adaptability.

According to Stander (2020), online learning mainly offers a list of educational applications and given benefits. The self-discipline required to manage time and work independently, often without the supervision of a physical classroom, sharpens these skills. Thus, online learning platforms often incorporate interactive elements that encourage active learning, further enhancing these transferable skills. These skills are invaluable in the modern workplace, where employers seek candidates with a broad skill set that goes beyond technical expertise.

1.4 The Variations of Online Learning

The evolution of online learning and the advancements in technology have led to the emergence of various terms associated with this form of education, including E-learning, online learning, distance learning, hybrid learning, and blending learning. While these terms are often used interchangeably, they each represent unique aspects of learning that use technology.

1.4.1 Online Learning

Online learning, closely related to E-learning, refers to a form of distance education where technology acts as a medium for the learning process, with teaching delivered entirely via the internet. Using online technology to learn requires the students and teachers to have the ability to use technology to develop and maintain a sound social interaction (Andel et al., 2020). This form of learning requires learners to participate in regularly scheduled online lectures, presentations, or discussions and to have access to educational materials such as activities, assignments, presentations, recorded lectures, and reading lists through platforms designed for this purpose.

Online learning offers a variety of educational applications and benefits, including the ability for students to submit work and activities, receive feedback online, and interact with peers and instructors through digital lessons, materials, and assignments. According to Stander (2020), online learning mainly offers a list of educational applications and given benefits. For instance, students may submit their work, activities and receive feedback online.

1.4.2 Distance Learning

Mshvidobadze and Gogoladze (2012) define the term “distance learning” as the learning environment in which most or all the learning happens outside the traditional classroom using paper resources, video, teleconferencing, Computer Managed Learning (CML), or Online Courses (OC). Distance education popularity relies not only on its convenient approach for employees and parents to follow higher or continuing education (Niu et al., 2005), but also on its flexible access to learning resources regardless of space and occasional time limits which are more responsive to students’ needs (Mupinga, Nora, & Yaw, 2006). Distance learning is defined as efforts to provide and facilitate access to learning, especially for those who are geographically distant. This form of learning typically takes place in different locations and requires special instruments, methods of communication through institutional systems, and other technologies to support the learning process.

According to Moor et al. (2011), distance learning often describes the efforts of providing and supplying access to learning especially for those who are geographically distant. Moor (2011) added that distance learning is teaching and planned learning that normally happens in different place, as result requiring special instruments, special methods of communication via institutional systems and other technologies.

1.4.3 Blending Learning

Blending learning is a relatively new concept in education, which refers to the integration or blend of traditional face-to-face classroom teaching with online learning. Performance in blended learning can be defined as the measurable outcomes of a student's achievement in both online and offline learning environments (Spanjers et al., 2015). This approach combines face-to-face instruction with computer-based learning, offering a mix of instructional technologies such as web-based training, and face-to-face instructor methods. It is distinguished from other forms of online learning by providing students with additional communication channels, allowing for more productive interactions with their peers and instructors.

According to Graham (2006), this concept refers to the combination of face-to-face learning method with learning with computer. Blended learning can be impacted by the varied backgrounds and experiences of learners, influenced by factors such as geographic location, family background, and prior education. Educational institutions must recognize this and provide training programs to improve students' online technology skills (Bernard et al., 2014). While online learning variations can sometimes be used interchangeably, they differ in terms of the learning environment. Understanding these differences is essential for learners to effectively use these variations in their educational pursuits.

1.5 The Advantages and Disadvantages of Online Education

Online education has emerged as a significant alternative to traditional classroom learning, offering a variety of advantages and disadvantages. This comprehensive overview aims to detail these aspects, providing a balanced perspective on the current state of online learning.

1.5.1 Advantages of Online Education

Anderson and Baskin (2000) claim that “the value of the on-line environment lies in its capacity to enable our collaborative knowledge about teaching and learning to interact so that each becomes a structuring, and constitutive resource for the other”. Online learning has become a prominent mode of education, offering various advantages for both educators and learners. One key benefit is the enhanced efficiency for teachers. Online platforms empower educators to deliver lessons more efficiently by incorporating a diverse range of multimedia resources, such as videos, PDFs, and podcasts, thus extending beyond the confines of traditional textbooks. This versatility in instructional materials allows for a more dynamic and engaging learning experience. Flexibility and student-centred learning are one of the major advantages of online learning courses (Mukhtar, Javed, Arooj, and Sethi, 2020).

The accessibility of time and place is another crucial advantage of online education. Students can attend classes from anywhere, providing flexibility and the convenience of learning at times that suit their individual schedules. Students are now easier and more comfortable exchanging their idea with each other at a global level rather than being limited to the classroom (Yuhanna, Alexander, & Kachik, 2020). Thus, this flexibility allows educational institutions to reach a broader audience beyond geographical boundaries, creating a more inclusive learning environment.

Affordability is a significant factor contributing to the popularity of online learning. In comparison to traditional education, online programs often reduce financial burdens by eliminating costs related to transportation, meals, and physical infrastructure. According to Klein and Ware (2003), online learning focuses on the needs of individual learners as an important factor in the process of education rather than on instructions. The adoption of a paperless learning environment proves not only cost-effective but also aligns with environmentally friendly practices, contributing to sustainable educational initiatives.

Improved student attendance is a notable benefit of online learning. With classes accessible from various locations, the likelihood of students missing lessons is minimized. According to Thomson (2010), online learning permits students to work at a time and a place that suit their learning needs. This convenience not only contributes to higher attendance rates but also provides a more consistent and accessible learning experience for diverse student populations.

The literature on online learning has long emphasized the role of effective interaction for the success of student learning. According to Muirhead and Juwah (2004), interaction is an event that can take the shape of any type of communication between two or subjects and objects. Online learning accommodates a variety of learning styles, offering a personalized experience tailored to individual needs. This flexibility is particularly advantageous for visual learners, audio learners, and those who prefer independent study. The adaptability of online courses allows for a more inclusive approach to education, catering to the diverse preferences of a broad student demographic. According to Dhull and Sakshi (2017), online learning improves basic computer skills.

When considering time and location, each student must choose the luxury that suits their location and time (Klein & Ware, 2003). Flexibility in learning pace is a guarantee of online education. Individuals can complete coursework at their own speed, making it particularly beneficial for working adults or those with multiple commitments. This self-paced structure provides learners with the autonomy to manage their schedules effectively, contributing to a more balanced and personalized educational experience. The community and networking aspects of online courses contribute to a sense of belonging and support.

Opportunities for learners to connect with like-minded individuals foster collaboration and engagement. According to Thomson (2010), online learning permits students to work at a time and a place that suit their learning needs. Many instructors and students stated that they

are able to focus their attention more on the content of the course and less on issues such as parking, traffic, and other problems that may arise when attending a traditional learning class. This virtual sense of community enhances the overall learning experience by providing structured interactions and support networks.

Online learning enables the incorporation of the latest information into course content rapidly. This adaptability ensures that learners are exposed to the most recent developments in their respective fields, keeping them informed and aligned with evolving technologies and ideas. According to Ghoshal (2020), online learning increases time for both students and teachers. online education offers high-quality programs at a lower cost compared to traditional in-person programs. This affordability makes education more accessible to a diverse range of learners, breaking down barriers to entry and expanding opportunities for individuals seeking to further their education.

1.5.2 Disadvantages of Online Education

Schaeffer and Konetes (2010) interpreted that student, who enrolled in an online course, dropped out of their course at a higher rate than students who were in the on-campus program. In the domain of online learning, the sense of isolation is Intensified by the lack of physical interactions between students and instructors. Building connections with peers and educators becomes a challenge, potentially impacting the development of a collaborative and supportive learning community. According to Dhull and Sakshi (2017), online learners suffer from low motivation while studying. Students who thrive on real-time discussions, group activities, and immediate access to instructors may find the virtual setting less conducive to these preferences. Technical challenges, such as connectivity issues and software glitches, represent a common hurdle in the online learning landscape. These challenges can disrupt the flow of lessons, necessitating troubleshooting efforts from learners and potentially causing frustration.

The instruction time for their online course was almost the same as that of offline classes, but assessment and communication to students through email took more time than the offline class (Bender, Wood, & Vredevoogd, 2004). The independent nature of online interactions means that feedback from instructors and peers may not be immediate. This delay in feedback can hinder the iterative learning process, where students often benefit from timely insights to refine their understanding and performance. The absence of a physical classroom environment is notable, impacting learners who value the structure and interpersonal dynamics of traditional classes.

Guragain (2016) clarified that this results in students' failure and inability to achieve their goals and objectives. The online setting may lack the visual cues, spontaneous interactions, and physical presence that contribute to a traditional classroom experience. This shift can be challenging for students who rely on these elements for effective learning. In terms of course structure, the repetitive nature of some online learning formats can contribute to disengagement.

Without the diversity and spontaneity found in face-to-face settings, students may find the online learning process monotonous, potentially affecting their motivation and interest in the material. According to Bao (2020), the usefulness of online learning depends on the student's personality or personal attitude toward learning. Moreover, in online classes, students have more freedom and self-control over their online activities.

According to Collin, Hammoud, and Willington (1997), online learning does not allow as much communication and interaction as traditional learning does. The demand for self-discipline in online learning cannot be overstated. Students must independently manage their schedules, complete assignments, and engage with course materials. For individuals who struggle with self-motivation or effective time management, the autonomy required in online learning can pose a significant challenge. These challenges collectively underscore the

multifaceted nature of online learning, with its advantages often accompanied by potential drawbacks that impact the overall student experience.

Collin et al. (1997) added that online learning may also lead to the heavy use of some websites which result in unexpected costs both in time and money. While online education offers numerous benefits, including flexibility, affordability, and the ability to cater to a variety of learning styles, it also presents challenges such as a sense of isolation, increased screen time, and potential technical issues. The effectiveness of online learning depends on the learner's ability to navigate these challenges and leverage the platform's strengths to enhance their educational experience.

1.6 Teachers' Perception of Online Class

Teachers' perceptions of online learning are influenced by various factors, including their comfort level with technology, their experiences with technology in the classroom, and their expectations for the impact of online tools on their instructional strategies. According to a study conducted by Jessica D. Cunningham and Kelly D. Bradley at the University of Kentucky, several key findings emerge regarding teachers' perceptions of online learning tools.

1.6.1 Comfort Level with Technology

Teachers are generally more comfortable with technology, with notable exceptions for chat rooms and instant messaging. Most teachers were comfortable with basic operations, emailing, and internet usage, while expressing varying degrees of comfort with chat rooms and instant messaging.

Ritzhaupt et al. (2012) demonstrated how teacher, school, and contextual characteristics affected student use of technology through classroom technology integration and teacher use of technology. Interestingly, teachers' perceptions shifted towards higher student comfort levels with email, email attachments, chat rooms, and internet usage post-implementation. This

suggests that as teachers become more accustomed to using online learning tools, they may also perceive students to be more comfortable with these technologies.

1.6.2 Use of Online Learning Tools

At first, teachers were willing to implement online learning tools in their classrooms if specific requests were met. However, by the second focus group interview, teachers indicated that they would not choose to use online learning tools in their classrooms, at least not as presented within the study. Urdan and Weggen (2000) expressed that the present learning ventures ask for the power of development to overcome the limitations of time, detachment, and resources. This is uncommonly understood that people having different learning styles and learn about different courses and in particular circumstances. To keep pace with such assortments, E-learning is ascending as a potential device to execute and exchange information and learning material at any place or any time. Smidt et al. (2016) argued that the relationship with the instructor in the online environment can negatively affect the student's online learning experience. They believed online learning tools could be used for supplemental material but not for core content.

Moreover, teachers felt that online learning tools could be used to acquire more summative data rather than formative data. For instance, if the instructor's skills and efforts in giving feedback to students are not sufficient, it will lead the student to feel anxious in the course (Hara & Kling, 1999). Teachers initially believed that online learning tools would change their instructional strategies. However, after implementation, teachers decided that online tools would not change their classroom strategies. This suggests a shift in teachers' perceptions from anticipating a significant impact to concluding that the integration of online tools would not fundamentally alter their teaching practices.

1.6.3 Perceptions of Implementation Process

Teachers felt that the integration of online learning tools would not meet teacher resistance. However, this perception changed, with teachers not endorsing this statement for the post-implementation survey. This indicates that the process of implementing online learning tools may have encountered resistance from teachers, affecting their perceptions of the tools' effectiveness and ease of use. Schools should develop management information systems to increase the efficiency of administrative services (Gehlawat, 2014).

The study by Cunningham and Bradley (2006) provides valuable insights into teachers' perceptions of online learning. It highlights the importance of teacher comfort with technology, the specific ways in which teachers view the integration of online tools into their classrooms, and the potential for resistance to the implementation of new technologies.

These findings underscore the complexities involved in the adoption and use of online learning tools in the classroom, suggesting that while there is a willingness to incorporate these tools, the process is not without challenges and requires careful consideration of teachers' perceptions and needs. According to Demir (2006), a school management system has many advantages for administrators, teachers, and students such as developing a database that includes information of student registration, and programs.

1.7 Students' Perception of Online Class

Students' perceptions of online education reveal a complex interplay of factors that influence their experiences and satisfaction levels. This overview synthesizes findings from multiple studies to provide a comprehensive understanding of students' perspectives on online learning.

1.7.1 Comfort with Technology and Learning Environment

Online learning initiated students' role in using additional resources to discover their abilities as independent learners (Roach & Lemasters, 2006). A key factor in students' perceptions of online classes is their comfort level with technology. The ability to effectively use online tools and platforms is crucial for a positive learning experience. Students who are familiar with digital learning tools and have a stable internet connection are more likely to engage positively with online classes.

Hong et al. (2003) argues that perception is someone thought about something that they learn to measure how their attitude toward using something, whether they agree or not about something that they learn. Students who are accustomed to using digital tools and platforms find it easier to navigate online learning environments. This familiarity includes proficiency in using learning management systems (LMS), video conferencing tools, collaborative documents, and other online resources commonly employed in virtual classrooms. Online learning offers the increasing of satisfaction and the decreasing of stress (Codone, 2001; Amer, 2007).

In addition, comfort with technology enhances students' ability to interact with course materials, engage in discussions, submit assignments, and participate in various online activities seamlessly. In addition, online education relies heavily on digital interfaces, and students comfortable with technology can navigate through these interfaces effortlessly. Both faculty and students have optimistic opinions about online classes (Kulal & Nayak, 2020). This ease of navigation contributes to a smoother learning experience, allowing students to focus on the educational content rather than struggling with the technical aspects.

There is a positive correlation between students and faculty in their perception of teaching and learning (Seok et al., 2010). A stable internet connection is a fundamental

requirement for effective participation in online classes. Students with reliable internet access can access lectures, participate in live discussions, and download/upload course materials without disruptions. This reliability ensures that students can fully engage in the learning process without being hindered by connectivity issues. When students feel confident in their technological abilities, they are more likely to have a positive perception of online classes.

According to Rule et al. (2002), students can improve their learning through online sources and succeed by having technology competency skills. Online classes often involve virtual interactions, such as video conferences, discussion forums, and collaborative projects. Students comfortable with technology are more likely to actively participate in these interactions, fostering a sense of community and connection with instructors and peers.

Thus, students who are technologically savvy can adapt quickly to changes in online learning environments. This adaptability is crucial as technology evolves, and educational institutions may adopt new tools or platforms to enhance the learning experience. Taipjutorus et al. (2012) stated that when students are not familiar with computer and technology usage and skills, they might feel less confident and less motivated to attend online learning courses and might negatively influence their performance.

1.7.2 Quality of Course Content

Quality Matters is considered the gold standard in terms of online standards development (Maryland Online, 2014). The perceived quality of online course content holds considerable influence over students' satisfaction with their learning experience. High-quality content, which incorporates multimedia resources, interactive elements, and current information, has the potential to significantly enrich the learning journey. Students particularly value clear communication of course objectives and a logical organization of materials that aids

in understanding. Quality is not solely defined by the inclusion of diverse resources but also by their relevance and alignment with the course's objectives.

Delon and McLean (1992) reported that system quality can be measured by data currency and accuracy, response time, reliability, turnaround time, completeness, flexibility, and usefulness. When the content is presented in a coherent and organized manner, it contributes to a positive learning environment.

When course content is carefully curated, clearly communicated, and thoughtfully organized, it contributes to a sense of quality that resonates positively with students, ultimately enhancing their overall satisfaction with the educational experience. System quality is concerned with “whether or not there are ‘bugs’ in the system, the consistency of the user interface, ease of use, response rates in interactive systems, quality documentation, and sometimes, quality and maintainability of the program code” (Seddon, 1997).

1.7.3 Student-Student and Instructor-Student Interactions

Providing ample opportunities for student-to-student and student-to-teacher interactions in online courses, student interaction with online instructors provides the most significant benefits in online courses (Mupinga, Nora, & Yaw, 2006). The dynamics of student-student interactions, including collaboration and networking, are essential for a successful online learning environment.

Teacher–student interaction refers to the way in which teachers and students communicate in their classrooms (Englehart, 2009). These interactions can foster a sense of community and support, enhancing the overall learning experience. However, the effectiveness of these interactions can be influenced by the online platform used. Moreover, the frequency and impact of communication between instructors and students is critical for online learning. Effective dialogue can clarify course content, provide timely feedback, and address students'

questions, thereby improving course understanding and learning outcomes. Song (2010) defined instructors' characteristics as the skills, efforts, and pedagogical technique used by an instructor.

1.7.4 Course Design and Assessment

The design of courses extends beyond the broad arrangement of content. It involves the careful orchestration of modules, ensuring a logical flow that facilitates comprehension and progression. Well-structured courses not only enhance the clarity of the learning path but also contribute to students' overall satisfaction and engagement. Intellectual stimulation is another key element. Price et al. (2016) suggested that providing instructor contact information, with different ways to contact the instructor, is important in the online course; contact could be via e-mail, phone, or synchronous online communication tools.

Instructor information can be presented as text or in an instructor's introduction video so that the students can get to know the instructor better (Martin et al., 2018). Courses that challenge students, encourage critical thinking, and provide opportunities for exploration tend to be more positively perceived. Incorporating diverse instructional methods, such as multimedia elements, interactive discussions, and real-world applications, can contribute to the intellectual richness of the course.

Assessment tools, being integral components of the learning process, need to be thoughtfully chosen and directly aligned with the course objectives. Hammoud (2010) stated that the instructor has a significant effect on the success of online courses; the instructor's interaction, supervision and communication with the student will enhance the student achievement and participation in the online courses. Assessments should not only gauge students' understanding but also provide meaningful feedback for improvement.

Hammoud (2010) stated that these system characteristics are considered key factors that could affect and influence students' satisfaction and perceptions about online learning. a well-designed online course goes beyond organizing content; it considers the intellectual stimulation it offers and ensures that assessments are not only aligned with course objectives but also contribute to students' growth and understanding. Such considerations collectively contribute to a positive perception of the course by students.

1.7.5 Environmental Factor

The impact of infrastructure and technological readiness on the online educational experience is a critical environmental factor. Students are required to adjust to new environmental factors, such as temperature, noise, lighting, and technology, that are different from those in the classrooms at their university (Realyvásquez-Vargas et al., 2020). Students with access to adequate technology devices and a stable internet connection are more likely to have a positive online learning experience. However, students in environments with limited resources may face challenges that affect their ability to participate fully in online classes.

Eom et al. (2006) found that the 18 instructor's knowledge and facilitation can positively affect student's satisfaction with the online learning experience. To sum up, students' perceptions are shaped by a variety of factors, including their comfort with technology, the quality of course content, the dynamics of student-student and instructor-student interactions, the design of the course, and environmental factors such as infrastructure and technological readiness. Developing these aspects can contribute to a more positive and effective online learning experience. Dhawan (2020) added that like all universities around the world, Algerian universities opted for distance education and coined the term online learning.

Conclusion

Learning is undergoing a revolution thanks to technology, online education that thrives on internet resources and brings flexibility to both teachers and learners. By integrating multimedia sources with digital instruments, this system creates a virtual community of learners. The significance of democratization is measured based on accessibility, worldwide connections, as well as cost-effective learning contributing to crucial skill development. To cater to different preferences, there are various forms such as E-learning, online learning, distance education learning, hybrid learning, and blended learning. On the positive side, these include flexibility, affordability, and customized instruction; however, on the negative note, isolation and technical problems still exist. Based on the tools' usefulness and difficulties in incorporating them, teachers' attention is attracted to tool efficiency and integration challenges, while students' opinions can be shaped by their attitudes towards technology and quality of interactions. In this respect, online education can be regarded as a component of the entire process that implies both benefits and barriers, adaptation, and innovation with respect to future growth and impact.

Chapter Two

Chapter Two:**Comprehensive Exploration of Challenges, Effective Practices and Platforms**

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Introduction

The present chapter provides a holistic view on comprehensive exploration of challenges, effective practices, and platforms in online education. It begins with detailing the obstacles faced by educators and students, highlighting the difficulties in adapting teaching approaches and their effects on student engagement and participation. The chapter examines the need for balancing technological integration with suitable support. It also discusses effective practices for achieving optimal performance, providing strategies for educators and tips for students. As it explores various educational online learning platforms, assessing their effectiveness in enhancing the online learning experience.

2.1 Challenges Faced by Educators

The transition to online learning presents educators with a unique set of challenges that significantly impact teaching methodologies and student engagement.

2.1.1 Technical Difficulties

Irfan et. al. (2020) conducted a study that examines the challenges of implementing online learning during the pandemic faced by lecturers. Technical difficulties represent a significant obstacle in the realm of online learning, often impeding students' ability to engage effectively with course materials and participate in virtual classrooms. It should be mandatory for institutions to train the teachers on software beforehand so that they are well-equipped with the knowledge that may be required for facilitating the students on the new mode of learning (Burns, 2011). These challenges frequently stem from issues such as insufficient access to necessary technology or unreliable internet connectivity, which can disrupt the learning process and lead to feelings of frustration and disengagement among students. To address these complex challenges, institutions and educators must adopt a multifaceted approach that encompasses both proactive measures and responsive support mechanisms.

A few instructors have remained sceptical of online learning, and the results have been disappointing (Alshauibi, 2021). Ensuring equitable access to technological resources is important. This may entail providing students with access to laptops or tablets, internet connectivity subsidies, or loaner devices for those facing financial constraints or technological limitations. Moreover, institutions can collaborate with local internet service providers to offer discounted or subsidized internet access for students in need. In addition to providing access to necessary resources, proactive support mechanisms should be implemented to assist students in navigating technical challenges effectively. The development of online learning systems of each tertiary institution, and the resolution related to mathematical symbols that tend to be difficult if written on several eLearning platforms (Irfan et. al., 2020).

In an online learning environment, students are expected to take a more active approach to their education, and course outcomes depend heavily on students' attitudes towards online learning (Neely & Tucker, 2010). recognizing the diverse needs and circumstances of students is essential in crafting tailored solutions to address technical challenges. For example, students residing in rural or underserved areas may face unique connectivity issues that require alternative approaches, such as offline learning materials or asynchronous learning options. The web course, and web enhanced course are three alternatives in the construction of an internet-based learning system, as indicated by the growth of online learning (Sudarsana et al., 2019).

The presence of competent educators who are committed to student support must be a priority in the pedagogy of online teaching as online learning continues to be integrated into the foundations of higher education (Levy, 2017). Similarly, students with disabilities may require specialized assistive technologies or accommodations to ensure equitable access to online learning resources.

2.1.2 Ensuring Accessibility

Besides teacher preparation, course designer knowledge and development have also been identified as important elements for achieving accessibility in online course (Crouse, et., al., 2018; Evmenova, 2018). Thus, by exploring these topics in depth, it aims to provide insights into how educators and institutions can create more inclusive online learning experiences for diverse student populations. In recent years, online learning has emerged as a prominent mode of education, offering flexibility and convenience to students worldwide. According to Mehall (2020), lack of interpersonal communication can be harmful. However, accessibility remains a critical concern, as barriers related to technology, physical capabilities, and digital literacy can hinder students' ability to fully participate in online courses.

Proponents of online instruction suggest that learning is impacted by the instruction method embedded within the medium of delivery, therefore asserting that the quality of instruction impacts learning outcomes (Rovai, Wighting & Lui, 2005). Mobile devices have become universal today, offering a convenient way for students to access course materials and engage in online learning activities. However, ensuring that learning platforms are accessible on mobile devices presents unique challenges. To address this, educators and institutions must prioritize mobile optimization when designing online courses.

According to Moore (1993), analysing distance education necessarily involves attending to dialogue, structure, and learner autonomy. This includes adopting responsive design principles to ensure that course materials are displayed properly across various screen sizes and devices. Proper structuring of courses as blended classes or forming cohorts in the online environment both have the potential to eliminate some of the deficits that can be attributed to online learning and create a sense of community and belonging among the students (Rovai et al., 2005). Providing alternative formats for content, such as text-based transcripts for videos

and audio recordings, ensures that students using mobile devices can access information effectively.

One instructor observed that many students desire to work independently and at different paces than their peers, therefore eliminating the need for communication amongst their classmates (Thomson, 2010). The availability of mobile-friendly learning platforms and applications facilitates seamless access to coursework from anywhere, at any time. Educators can leverage mobile learning apps to deliver interactive lessons, facilitate discussions, and provide feedback to students.

Palilonis and Watt (2019) defined digital literacy as the ability to make and share meaning in the various types and formats in order to creating, collaborating, and communicating those aspects to other people in the digital environments and to effectively understand the ways and the situations where those processes could be supported by the technology. Digital literacy enables students to navigate online platforms and tools effectively.

Students who lacked independence and self-motivation overall had lower success rates than their counterparts (Savenye, 2005). Digital literacy training encompasses a range of competencies, including the ability to locate and evaluate information online, communicate effectively through digital channels, and protect personal data and privacy online. Educators can incorporate digital literacy training into online courses through interactive modules, tutorials, and hands-on activities. Some teachers somehow find various difficulties in regard to match the lesson they want to teach with the application that they want to use and also to create some content of learning by using those applications (Argawati & Suryani, 2020). These activities may include teaching students how to conduct online research, critically evaluate sources, and cite information properly.

Online courses have the potential to open the pathways for more opportunities for students in “small, rural, or low socioeconomic school districts” (Chaney, 2001). Providing guidance on using digital communication tools, such as email and discussion forums, helps students develop Effective Communication Skill (ECS) in online settings. Furthermore, educating students about digital citizenship and online safety is essential to promote responsible and ethical behaviour online. This includes teaching students about cyberbullying, digital etiquette, and privacy protection measures. Curran (2004) examined the online learning strategy adopted by universities, from the perspective of: widening access to education opportunities, quality of learning enhancement and reducing the cost of higher education. Educators train students with the knowledge and skills needed to navigate the digital landscape responsibly and ethically.

The growth in online education has heightened competition among postsecondary institutions (Loyen, Magda, & Rikers, 2008). Improving accessibility in online learning requires a multifaceted approach that addresses the unique needs and challenges faced by diverse student populations. Educators and institutions can create more inclusive and equitable online learning environments, as they can ensure that all students have the opportunity to fully participate and succeed in online courses, regardless of their physical or technological capabilities. According to Boekaerts (2008), most studies of online programs have focused on their technical aspects, neglecting the importance of students’ perceptions.

2.1.3 Engaging Students Online

Engaging students in online learning presents a significant challenge for educators due to the inherent differences between virtual and traditional classroom settings. The teachers’ daily routine in which familiar with technology tools, as well as school regulation towards technology inclusion, could be the reasons for the limited knowledge of digital literacy skill (Dusick, 1998). This study explores the complexities of student engagement in online learning environments

and discusses innovative strategies for fostering interaction, maintaining interest, and supporting students effectively.

Swan (2001) found that students who had perceived high levels of interaction with the instructor also had high levels of satisfaction with the course and reported higher levels of learning than students who thought they had less interaction with the instructor. The transition to online learning has transformed the educational landscape, offering extraordinary opportunities for flexibility and accessibility.

According to Moore and Kearsley (2005), highly structured content influences students' perception of their learning experiences in an online program, an assertion that was explored in the current study. Engaging students in online learning environments presents unique challenges for educators. The absence of face-to-face interaction and the limitations of virtual platforms can hinder students' motivation and participation.

Varvel (2007) found that many instructors have not been adequately prepared to teach online courses because the focus of their training was on face-to-face instructional delivery. The lack of physical presence and direct interaction can lead to feelings of isolation and disconnection among students. The asynchronous nature of online courses can make it difficult for educators to gauge students' understanding and address their needs effectively. To overcome these challenges and create engaging online learning experiences, educators can implement a variety of innovative strategies. Rosenberg (2001) explained that the time is now to build an e-Learning strategy that meets the needs of today's workers, some of whom are ready for this change, and others who will need help in the transition.

Until this point learning technology was limited, with little opportunity for exchanges between the facilitator and learner (Eastman & Swift, 2001). Establishing a sense of community and belonging is essential for fostering student engagement in online courses. This can be

achieved through activities such as virtual icebreakers, online discussion forums, and group projects that encourage collaboration and interaction among students. Including multimedia elements, such as videos, interactive simulations, and virtual field trips, can enhance the learning experience and capture students' interest.

Sloman (2002) defines e-Learning as the delivery of learning or training using electronically based approaches, mainly through the Internet. Providing regular individual contact with each student is crucial for building rapport and addressing their individual needs. Implementing formative assessment strategies, such as quizzes and surveys, allow educators to gauge students' understanding in real-time and tailor instruction accordingly. Piskurich (2003) explains that another problem is that e-Learning is a still evolving discipline, and what might be considered a good definition today may not even be in the ballpark tomorrow.

According to Allen (2006), though e-Learning still being in its early stages, there is no doubt that it offers distinct benefits: It links geographically dispersed people. Offering various forms of support and access to external resources is essential for ensuring that all students have the necessary tools and assistance to succeed in online learning. Thus, incorporating peer support networks and online study groups allows students to collaborate and seek assistance from their peers. E-Learning has progressed from simply delivering learning outcomes to encompassing first knowledge management and now human capital management (Bowles, 2004). Despite educators' best efforts, some students may still struggle to engage effectively in online learning environments. Therefore, it is essential to implement effective tools and strategies for identifying and supporting at-risk students.

Engaging students in online learning environments requires educators to employ innovative strategies that foster interaction, maintain interest, and support students effectively. e-Learning can be more cost effective to deliver than classroom-based training, especially for larger organizations (Shepherd, 2003). Also, implementing formative assessment strategies and

offering various forms of support and access to external resources are essential for ensuring that all students have the tools and assistance they need to succeed in online learning. Educators can create engaging online learning environments that encourage students to achieve their academic goals by adopting these strategies.

2.2 Challenges Faced by Students

Angelo (1995) in turn proposed a useful model to clarify what goals a particular teaching or assessment strategy is designed to achieve and to address learning challenges faced by students in higher education. The shift to online learning poses numerous challenges for students, significantly impacting their motivation, concentration, and overall educational journey. From technical obstacles to psychological hurdles, the transition to online education encompasses a range of barriers that can hinder students' engagement and achievement.

2.2.1 Motivation and Focus

Boud and Falchikov (2005) suggested that we need to move from summative assessment that focuses on specifics, standards, and immediate outcomes to more sustainable assessment that can aid students to become more active learners not only in managing their own learning but also assessing themselves beyond the end of the course. Motivation is a basis of success in online learning.

To analyse factors such as the lack of face-to-face interaction, delayed feedback mechanisms, and the prevalence of distractions. Although there is flexibility in time unlike traditional classroom lectures, learners face difficulties in regulating online learning time because of repetitive sessions that they take for understanding the concepts (Batbaatar & Amin, 2021). Motivation plays a necessary role in driving student success in online learning environments. However, the transition to digital education presents unique challenges that can impact students' motivation levels.

Boud and Falchikov (2005) highlighted that most of the critique focused on the effect on learning within courses not on learning following graduation. They note that what is important is to strike a balance between formative and performance-based assessment procedures in order to overcome the limitations of traditional unseen summative and norm-referenced standardized tests. The lack of face-to-face interaction is one of the primary challenges students face in online learning.

Dunbar (2004) argue that student technical and non-academic skills are behind their success in online courses. To understand the specific obstacles students face, educators and institutions can develop targeted strategies to enhance motivation and engagement in digital educational settings. Through practical measures such as developing a sense of community, providing timely feedback, and minimizing distractions, educators can create more supportive and engaging online learning experiences that empower students to succeed in their academic activities.

2.2.2 Technical and Equipment Issues

Technical and equipment issues present significant obstacles for students in the online learning environment, impacting their ability to fully engage in coursework and access essential resources. When teachers asked students to browse more references through the internet, they mostly realize that those resources are truly complex and more complicated rather than teachers' instruction in the classroom (Tang & Chaw, 2016). Institutions and educators can work towards mitigating these challenges and fostering a more inclusive online learning environment. In the digital era of online learning, technical and equipment issues emerge as critical barriers that hinder students' educational experiences.

Students claim that some resources they have found on the internet are oftentimes difficult to read and to understand (Burnett, 2011). The insufficient access to technology and unreliable internet connectivity poses significant challenges, impeding students' ability to

participate effectively in online classes and access course materials. This research explores the multifaceted nature of these technical difficulties, highlighting their impact on student engagement and learning outcomes. Those issues significantly impact students' experiences in the online learning environment.

Ineffective access to technology, such as laptops, tablets, or reliable internet connectivity, can disrupt students' ability to participate fully in online classes and access course materials. Instructors must participate actively and engage with students, which means they must be available for learners and gain their trust and confidence (Brocato, Bonanno, & Ulbig, 2015). Students experiencing technical difficulties may face frustration and disengagement, leading to diminished learning outcomes.

Atmanegara et al (2013) stated that students need to be able to use digital media in order to comprehend all of the contents from digital resources. Unreliable internet connectivity can hinder students' ability to engage in synchronous online activities, such as live lectures or virtual discussions. This inconsistency in internet access may result in missed opportunities for participation and collaboration, further widening the digital divide among students. Technical issues may create barriers to accessing digital learning platforms and resources.

Real time communication between students and an instructor is supported in an online environment by many features such as audio, video, text-chat, interactive whiteboards, application sharing, instant polling, emoticons, and breakout rooms (Martin & Parker, 2014). Educators can implement strategies to accommodate students experiencing technical difficulties. Combining digital literacy training into online courses can encourage students to navigate technical challenges independently and effectively use online learning platforms and resources.

2.2.3 Social Isolation

Care must be employed because students can become distracted or confused in a virtual environment (Warden, 2013). Feelings of social isolation establish a significant challenge for online learners, impacting their sense of connection and support within the educational environment. This study examines the complexities of social isolation in online learning, focusing on the absence of physical presence and its implications for student engagement and academic performance. Students note an inability to start an initial topic in collaborative discussion boards as a restriction (Jun & Park, 2003). In order to explore potential solutions and support mechanisms, educators and institutions can work towards mitigating social isolation and promoting a more inclusive and supportive online learning environment. Social isolation emerges as a pressing concern that impedes students' sense of belonging and connection within the educational community.

The absence of physical presence in a classroom setting can lead to feelings of social isolation, making students feel disconnected from their peers and instructors. The instructor's role in an online course includes activities related to setting up the collaboration area, developing and disseminating clear instruction for task completion, and facilitating learning activities during the course (Cho & Rathbun, 2013). Social isolation is a common concern among online learners, reducing from the lack of physical presence and face-to-face interaction in the educational setting. Unlike traditional classroom environments, where students have opportunities for spontaneous interactions and collaborative learning experiences, online learning environments often lack the same level of social connection and support. This is particularly highlighted in collaborative learning tasks where individuals may be barely managing to navigate the system on their own, let alone needing to traverse the complex environments of group interaction and social negotiation (Graham & Misanchuk, 2004; Jaques & Salmon, 2007). As a result, students may feel isolated and disconnected from their instructors,

leading to diminished engagement and academic performance. Moreover, the absence of non-verbal cues and interpersonal dynamics in online communication can further exacerbate feelings of social isolation.

Without the opportunity for real-time interactions and visual cues, students may struggle to form meaningful connections and establish rapport with their peers and instructors. Additionally, the asynchronous nature of online courses can create barriers to social interaction, as students may not have regular opportunities to engage with their instructors in real-time. According to Zen (2008), the instructor is responsible for ensuring that students understand how to use any tool selected for online learning.

As Boling et al. (2012) described, “it is now more important than ever for online instructors to provide students with experiences that challenge their higher-order cognitive skills as opposed to simply transferring content to them” social isolation can contribute to a lack of accountability and commitment to academic goals, as students may feel less connected to their learning community and less motivated to actively participate in coursework.

To address the challenge of social isolation in online learning, educators and institutions must prioritize efforts to foster a sense of community and support among students. This may involve creating opportunities for social interaction through virtual study groups, online discussion boards, and live video conferencing sessions. Students are expected to take control of their own learning and use their previous experiences to complete course tasks (Stansfield, McLellan, & Connolly, 2004). Educators can help students feel more connected and supported in the online learning environment. As well as providing opportunities for personalized feedback and support from instructors can enhance students' sense of belonging and engagement in online courses.

To offer individualized attention and guidance, instructors can demonstrate their commitment to supporting students' academic success and fostering a supportive learning environment, so integrating collaborative learning activities and group projects into online courses can promote teamwork and camaraderie among students, promoting a sense of belonging and community. Students can effectively build their knowledge based on prior experience and class activities (Januszewski & Molenda, 2007).

2.3 Adapting Teaching Approaches

Eisenberger and Shanock (2003) proposed that online educators are essentially in charge of incorporating creativity into their online educational program. Online educators need to expect the part of a facilitator instead of a teacher. Adapting teaching approaches to the unique challenges of online learning involves a comprehensive understanding of the needs of students and the capabilities of technology. This research focuses on the strategies and practices that educators can employ to effectively adapt their teaching methods to the online environment.

One effective strategy for adapting teaching methods to online learning is differentiated instruction. As faculty are incorporating information and learning technologies into the fabric of teaching, learning can become more collaborative, more contextual, and more active (Batson & Bass, 1996). This can include adjusting the pace of instruction, providing additional support for students with low organizational skills, and tailoring content to meet the specific learning needs of each student. Adaptive teaching is another promising approach that focuses on continually assessing the strengths and needs of learners and adapting teaching methods accordingly.

Mintu-Wimsatt et al. (2007) also said that this can be finished by difficult understudies' current expertise sets; Giving all around characterized goals; Gathering understudies into groups with different backgrounds; Giving consolation and opportune feedback; Making inquiries that strengthen inventive thinking. This approach uses technology, data analysis, and

ongoing assessment to help learners reach the same goals and learn the same skills and concepts. Martinez and Sweger (1996) found that students without a certain level of computer skills had trouble taking advantage of computer-mediated communication. Adaptive teaching aims to provide a personalized learning experience for each student, allowing for flexible grouping and enhancing student engagement and motivation.

As Beldarrain (2006) expressed that today there is several media of instructional innovation. There was a period when online instruction was considered of low quality, yet the time may come when individuals may favour online training modes for creating wanted skills. We today feel that both channels, i.e. Formal training and E-learning are great sources of learning. Adaptive teaching offers many advantages, such as tailoring learning experiences to individual students and enhancing academic performance.

2.4 Impact on Student Engagement and Participation

Dille and Mezack (1991) tested for locus of control and found that students who were more internal were also more successful online. It emphasizes the importance of understanding how these elements interact to affect students' involvement in the learning process and it explores various strategies aimed at promoting a more engaged and participatory learning environment in the online setting. Volery and Lord (2000) described that the Web is a noteworthy innovative headway reshaping our public as well as institutes around the world. Considering this, institutes need to exploit the Internet for educating, and one dynamic improvement of this is the utilization of online strategies and techniques.

According to Livingston and Condie (2006), the most important thing is choices given to students for selecting a better way of understanding in both styles and practicalities. With the help of online materials, students pointed out the sides which they felt to better understand and revise while sitting at home. Adding to that it provides everlasting chances of experiencing various methods of knowledge and learning (Johnson & Berge, 2012).

To examine these aspects comprehensively, the study seeks to provide insights into effective practices for promoting student engagement in online education.

2.4.1 Structural Influences on Student Engagement

Picciano (1998) found that instructors' activity was related to students' perceived learning in online education courses. The design and organization of online courses play a crucial role in shaping student engagement. For online students, structural influences such as course design significantly impact on their learning experiences. Online student engagement can be supported by a well-designed course which promotes interaction and social presence and creates a clear, purposeful learning journey; efficient use of students' limited time; linking learning activities to goals; building on existing understanding whilst addressing gaps in understandings; providing immersive, real-world simulations or experiences (Buck, 2016; Frey, 2015). A well-structured course that promotes interaction and social presence, creates a clear learning journey, and efficiently uses students' limited time can significantly enhance online student engagement. On the other hand, poorly designed courses can negatively impact student engagement, leading to disinterest and disengagement.

Kahu (2013) describes this as life load which "is the sum of all the pressures a student has in their life, including university", and is described as being a critical factor influencing student engagement. This involves a complex approach involving the development and design of course resources, curriculum, instructional strategies, and methodologies. Online instructions improve processing abilities and self-coordinated learning. Today's reality it is vital for each person to use PC as a part of their regular life that is the reason each individual needs to learn fundamental registering aptitudes which can be acquired from online training.

Online training can be an extremely valuable device to learn processing abilities (Zhang & Espinoza, 1998). Quality online courses show several key characteristics, including precisely written objectives that guide students' learning journey, a coherent and well-

organized presentation of content, plenty opportunities for interpersonal interaction through discussion forums and collaborative activities, and the effective integration of technology to facilitate learning.

2.4.2 Psychosocial Influences on Student Engagement

Strommen and Lincoln (1992) expressed that the amount of level of success or ability attained in academic work is referred as achievement/performance. Because of the fast development of web advancements, E-learning has turned into a logically well-known approach in higher instructive establishments. The study led by Davies and Graff (2005) inspected the connection between students utilizing e-learning and their educational execution. Effective teaching support is paramount in fostering student engagement, with a focus on providing timely, proactive, and embedded support throughout the learning process.

Teaching support plays a critical role in online courses, with teacher engagement and connection having a positive effect on online student retention (Stone & O'Shea, 2019). This support can take various forms, including clear communication of expectations, personalized feedback on assignments, and readily available assistance for technical or academic queries.

Establishing a personal presence through instructor-initiated interactions and responsive communication channels helps to create a sense of connection and accountability, encouraging students to actively participate in both synchronous and asynchronous learning activities. Oye et al. (2012) clarified that E-learning expands the instructive execution among learners. motivation serves as a significant driver of online student engagement, influencing students' willingness to invest time and effort into their coursework. Effective online teachers support their students through timely, active, embedded support which establishes their personal presence and actively engages students through synchronous and asynchronous methods (Rose Sr., 2018; Stone & O'Shea, 2019). Motivated learners are more likely to exhibit sustained interest, persistence, and enthusiasm for learning, thereby enhancing their overall engagement

and academic performance. Educators can nurture motivation by fostering a supportive and inclusive learning environment, setting clear goals and expectations, and providing opportunities for autonomy and choice in learning activities.

Students with more developed time management skills are more likely to continue an online course (Holder, 2007). The development of essential skills, such as digital literacy, critical thinking, and communication, plays a crucial role in facilitating online student engagement. These skills enable students to navigate digital learning environments effectively, critically evaluate information, and communicate their ideas articulately. Educators can promote skill development through scaffolded learning experiences, interactive activities, and feedback that encourages reflection and growth. Bond (1998) compared student performance in a psychology class with another group that previously had taken the same class in the traditional manner.

Indeed, researchers have argued that the structure, transparency, and communication potential of course interfaces heavily impact students' satisfaction, learning, and retention in online courses (Romiszowski & Cheng, 1992). Student self-efficacy, which refers to individuals' beliefs in their ability to succeed in specific tasks or situations, significantly influences their engagement with online learning. Interaction and social presence can be promoted through course design which promotes active communication between students and instructors using asynchronous discussion forums and synchronous online classes (Buck, 2016).

Students with high self-efficacy are more likely to approach learning tasks with confidence, persistence, and resilience, leading to increased interest, enjoyment, and behavioural engagement. Picciano (1998) found that instructors' activity was related to students' perceived learning in online education courses. Educators can support the development of self-efficacy by providing opportunities for mastery experiences, modelling

effective learning strategies, and offering constructive feedback that reinforces students' capabilities and achievements.

2.5 Balancing Technological Integration and Support

Technology serves as a powerful tool in overcoming the challenges posed by the transition to online learning. It facilitates communication, collaboration, and access to a wealth of educational resources, thereby improving the learning experience for both educators and students.

Workload and time spent for instructors/trainers is already high especially when measuring on a per-student basis and including development time (Bender, Wood, & Vredevoogd, 2004). Despite the high workload and time commitment for instructors, technological advancements offer numerous benefits. Digital tools like video conferencing, instant messaging, and discussion forums enable real-time engagement, fostering a sense of community and facilitating effective collaboration and idea sharing. This immediacy in communication also allows for prompt feedback and support, enhancing the learning process. The flexibility of digital communication ensures efficient delivery of course materials and updates, keeping students informed and engaged. Students perceive online discussion as more equitable and more democratic than traditional classroom discussions (Siegel & Dubrovsky, 1998).

Online platforms further enable collaborative projects and peer-to-peer interaction, enriching the educational experience and developing essential digital-era skills. Access to a vast array of educational resources through digital platforms enhances the quality of instruction, allowing for the creation of dynamic and engaging learning materials that promote active participation and deeper understanding. Despite the benefits, tasking the instructor/trainer with the technical support role is often an "onerous function for the online teacher" (Liu, Bonk, Magjuka, Lee, & Su, 2005).

Technology facilitates the customization and adaptation of educational resources to adapt various learning styles, preferences, and abilities, ensuring inclusivity and accessibility for all learners. Wheeler (1997) also provides in-depth analysis of the role and uses for online discussion, and the important role that the online teacher has in ensuring an effective discussion process is implemented. The digital nature of these resources allows for easy integration into instructional materials, presentations, and online courses, enabling educators to effortlessly incorporate multimedia elements, interactive exercises, and real-world examples into their teaching practices. Thus, Shotsberger (1997) suggests that students need guidelines for online interactions. Technology enables educators to stay abreast of the latest developments and trends in their field, accessing up-to-date research findings, educational best practices, and innovative teaching strategies to inform their instructional approach.

2.6 Effective Practices for Optimal Performance

To achieve optimal performance in an online learning environment, both educators and students can adopt several effective practices. These practices are designed to enhance engagement, communication, feedback, and overall learning outcomes.

2.6.1 Strategies for Educators

Without suitable technical knowledge and skills, medical teachers/instructors may face numerous challenges to resolve technology-related problems during the live Class, impacting students' online learning and access to learning materials (Roddy et al., 2017). Diversifying and enhancing feedback mechanisms in online learning environments is critical for fostering student engagement, facilitating learning comprehension, and promoting continuous improvement. The majority of educational institutions use the Learning Management System (LMS) to manage and monitor learners, teachers and content of courses (Ramli, Darus, & Bakar, 2011). Online quizzes serve as a valuable tool for providing immediate feedback, allowing students to gauge their understanding of course materials promptly. These quizzes can be designed to offer instant

results, enabling students to identify areas of strength and weakness in their learning journey. Any definition of e-learning must settle the issue of what is and what is not e-learning (Guri-Rosenbilt, 2005).

Clearly defined learning outcomes help you to select different teaching activities and identify valid assessment tools to evaluate student's performance (Sahu, Addae, & Sa, 2017; De Jong et al., 2020). Joining software tools such as screencasts and audio recordings for feedback delivery adds depth and clarity to the assessment process. Through screencasts, educators can provide detailed explanations, demonstrate problem-solving techniques, and offer personalized feedback tailored to individual student needs. Multimedia feedback offers a more engaging and interactive experience for students, enhancing their comprehension and retention of course content.

To expand feedback methods for centralized feedback delivery, educators can create a strong feedback organization that promotes student success and enhances the quality of online learning experiences. Making learning trajectories explicit and visible for both students and teachers can help promote reflection and potentially enhance the teaching and learning process (Wijngaards-de Meij & Merx, 2018). Proper alignment of learning outcomes, teaching activities, learning resources, and assessment modes mutually reinforce each other. While framing the learning outcomes, you can use Bloom's lists of action verbs or different authors extended and revised action verbs (Gupta et al., 2020).

Effective communication lies at the heart of successful online learning experiences, serving as a cornerstone for encouraging engagement, facilitating learning comprehension, and building a supportive learning community. For adopting clear communication practices through various digital platforms such as email, or messaging platforms, educators can establish channels for information dissemination, feedback delivery, and academic support. It is easy to motivate the less participatory students by involving them in group discussions. However, it is

quite difficult for a teacher to motivate and engage all students in the Class (Horspool & Lange, 2012; Young & Duncan, 2014). To make the online class more effective, you can do the following things:

- Before the Class starts, send reading material and video links to students.
- Welcome students to online class by sending a video message.
- Do the learning activities through live video and/or audio conferencing with immediate feedback.
- During the Class, ask questions to students by calling them in their names so that students will remain active.
- While using technology like Blackboard Collaborate (BBC), use the whiteboard option to explain complex things by drawing pictures, diagrams, graphs, etc.
- To involve students in discussion, breakout them into small groups and give them topics for discussion.
- Teachers can use non-verbal communication such as chatting and emoji.
- Conduct a separate online revision or doubt-clear class for the students.

For online courses, maintaining a predictable and consistent communication schedule keeps students informed and engaged. Offering regular opportunities for consultation, such as virtual office hours or designated discussion forums, allows students to seek clarification, receive guidance, and engage in meaningful dialogue with their instructors. Increasing communication frequency around quizzes, exams, and project deadlines ensures that students are well-prepared and informed about upcoming assessments, reducing anxiety, and promoting academic success. According to Webb and Gibson (2000), which provides an excellent framework for online facilitators to assess their readiness for online course delivery, and also the readiness of their organization and systems. Emphasizing clarity, accessibility, and responsiveness in communication practices fosters a sense of trust and transparency between educators and students, laying the foundation for effective collaboration and mutual support.

Rice (2006) found that online teaching strategies make the best use of the unique potential of the online environment when they are highly interactive. An organized course structure and delivery are essential components of effective online teaching, providing a framework for seamless learning experiences and fostering student engagement and success. Organizing course materials and due dates consistently within the Learning Management System streamlines access to resources and enhances student comprehension and workflow management. The external motivation of students is determined by the teacher's behaviour, teaching-learning strategies, and students' engagement (Selvi, 2010).

Structuring the course content in a logical and intuitive manner, educators can facilitate navigation and optimize students' learning experiences, promoting clarity and coherence in the curriculum delivery. Teachers' constructive feedback helps students identify their strengths and weaknesses and motivate them to engage in learning (Sahu et al., 2019). Creating a set of class norms in collaboration with students fosters a sense of ownership and belonging within the learning community.

Requesting student input in establishing these norms not only promotes student engagement but also cultivates a shared sense of responsibility and accountability for maintaining a respectful and inclusive learning environment. The teacher should also emphasize peer feedback in the Class because it stimulates active learning (Hulsman & van der Vloodt, 2015). For example, combining interactive forms within video presentations allows students to engage with the content in real-time by answering questions, providing feedback, or participating in polls, promoting a more interactive learning experience. Additionally, the open-book examination could be a more compelling online assessment method that allows educators to pose questions that require critical thinking and higher-order cognitive skills (Zagury-Orly & Durning, 2021). Inserting questions directly into video lectures using platforms which

promotes student engagement and comprehension by triggering critical thinking, encouraging reflection, and assessing understanding as students' progress through the material.

Kearns (2012) examined 24 online courses and identified assessment methods that include: written assignments (research papers, case studies, and short essays); online discussion (asynchronous discussion activity performed on a discussion board or blog; fieldwork (students write a report after collecting field data; quizzes and exams (Multiple choice questions, short answer questions; and presentations (students' online presentation). Educators can improve inclusivity by giving multiple modes of representation, engagement, and expression to accommodate diverse learning styles and abilities.

2.6.2 Tips for Students

Active engagement is essential for maximizing learning outcomes and fostering a dynamic online learning environment. Both instructors and learners decide on what to learn online and how it should be learned. This experience is designed to promote an inquiry and challenge-based learning models where teachers and students work together to learn about compelling issues, propose solutions to real problems and take actions (Hamdan, Al-Qirim, & Asmar, 2012).

Educators and students alike can contribute to a vibrant academic community by actively participating in online discussions, forums, and collaborative projects. The approach involves students to reflect on their learning, on the impact of their actions and to publish their solutions to a worldwide audience (O'Malley et al., 2005). Educators enhance student engagement through guidance, thought-provoking questions, and feedback, while active engagement with course materials, including readings, videos, and interactive activities, is fundamental for learning. Clear goals and interactive strategies improve online learning outcomes.

The E-learning process and the project outcomes are influenced by technology use (Hamdan & Asmar, 2012). Seeking clarification on doubts and challenging concepts through online channels enables students to receive timely support and guidance from peers and instructors, promoting a collaborative and supportive learning environment. Student engagement has long been a focus of study in education. It is often found to be a determining factor that can improve upon or increase the levels of student outcomes.

Student engagement has consistently shown to be positively linked to student outcomes. It is noted, however, that different institutions have had varying degrees of success in translating engagement into student success. According to Czerkawski and Lyman (2016), These varying degrees of success point to the importance of engagement that is meaningful and appropriate. Engagement tends to look different in online or blended learning than it does in the traditional classroom, but it is just as important, if not more so, to effectively engage students in an online environment. When online students are effectively engaged, results show increased levels of achievement (Saritepeci & Cakir, 2015).

Saritepeci was able to discover this by analysing development scores of student engagement in control groups and experimental groups prior to learning, during learning, and after learning. These scores were compared to the student achievement demonstrated at the outset of learning as well as at the end of learning. In addition, engagement is a result of a student's involvement and contributes to their learning and sustains their further involvement in course activities (Meyer, 2014). Incorporating elements such as videos, podcasts, and infographics enriches course materials and enhances student engagement and comprehension.

Educators and students can use the power of digital learning resources to facilitate meaningful interactions, promote active learning, and optimize learning outcomes in the online classroom by embracing online tools and technologies. Shepherd (1999) states “motivation

comes when learners set challenging but achievable goals, which, when achieved, lead to outcomes that the learner regards as attractive”.

Student reflection is one of the most powerful tools that can be utilized to determine the feelings, interest, and comfort level of their educational experience. Student reflections are tools that can easily be a part of online instruction but must be meaningfully related to instruction. Some examples of student reflections are journals, personal evaluation, blogs, and portfolios (Plough, 2017). Furthermore, managing time and creating a conducive learning environment are essential aspects of successful online learning experiences. Students must prioritize establishing a suitable setting for studying at home, minimizing distractions, and optimizing their time allocation to accommodate their online learning commitments effectively. When self-reflection and self-assessment are embedded into the online classroom, it pushes students to assess their engagement in learning, emotionally, behaviourally, and socially (Wang, 2017).

Creating a conducive learning environment entail identifying a quiet and comfortable space conducive to concentration and focus. This space should be free from distractions such as noise, clutter, and interruptions, allowing students to immerse themselves fully in their online coursework without disruptions. Discussion deemed as fact based and straightforward were less engaging than facilitated discussion that was practical and had application to the real world (Buelow, 2018). Maintaining a consistent daily routine with dedicated study periods is crucial for students to balance academic success with other home responsibilities. Survey findings suggest that a moderate level of home commitments, alongside ample time for online learning, strikes the ideal balance for harmonious academic and personal life management.

When students are allowed to give their opinion, listen to other perspectives, discuss personal experiences, or address significant social issues, they tend to be more emotionally engaged in the learning and as a result, tend to have heightened learning experiences (Buelow,

2018). Students can enhance their time management skills by implementing effective strategies such as selecting tasks, setting realistic goals, and using time-blocking techniques to allocate specific time slots for studying, attending virtual classes, and completing assignments.

Students can boost their productivity, minimize procrastination, and maintain a healthy work-life balance by adopting these time management strategies. It is important for instructors to have a connection with their students that allows them to connect and assess their emotional well-being (Tawfik, 2021). Moreover, establishing clear boundaries between study time and leisure time is essential for maintaining focus and productivity. For setting specific study hours and adhering to a predetermined schedule, students can cultivate discipline and consistency in their online learning routine, thereby maximizing their academic performance and achieving their learning objectives.

To make online learning better, students should pick a quiet place to study, away from noise and mess. Use comfy chairs and good lights to feel relaxed. Talk to family or roommates about not disturbing you when you're studying. Using headphones or apps that play soft sounds can help you focus. The switching between modalities of multimedia helps students re-engage in the learning, allows the instructor to differentiate instruction modes, and allows students to collaborate and provide feedback (Bledsoe, 2013).

Online tools significantly improve the online learning experience by offering a variety of resources and interactive features. They facilitate content delivery, communication, collaboration, and assessments, creating an engaging learning environment. A key advantage is the easy access to course materials anytime, anywhere, thanks to platforms and software that provide lecture notes, readings, multimedia, and assignments. Pushing students towards critical thinking and deeper learning are some of the best ways to achieve academic success for students (Czerkawski & Lyman, 2016). Online tools facilitate interactive learning experiences by offering various engagement features and communication channels. For instance, discussion

forums, chat rooms, and messaging platforms enable students to interact with peers and instructors, ask questions, share insights, and collaborate on projects in real-time. Another approach to using online discussions is to create multiple boards or mail lists for a class that consist of smaller numbers of students; this creates online learning communities (Egan & Gibbs, 1997).

These collaborative spaces foster a sense of community and facilitate knowledge exchange, encouraging active participation and peer-to-peer learning. Additionally, online tools often support multimedia integration, allowing instructors to incorporate videos, simulations, interactive quizzes, and other multimedia elements into their teaching materials to enhance engagement and comprehension. Jaques & Salmon (2000) offer some guidelines on how to accommodate individual needs of learners in an online course. As an example, they say, “Moderators (teachers) will need to motivate students, recognizing that 'hand holding' may be required for those students’ lacking confidence.

Online learning tools help teachers assess students and give feedback. These tools allow teachers to customize tests, track progress, and identify areas for improvement. Nevertheless, in examining best practices for designing distance courses, recommending student engagement strategies, and optimal methods for instructor presence and facilitation worldwide, distance learning has continued to be promising (Dixson, 2015). Adaptive learning platforms use data to tailor lessons to students' needs. Students can get personalized instruction and support, which improves their learning outcomes. Online tools are crucial for giving students access to course materials, interactive learning, and personalized experiences. Asking questions and seeking help are important for online learning. Students can clarify doubts, deepen understanding, and build connections with teachers and peers. This proactive approach fosters critical thinking and resilience, essential for success. Hachey et al. (2012) examined the overall relationship among online learning and performance and concluded that they were significantly related.

Marcketti and Karpova (2014) has corroborated this idea that our concept of learning in the traditional campus-based classroom has become limited, in reference to global realities, and that what happens in the online classroom needs to become a much greater part of curriculum in higher education today. Engaging with course content and teachers promotes accountability and ownership. Students can contribute to discussions, share insights, and help each other, fostering a sense of community. Active engagement with course content and seeking assistance when needed helps students develop critical thinking and achieve academic goals.

2.7 Exploring Effective Educational Online Learning Platforms

It is perfectly possible to state that learning online is obviously an educational platform (Allen, Seaman, Poulin, & Straut, 2016). Social media platforms have become increasingly pervasive in higher education, offering a range of applications for online learning and teaching. These platforms not only facilitate communication and collaboration but also enhance the learning experience by providing new opportunities for information dissemination, engagement, and community building. Student demand continued to increase, spreading to global audiences due to its exceptional functionality, flexibility, and eventual accessibility (Azhari & Ming, 2015).

2.7.1 Facebook

Facebook has emerged as a comprehensive platform in the realm of online education, offering educators and learners a collection of tools and features to facilitate effective teaching and learning experiences. Jones et al. (2010) asserts that social networks can enhance formal learning and become part of the educational ecosystem of students. One of the key functionalities that make Facebook a popular choice for educators is its capability to create both open and closed groups tailored to specific classes or learning communities. These groups serve as virtual classrooms where instructors can share course content, assignments, quizzes, and other pertinent materials with their students in a structured and organized manner.

One of the social media sites is Facebook. It is a social utility that helps people communicate more efficiently with their friends, family, and coworkers (Zuckerburg, 2005). Open groups allow for broader participation and engagement from individuals interested in the subject matter, while closed groups provide a more private and controlled environment conducive to academic discussions and collaboration among enrolled students. Instructors can leverage the platform's announcement and event features to promote upcoming courses, notify students of important deadlines or schedule changes, and facilitate communication regarding course logistics.

2.7.2 YouTube

While the use of videos in education is a well-established practice, YouTube differs from traditional video resources because it presents users with a vast library of content (Chintalapati and Daruri, 2017). YouTube has become a favoured platform for online educators due to its accessibility, versatility, and user-friendly interface. One of the primary advantages of YouTube is its ability to host high-quality videos, which can be utilized to convey complex concepts, demonstrate practical skills, and provide supplemental learning materials. YouTube's role in education spans many instructional niches, including information-based, engagement-based, and communication-based activities (Jia, 2019). Educators can leverage YouTube to create and share instructional videos, lectures, tutorials, and demonstrations, catering to diverse learning styles and preferences. Its search and recommendation algorithms enable learners to discover relevant content easily, enhancing their overall educational experience. YouTube offers educational utility for students outside of traditional classroom environments in areas of distance learning (Subhi et al., 2020).

It is a platform that introduces a wide variety of educational content, including videos, lectures, and documentaries created by people and organizations around the world. Teachers can organize collections of relevant material to help students meet their learning goals. YouTube

had a positive influence on student skills, competencies, interest, motivation, engagement levels, and test performances (Shoufan and Mohamed, 2022). One useful feature of YouTube is the ability to pin videos, which helps teachers emphasize important resources. Besides being a place for educational content, YouTube also encourages student participation and interaction in online classes.

Teachers can add interactive elements like quizzes and discussions to their videos, enhancing student engagement and giving teachers insight into how well students understand the material. YouTube can support student understanding, memorization, and recall of anatomical information (Mustafa et al., 2020). Also, it allows students to create and share their own content, showcasing their understanding creatively. It provides features like auto-captioning and adjustable video speeds to make learning more accessible to all students.

2.7.3 Kahoot!

This notion of cooperative play lends another dimension to learning through games. (Annetta, 2009). Kahoot! serves as a versatile game-based learning platform that encourages educators to design and adopt interactive quizzes tailored to their curriculum and learning objectives. With its innate interface and user-friendly features, educators can create quizzes that cover a wide range of topics and concepts, accommodating diverse learning styles and preferences. From multiple-choice questions to polls and surveys, Kahoot! offers a variety of question formats that keep students actively engaged and motivated to participate. Learning that is based around principles of collective exploration, play and innovation rather than individualized instruction (Thomas, 2011).

Kahoot! is a game-based student response system (GSRS) where the classroom is temporarily transformed into a game show where the teacher is the game show host, and the students are the contenders (Wang, 2015). One of the key strengths of Kahoot! lies in its ability to facilitate real-time assessment, providing educators with immediate insights into student

comprehension and progress. As students respond to quiz questions, educators can monitor their responses in real-time, identifying areas of strength and areas that may require further instruction or review. Through features like leaderboards, points, and customizable themes, Kahoot! creates a playful atmosphere that motivates students to actively participate and strive for academic excellence.

Papastergiou (2009) found that games improved students' knowledge of computer memory systems to a greater extent than other computer-mediated learning tools, namely, educational websites. Kahoot! serves as a valuable tool for classroom games and activities that promote active learning and collaboration. Educators can use Kahoot! to facilitate review sessions, team-based competitions, and interactive discussions, adopting peer-to-peer learning and knowledge sharing.

In fact, Wang and Lieberoth (2016) dissected Kahoot! to explore which gamification elements positively impact students' experiences finding that the full Kahoot! experience, rather than any single component, accounted for students' increased concentration and enjoyment. With its cloud-based platform and mobile-friendly interface, this tool enables educators to deliver interactive quizzes and games to students wherever they may be, facilitating seamless learning experiences that transcend physical boundaries.

2.7.4 FutureLearn

FutureLearn provides opportunities to share opinions and to reflect by posting comments, replying, or following discussion threads (Sunar et al., 2017). It stands at the forefront of online education, providing learners with access to a diverse collection of bite-sized courses and digital symbols covering a wide range of topics, including specialized subjects like social media for business and crafting effective social media strategies. Its emphasis on bite-sized learning modules ensures that learners can conveniently engage with course content at their own pace, fitting learning into their busy schedules.

It was discovered that the participants FutureLearn are highly autonomous and willing to be more responsible for their own learning (Mısır et al., 2018). FutureLearn's promotion of social learning distinguishes it as a collaborative platform, connecting users with an expansive international network of professionals and peers. Through interactive discussions, group projects, and peer feedback mechanisms, learners benefit from diverse perspectives and collective insights, enriching their learning experience and fostering a sense of community and collaboration.

2.7.5 Google Classroom

In one study in which student satisfaction was measured with the general structure of the Google Classroom system, Yılmaz (2020) stated that the students who used the system were partially satisfied in general. Microsoft Teams has some shortcomings, yet it has many features that can be found in LMS software. Google Classroom represents a versatile and user-friendly platform tailored specifically for educators to streamline various aspects of teaching and learning in the digital realm. This free service from Google enables teachers to effortlessly create virtual classrooms, where they can efficiently distribute assignments, share resources, and communicate with students in real-time.

Its smooth integration with other Google services, such as Google Drive for file storage and sharing, and Google Docs for collaborative document creation, enhances its functionality and convenience for both teachers and students. According to Fakhrudin (2019), using Google Classroom as a teaching-learning tool for speaking practices in an English classroom has been shown to improve learners' speaking skills.

A significant number of universities prefer Microsoft Teams with simultaneous virtual classroom software (Çankaya & Durak, 2020). Google Classroom's intuitive interface allows for easy organization of course materials and assignments, simplifying the administrative tasks associated with managing a classroom. With features like assignment tracking, grading, and

private feedback, Google Classroom empowers educators to personalize the learning experience, monitor student progress, and provide timely support and feedback, thereby fostering a more engaging and effective educational environment.

2.7.6 Slack

Slack, a flexible communication platform, has gained prominence as a valuable tool in online learning environments due to its features and user-friendly interface. Slack “replicates and integrates the online and social-media environments that students already inhabit” and that it “can assist faculty in meeting their pedagogical goals online” (Sabin & Olive, 2018). Facilitating real-time messaging, file sharing, and the creation of channels dedicated to specific topics or classes, Slack streamlines communication and collaboration among students and teachers alike. Its intuitive interface allows for seamless interaction, enabling students to ask questions, share resources, and engage in discussions effortlessly.

Problem-based learning requires software tools for discussions, feedback, allocating tasks, and monitoring progress (Singhal et al., 2021). Slack's integration with various productivity tools and services enhances its utility in educational settings, allowing for the efficient organization and management of coursework and collaborative projects.

2.7.7 Zoom

Zoom, an extensively used video conferencing tool, has become synonymous with online education for its versatility and user-friendly interface. According to Suardi (2020), the learning process while using Zoom cloud meetings is very effective because it is more relaxed than face-to-face learning. Beyond basic live video meetings, it offers a range of features tailored to the needs of online classes, including webinars and one-on-one meetings, providing educators with diverse options for engaging with students. Dharma et al. (2017) found that the use of application such as Zoom can be beneficial for some areas which has limited mobility access and has limited number of teachers. With features like screen sharing, whiteboarding,

and breakout rooms, Zoom improves collaboration and engagement, allowing educators to create immersive learning experiences that mimic traditional classroom environments.

Mahhabah (2020) conducted a study entitled " An Analysis of Students' Perception About the Efficiency of Using of Zoom Cloud Meeting for Online Learning During Pandemic Covid19". Zoom's recording capabilities enable instructors to archive sessions for future reference or asynchronous learning, ensuring that students can access course materials at their convenience. As a result, Zoom enables educators to deliver high-quality instruction and develops meaningful interactions with students regardless of geographical barriers.

2.7.8 Edmodo

Edmodo was usually met with the studies about the effects and nature of peer-assessment and its contribution to interpersonal interaction (Gennip, Segers & Tillema, 2010). stands out as an integrated social learning platform designed to enable educators in creating and administering online classes with ease. Offering a suite of features tailored to the needs of modern classrooms, Edmodo facilitates seamless communication, collaboration, and engagement among teachers and students. Through discussion forums, students can engage in meaningful conversations, ask questions, and share insights, fostering a sense of community and collaborative learning.

Edmodo is an open, free, simple, and secure online learning platform for students and teachers (Kongchan, 2008). The platform enables efficient assignment management, allowing teachers to distribute assignments, collect submissions, and provide feedback within a centralized digital environment. With its integrated gradebook feature, Edmodo streamlines the assessment process, enabling educators to track student progress and performance effectively. Edmodo enriches the online learning experience, allowing educators to create dynamic and engaging virtual classrooms that inspire active participation and academic success.

2.7.9 Google Meet

Google Meet is a video conferencing tool that smoothly works alongside Google Classroom, offering educators an easy way to conduct live video meetings, webinars, and one-on-one sessions. The number of Google Meet users is increasing significantly (Purwanto & Tannady, 2020). It is particularly useful for interactive online classes and tutorials, allowing teachers to engage with students in real-time. With features like screen sharing, chat, and captions, Google Meet makes it simple for everyone to participate and share ideas during virtual lessons. Also, its integration with Google Classroom simplifies scheduling and organization, ensuring smooth communication between teachers and students.

Its features facilitate the learning process by allowing users to share screens or use digital whiteboards in online application features (Aswir, Dewi, & Hadi, 2020). Google Meet provides educators with the tools they need to create engaging and effective online learning experiences for their students.

Conclusion

In conclusion, the integration of technology in education, particularly in the context of online learning, presents both challenges and opportunities for educators and students alike. Educators face challenges in adapting to new teaching methods, ensuring student engagement, and providing effective support in a remote learning environment. Students, on the other hand, encounter difficulties in adjusting to online learning formats, maintaining motivation, and working collaboratively in virtual settings. Despite these challenges, there are strategies and practices that can enhance the online learning experience for both educators and students. Adapting teaching approaches to online learning requires educators to influence technology effectively, incorporating interactive and engaging content, and fostering a supportive learning environment. For students, it's important to develop digital literacy, critical thinking, and collaboration skills to thrive in a digital learning environment.

The impact of online learning on student engagement and participation is significant, with technology offering new avenues for exploration and self-directed learning. However, the effectiveness of online learning platforms and strategies depends on the quality of the content, the level of student engagement, and the support provided to students. Thus, balancing technological integration and support involves ensuring that students have access to the necessary resources and support to succeed in online learning environments. This includes well-equipped facilities, stable internet connections, and professional development opportunities for educators. Effective practices for optimal performance in online learning settings and platforms are crucial for maximizing the benefits of technology in education. Platforms that offer interactive content, collaborative learning tools, and personalized instruction can significantly enhance the online learning experience.

Chapter Three

Chapter Three:
Data Analysis and Discussion of the Results

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Introduction

This chapter is a critical part of the research process, detailing the research methodology, data collection, analysis, and conclusion. It outlines the research type, methods, tools, materials, strategies, and validation behind the chosen methods. The chapter is written in the past tense, adhering to academic style guides and citation style guidelines. It shows the research's discipline and validity, adding authority to the study and serving as a reference point for readers. The methodology section begins with an explanation of the research approach, followed by a detailed description of data collection methods. It concludes with an evaluation and justification of the chosen methods, ensuring the design and potential of the results.

3.1 Research Approach

The study aimed to evaluate the transformative effects of online learning on teaching approaches and student achievement. It used a quantitative research approach, chosen for its suitability in addressing the research questions and achieving the study's objectives. The methodology involved quantitative method, including a questionnaire among 100 students and another questionnaire with 30 teachers. For this sake, it devotes data collection instruments developed to obtain data through close-ended questions and experiments. Research approaches display both philosophical beliefs as well as practical methodological aspects (Creswell, 2009).

3.2 Research Design

We rely on a descriptive method to gain results and answer the current study questions. The major focus of this research is to explore the perspectives of students and teachers informs tailored teaching methods, improving the overall educational experience and to investigate the difficulties associated with the move to online learning greatly shape how educators teach, impacting the level of engagement and participation from students in learning activities. Also, to highlight the malpractices and platforms of online teaching and learning and suggest the most effective ones for both teachers and students. The research boosts online learning environments,

identifying strengths and addressing challenges for more effective virtual classrooms by investigating into these perspectives. Moreover, we chose to use the quantitative method approach because it is compatible with this study.

The research design, also known as the research strategy, stands for the plan of action specific to the quantitative approach that relates the theoretical assumptions to its practical aspects to ensure attaining results relevant to the advanced research questions (Creswell, 2009). To offset the shortcomings of this methodology, researchers integrate it for improving the validity and reliability of the results while reducing biases in the data collected and analysed.

3.3 Population and Sample

The study's target population comprised first-year students at the English Department of Mohamed Khider University in Biskra. This selection was not arbitrary but was influenced by various factors. To gather data from 30 teachers and 100 students, two questionnaires were employed for each. This method facilitated the exploration of teachers and students' views on the subject and their stance on the importance of online education, beginning with its definition and moving through its elements, variations, and the advantages and disadvantages it presents. It highlights the challenges faced by educators and students in adapting to this mode of learning. The study also discusses strategies for educators and tips for students to navigate the complexities of online education effectively, emphasizing the need for balancing technological integration with support. Finally, it studies the exploration of effective educational online learning platforms, aiming to provide a comprehensive understanding of online education's impact on student engagement and participation.

The purpose of choosing first-year students as our population can be justified by the fact that these students have not experienced online learning the past years, so a variety of point of views were presented in this study. Conducting this study can help these first-year students in the next years in studying and using online learning.

3.4 Data Collection Tools

The data collection tools tend to achieve a numerous of objectives, test the validity of the hypotheses and answering the questions of the research that is included by two questionnaires to receive the teachers and students' perspectives of using online education. The choice of the questionnaires was due to the nature of our research. Whereas the main objective is to gather information about teachers and students' ideas, attitudes, and experiences about the topic under research.

3.4.1 Students' Questionnaire

The questionnaire for this study was structured into two distinct sections, each containing a variety of questions. Given its semi-structured nature, the questions were a blend of closed-ended types, including yes/no and multiple-choice queries. These questions were crafted to obtain concise and straightforward responses, ensuring ease of understanding for the participants, who were students. This approach was informed by the need to collect data, requiring questions that are both comprehensible and culturally appropriate.

3.4.1.1 Description of Students' Questionnaire

In the first section, we used nine questions about the students' general information, starting to inquire about their exposure to virtual educational platforms. Then, we shifted focus to the technological devices available to them, such as smartphones, computers, laptops, or tablets, which serve as gateways to online content. The question of internet connectivity was necessary in determining access to online resources. Also, participants were asked about their access to teachers' email accounts, indicating direct lines of communication. We extended the inquiry to interactions with educators, exploring whether students utilize online tools to seek feedback or assessments. Frequency of internet usage for academic purposes is evaluated, ranging from constant engagement to random use. Evaluating the online learning experience becomes principal, triggering reflection on satisfaction levels, ranging from poor to excellent.

The inventory of online learning tools used, including platforms, is also examined. Lastly, participants were prompted to assess their comprehension of feedback and assessments provided by teachers through online channels, reflecting on their understanding on a scale from poor to excellent.

The second section contains 14 questions about students' perspective towards online learning and to what extent they agree or disagree with the statements. The widespread impact of the coronavirus has made attending classes in person difficult, leading to a shift towards online learning. This approach offers several advantages, such as increased convenience compared to using library books and quicker understanding through recorded videos. Online platforms also support group work and communication with teachers who are well-trained in virtual instruction. Furthermore, it saves time and money, allowing students to catch up on missed lessons efficiently. However, social media distractions and cultural barriers may pose challenges, and universities should invest in expanding online education programs cautiously to avoid potential negative effects such as depression. Nonetheless, learning outcomes remain comparable between traditional classes and online settings, with some individuals even successfully completing courses independently online.

3.4.1.2 Validity of the Questionnaire

Questionnaire validity is paramount of ensuring the accomplishment of the set goals by the end as well as the credibility of the results (Cohen et al., 2018). The questionnaire was first validated by two teachers with enough experience in the field of applied linguistics research. Accordingly, they were able to extract few errors, which ranged from the questionnaire's layout to the content itself. Those remarks were immediately considered as neglecting them might have disrupted the flow of the investigation.

3.4.1.3 Administration of the Questionnaire

The official version of the questionnaire is edited and designed using Google Forms; after that, the survey is published online to the target sample, which is first-year students. Additionally, this sample is available to collect our data during the second semester.

3.4.1.4 Analysis of Students' Questionnaire

The present survey is devoted to the presentation and analysis of data which were collected from the student questionnaire. It had 23 multiple-choice questions with frequency distribution rates, fourteen of them are graded on a Likert scale with a maximum of five.

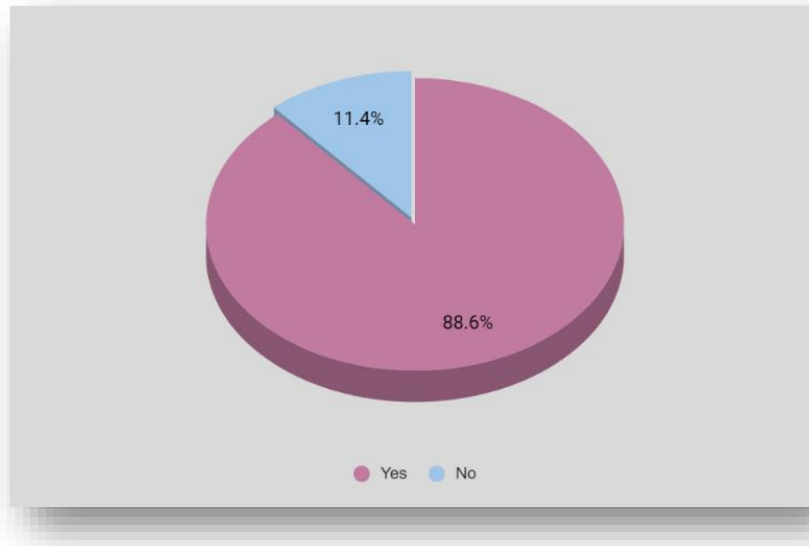
Section One: General Information

Item 01: Have you ever experienced online learning?

Table 1

Online Learning Experience

Option	Percentage
Yes	88.6%
No	11.4%
Total	100%

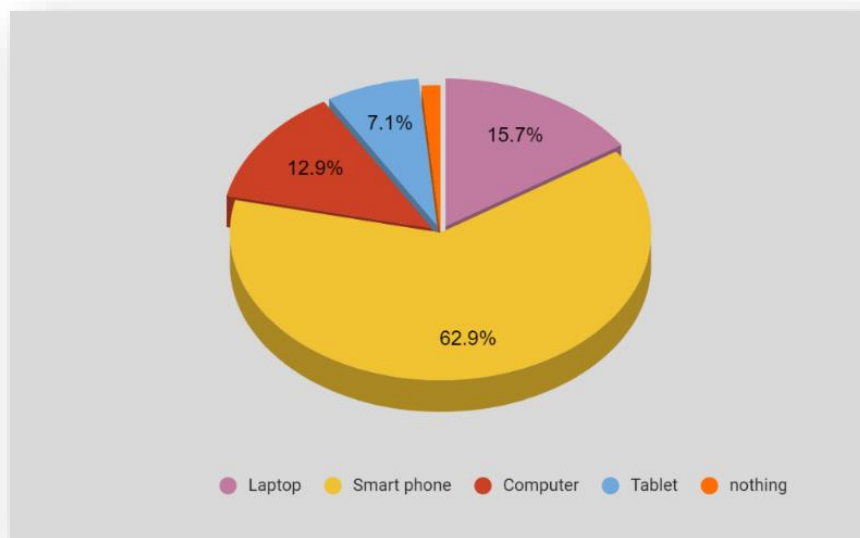
Figure 1*Online Learning Experience*

As shown in Table 1, a majority (88.6%) have embraced it, highlighting its popularity and necessity for many due to its flexibility and ease of access. However, a minority (11.4%) remains unengaged, likely delayed by technological limitations, personal choices, or doubts about the effectiveness of online education compared to traditional methods.

Item 02: Which electronic device do you have?

Table 2*The Most Used Electronic Device*

Option	Percentage
Laptop	15.7%
Smartphone	62.9%
Computer	12.9%
Tablet	7.1%
Nothing	1.4%
Total	100%

Figure 2*The Most Used Electronic Device*

The data from Table 2 reveals that smartphones are the most commonly used electronic devices among students, with 62.9% reporting them as their primary device. Laptops follow closely with 15.7%, indicating a significant segment of students rely on portable computers for their studies. Computers and tablets account for smaller portions, while a minimal section 1.4% report not owning any electronic device.

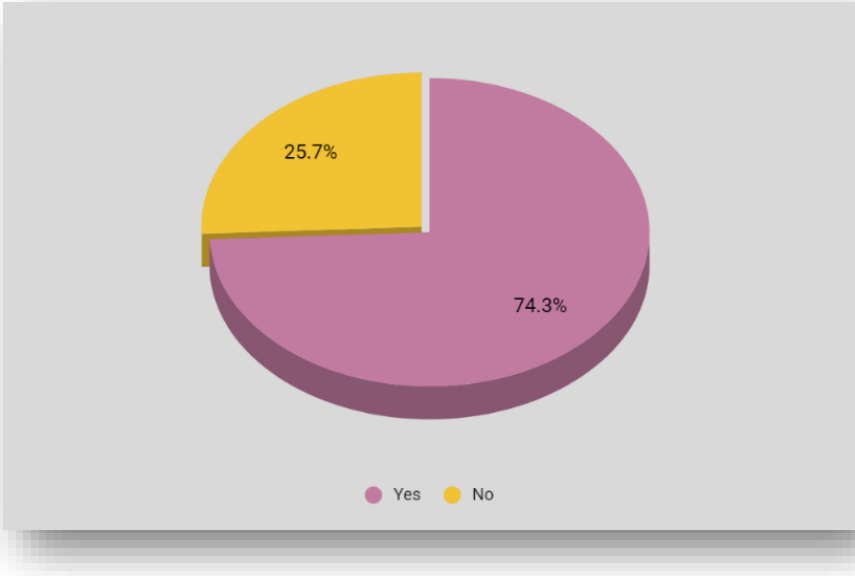
Item 03: Do you have access to Internet connection?

Table 3*The Access to Internet Connection*

Option	Percentage
Yes	74.3%
No	25.7%
Total	100%

Figure 3

The Access to Internet Connection



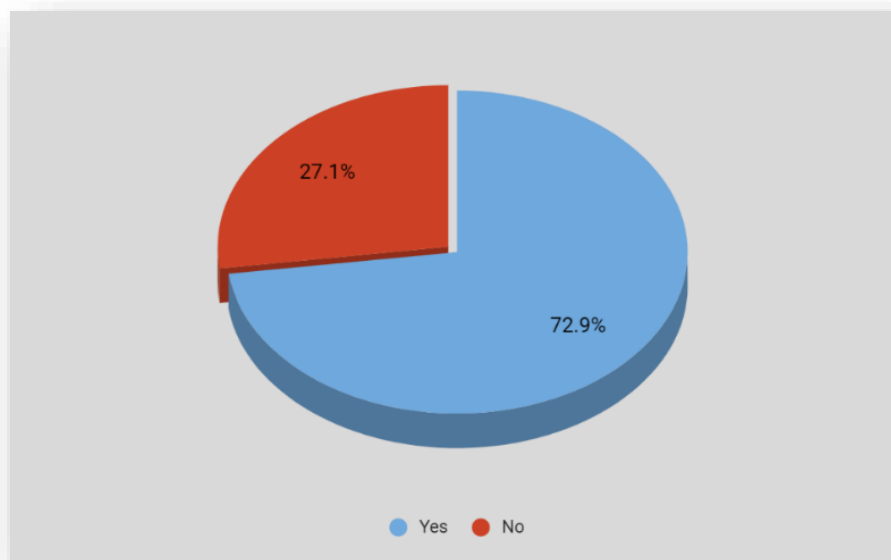
The data from Table 3 indicates that a majority (74.3%) of students have access to the internet, reflecting the critical role of connectivity in today's educational landscape. However, a notable minority (25.7%) lacks internet access, highlighting potential barriers to digital learning and the need for interventions to bridge this gap.

Item 04: Do you have your teachers' email account?

Table 4

The Possibility of Owning the Teacher's Email Account

Option	Percentage
Yes	72.9%
No	27.1%
Total	100%

Figure 4*The Possibility of Owning the Teacher's Email Account*

Based on the results, it is clear that most students (72.9%) have access to their teachers' email accounts, enhancing communication and collaboration. However, 27.1% lack this access, indicating a capacity barrier to effective educational interaction.

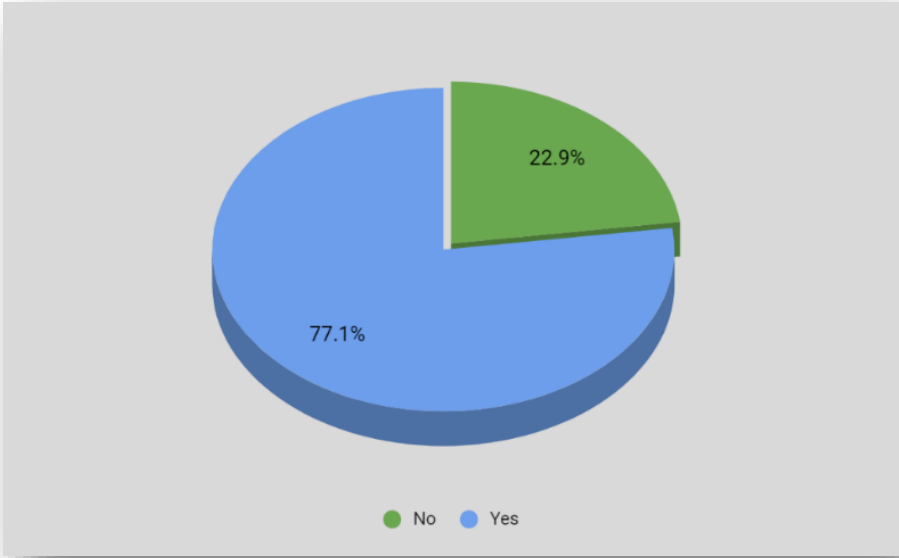
Item 05: Do you contact your teachers through online tools to get feedback or assessment?

Table 5*Contacting Teachers Through Online Tools for Feedback and Assessment*

Option	Percentage
Yes	77.1%
No	22.9%
Total	100%

Figure 5

Contacting Teachers Through Online Tools for Feedback and Assessment



As shown in Table 5, a large majority (77.1%) of students use online tools to communicate with their teachers for feedback and assessments, demonstrating a preference for digital means of engagement. However, 22.9% do not use such tools.

Question 06: How often do you use internet for studying?

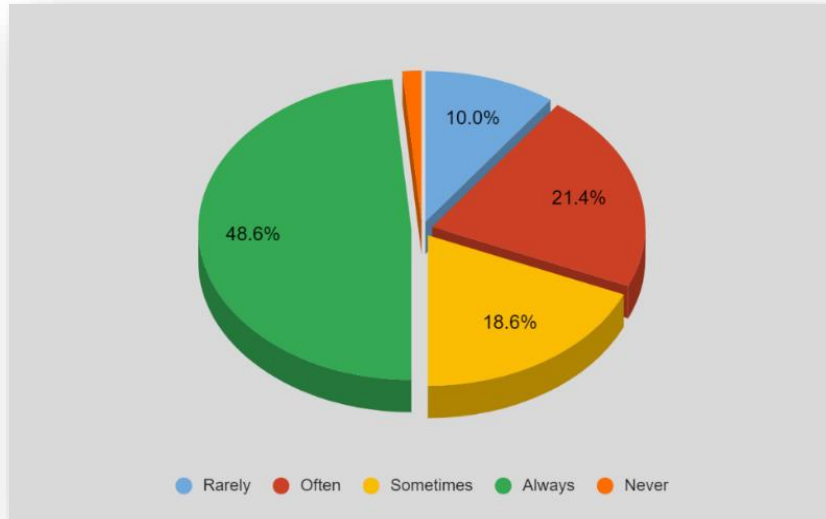
Table 6

The Use of the Internet Frequently for Studying

Option	Percentage
Never	1.4%
Rarely	10%
Sometimes	18.6%
Often	21.4%
Always	48.6%
Total	100%

Figure 6

The Use of the Internet Frequently for Studying



The data from Table 6 shows a wide range of internet usage. A small part (1.4%) never uses the internet for studying. Around 10% rarely use the internet, suggesting occasional reliance on digital resources. About one-fifth (18.6%) sometimes use the internet for studying. Another fifth (21.4%) use the internet often, indicating regular but not constant use of digital resources. The largest group (48.6%), however, uses the internet almost constantly for studying.

Item 07: How do you evaluate your online learning experience?

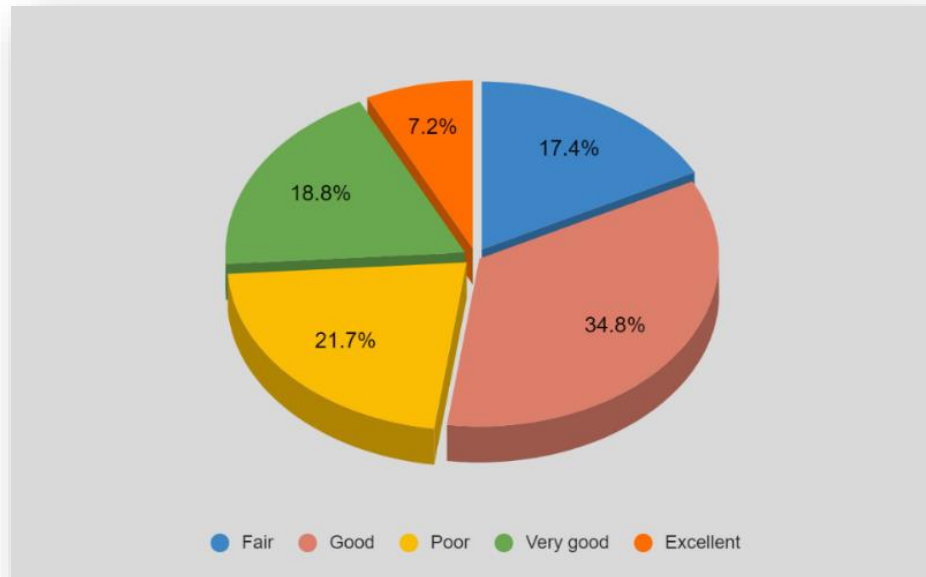
Table 7

Evaluating the Online Learning Experience

Option	Percentage
Poor	21.7%
Fair	17.4%
Good	34.8%
Very Good	18.8%
Excellent	7.2%
Total	100%

Figure 7

Evaluating the Online Learning Experience

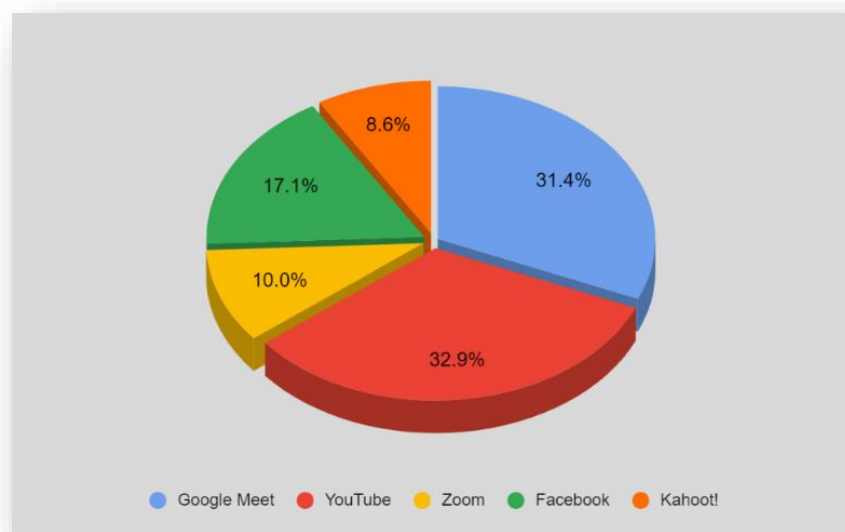


This question aimed to evaluate online learning experiences among students varies significantly, with a considerable measure (21.7%) finding it poor, indicating dissatisfaction or challenges. A slightly larger group (17.4%) rates it as fair, suggesting mixed feelings about the effectiveness of online learning. On the positive side, nearly half (34.8%) rate their experience as good, indicating satisfaction with the current setup. A smaller but notable group (18.8%) evaluates it as very good, showing a higher level of contentment. Lastly, a small minority (7.2%) considers their online learning experience excellent, pointing towards highly positive perceptions of online education.

Item 08: Which kind of online learning tools have you used for studying?

Table 8*Types of Online Learning Tools Used for Studying*

Option	Percentage
Google Meet	31.4%
YouTube	32.9%
Zoom	10%
Facebook	17.1%
Kahoot!	8.6%
Total	100%

Figure 8*Types of Online Learning Tools Used for Studying*

According to the responses to this question, YouTube stands out as the most used platform for studying, with 32.9% of students using it, followed closely by Google Meet at 31.4%. Zoom and Facebook also see significant use, with 10% and 17.1% respectively, indicating a broad range of digital tools employed for educational purposes. Kahoot!, while

used by fewer students (8.6%), demonstrates the diversity of interactive and collaborative tools available to increase learning.

Item 09: How would you evaluate your understanding of the feedback and assessment given by teachers through online courses?

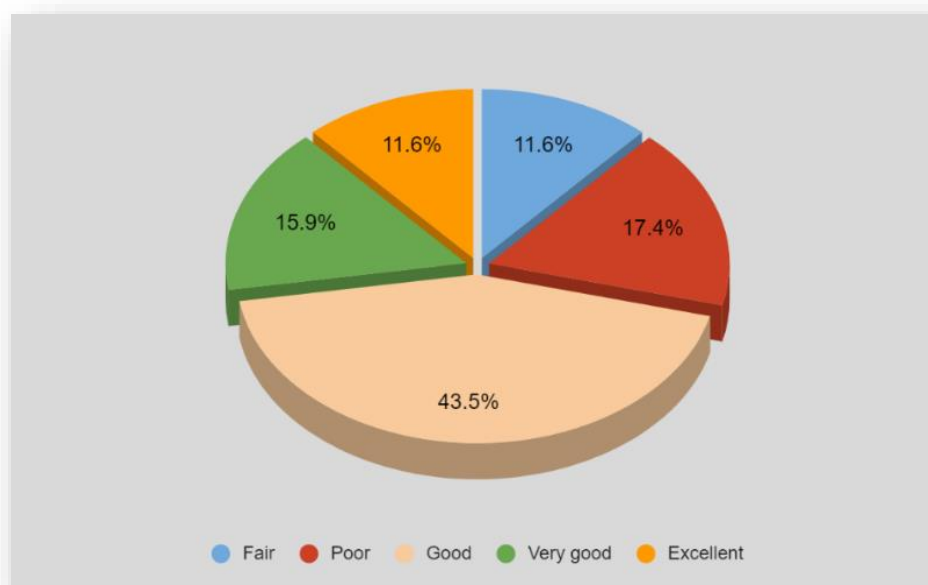
Table 9

Evaluating Understanding of Feedback and Assessments in Online Courses

Option	Percentage
Poor	17.4%
Fair	11.6%
Good	43.5%
Very Good	15.9%
Excellent	11.6%
Total	100%

Figure 9

Evaluating Understanding of Feedback and Assessments in Online Courses



As it can be seen in Table 9, the aim of this question is to evaluate students' understanding of feedback and assessments in online courses shows a mixed picture. A notable quantity (17.4%) finds the feedback poor. Slightly more than half (43.5%) rate their understanding as good, suggesting a solid grasp of the feedback and assessments. A smaller group (15.9%) evaluates their understanding as very good, indicating a high level of comprehension. However, a similar percentage (11.6%) finds the feedback excellent, showcasing exceptional understanding and application of feedback in their studies.

Section One: Students' Perspective Towards Online Learning

Item 10: Corona virus widespread made it hard to attend all the classes like before with the same timetable and class number.

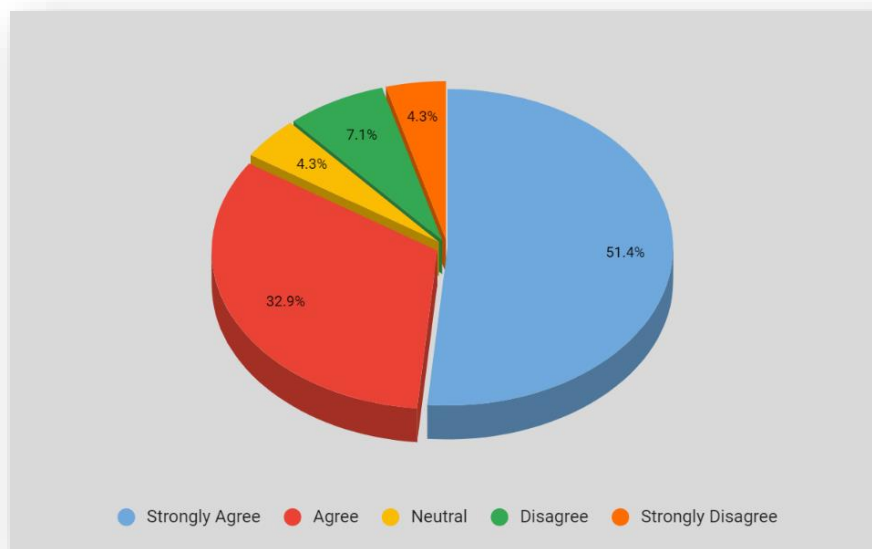
Table 10

Impact of COVID-19 on Class Attendance and Schedules

Likert Scale	Percentage
Strongly Agree	51.4%
Agree	32.9%
Neutral	4.3%
Disagree	7.1%
Strongly Disagree	4.3%
Total	100%

Figure 10

Impact of COVID-19 on Class Attendance and Schedules



The data in Table 10 indicates a significant impact of COVID-19 on class attendance and schedules. A substantial majority of students, 51.4%, strongly agree that the pandemic has affected their attendance and schedules, while 32.9% agree, highlighting widespread acknowledgment of distractions. A small division, 4.3%, remains neutral, possibly indicating variability in individual experiences. Conversely, 7.1% disagree and another 4.3% strongly disagree, suggesting a minority experienced little to no impact. Overall, these percentages reflect a widespread agreement on the pandemic's significant influence on educational routines.

Item 11: Using online learning can make learning interesting and enjoyable.

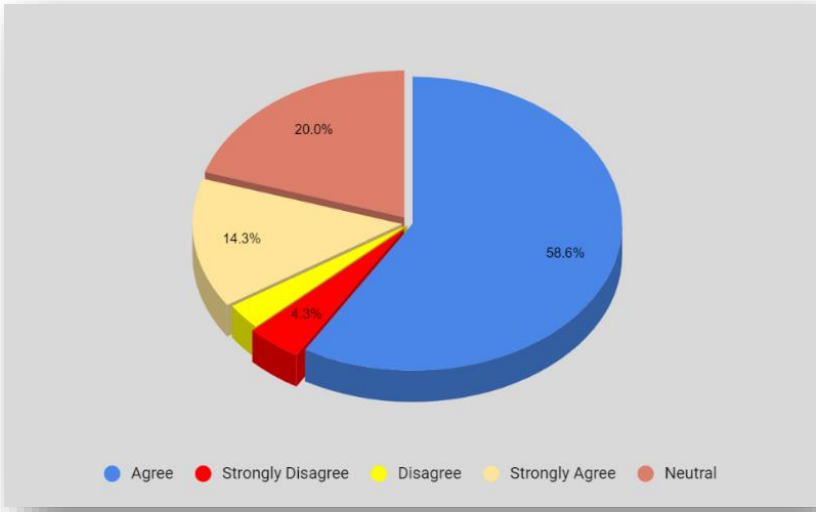
Table 11

Online Learning Enhances Engagement and Enjoyment

Likert Scale	Percentage
Strongly Agree	14.3%
Agree	58.6%
Neutral	20%
Disagree	2.8%
Strongly Disagree	4.3%
Total	100%

Figure 11

Online Learning Enhances Engagement and Enjoyment



The data in Table 11 shows that online learning significantly improves student engagement and enjoyment. A majority, with 58.6% agreeing and 14.3% strongly agreeing, find online learning interesting and enjoyable. Meanwhile, 20% remain neutral, indicating that their experience may vary. Only a small part, 2.8% disagree and 4.3% strongly disagree, suggesting

that few students do not find online learning engaging. Overall, the percentages show a general positive reception towards online learning among students.

Item 12: The use of online learning materials is easier than using books in the library.

Table 12

Comparison of Online learning Materials and Library Books

Likert Scale	Percentage
Strongly Agree	27.1%
Agree	41.4%
Neutral	25.7%
Disagree	4.3%
Strongly Disagree	1.5%
Total	100%

Figure 12

Comparison of Online learning Materials and Library Books

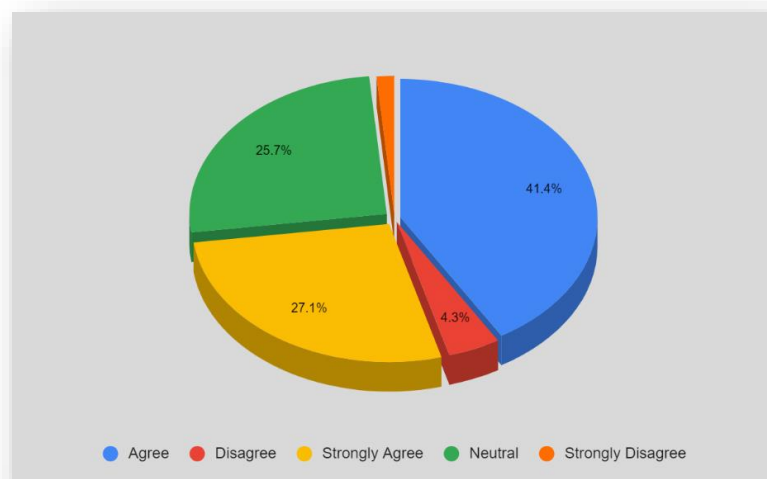


Table 12 presents the comparison of online learning materials to library books, showing that a significant measure of students prefers online resources. A combined 68.5% either

strongly agree (27.1%) or agree (41.4%) that online materials are favourable. Meanwhile, 25.7% remain neutral, reflecting mixed feelings or situational preferences. A small minority, 4.3% disagree and 1.5% strongly disagree, indicating limited opposition. The results show a clear preference for online learning materials among the majority of students.

Item 13: Using recorded videos helps students to understand the lessons in less time.

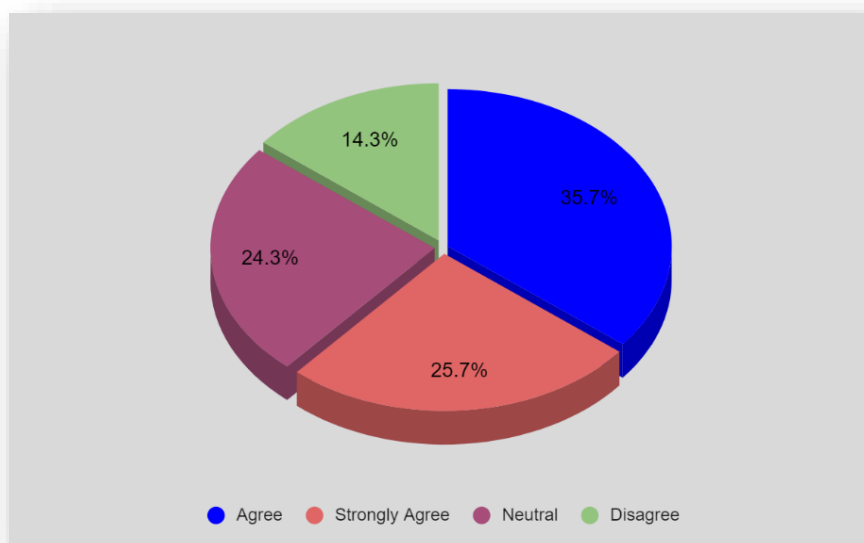
Table 13

Efficiency of Recorded Videos in Lesson Comprehension

Likert Scale	Percentage
Strongly Agree	25.7%
Agree	35.7%
Neutral	24.3%
Disagree	14.3%
Strongly Disagree	0%
Total	100%

Figure 13

Efficiency of Recorded Videos in Lesson Comprehension



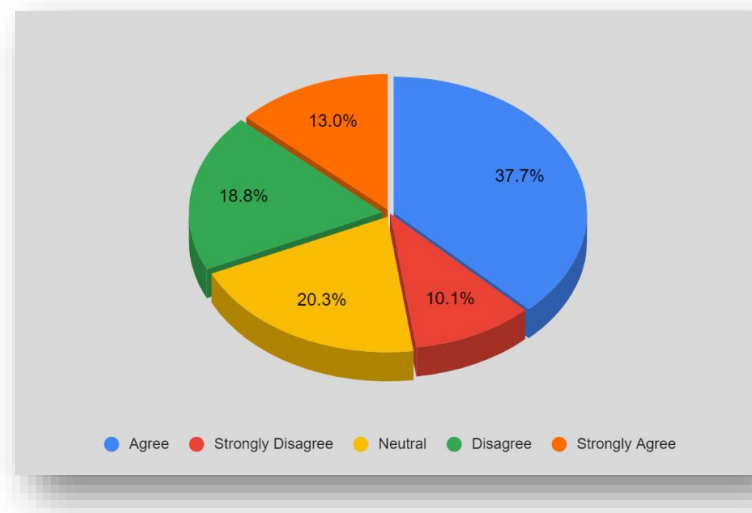
According to the responses, a substantial number of students, with 25.7% strongly agreeing and 35.7% agreeing, believe that recorded videos help their understanding. Meanwhile, 24.3% are neutral, indicating mixed experiences. Only 14.3% disagree, and none strongly disagree, showing that strong opposition is almost absent. These sections suggest that recorded videos are generally considered beneficial for lesson comprehension by the majority of students.

Item 14: Online learning helps students in group work and facilitates interaction with teachers.

Table 14

Online Learning for Group Work and Teacher Interaction

Likert Scale	Percentage
Strongly Agree	13%
Agree	37.7%
Neutral	20.3%
Disagree	18.8%
Strongly Disagree	10.1%
Total	100%

Figure 14*Online Learning for Group Work and Teacher Interaction*

In Table 14, a combined 50.7% of students either strongly agree (13%) or agree (37.7%) that online learning aids in these areas. Meanwhile, 20.3% are neutral, indicating mixed experiences. However, 18.8% disagree and 10.1% strongly disagree, showing that a significant minority does not find online learning beneficial for group work and teacher interaction. The responses reflect a measured level of agreement with notable dissent.

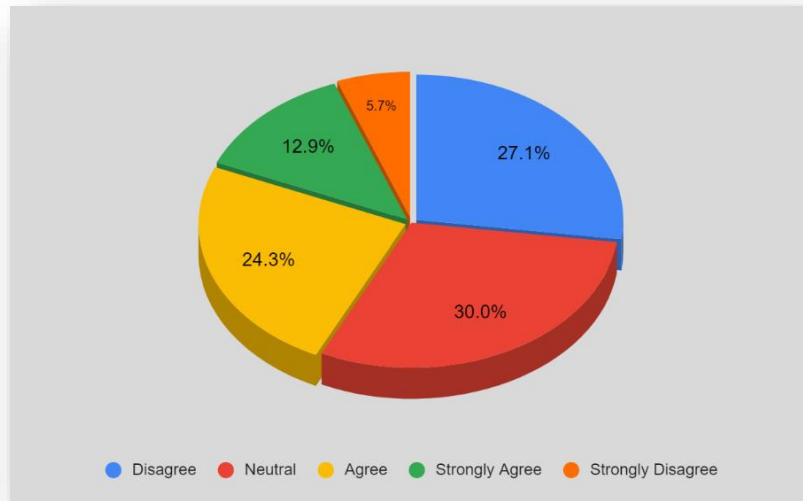
Item 15: Teachers in the university are well educated about online learning and know how to use online learning materials.

Table 15*Proficient University Educators in Online Learning*

Likert Scale	Percentage
Strongly Agree	13%
Agree	37.7%
Neutral	20.3%
Disagree	18.8%
Strongly Disagree	10.1%
Total	100%

Figure 15

Proficient University Educators in Online Learning



The data in Table 15 presents students' perceptions of their university teachers' proficiency in online learning. A total of 50.7% of students either strongly agree (13%) or agree (37.7%) that teachers are knowledgeable and capable in using online learning materials. Meanwhile, 20.3% remain neutral, reflecting varied experiences. Conversely, 18.8% disagree and 10.1% strongly disagree, representing that a significant minority perceives a lack of proficiency among their teachers.

Item 16: Online learning is economic in terms of time and money.

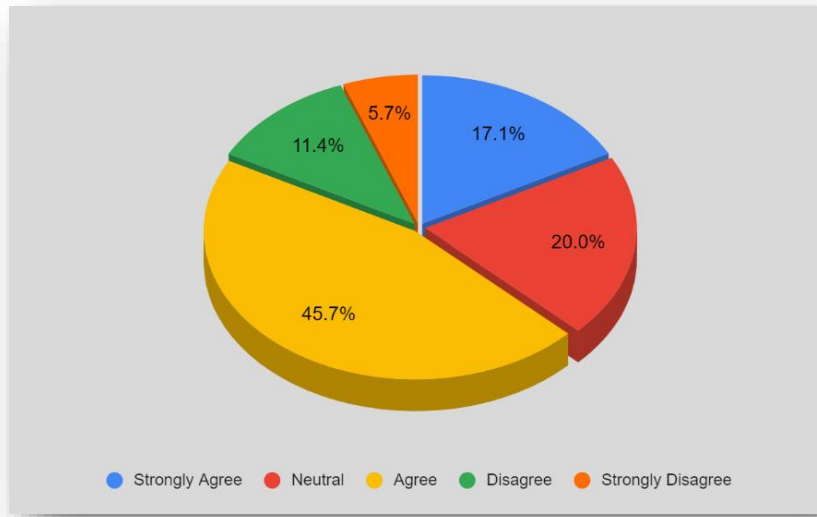
Table 16

Economic Benefits of Online Learning

Likert Scale	Percentage
Strongly Agree	17.1%
Agree	45.7%
Neutral	20%
Disagree	11.4%
Strongly Disagree	5.7%
Total	100%

Figure 16

Economic Benefits of Online Learning



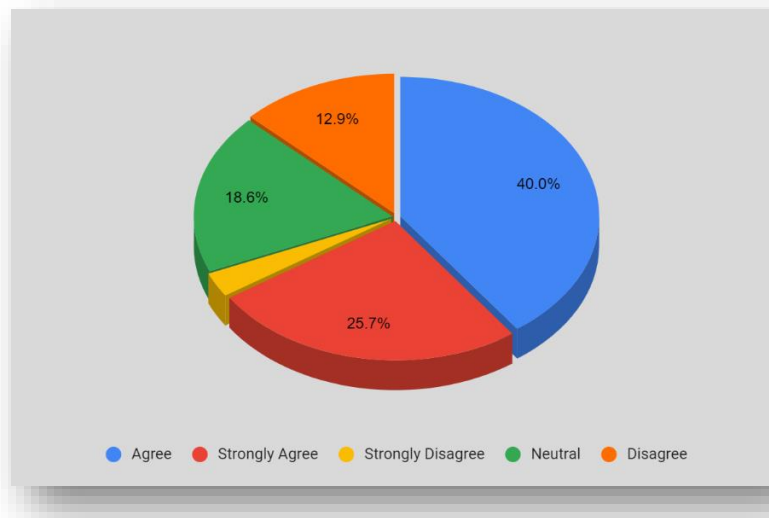
As shown in Table 16, a majority, with 17.1% strongly agreeing and 45.7% agreeing, perceive online learning as economical. Meanwhile, 20% are neutral, indicating varied experiences. However, 11.4% disagree and 5.7%. Overall, the calculations reflect agreement that online learning offers economic benefits, though with some differing opinions.

Item 17: Online learning is useful in terms of copying up missed lessons.

Table 17

Catching Up on Missed Lessons Efficiently

Likert Scale	Percentage
Strongly Agree	25.7%
Agree	40%
Neutral	18.6%
Disagree	12.9%
Strongly Disagree	2.8%
Total	100%

Figure 17*Catching Up on Missed Lessons Efficiently*

The results indicate a moderate to strong belief among students that online learning facilitates efficient catching up on missed lessons. A significant division (65.7% combined) either strongly agrees (25.7%) or agrees (40%) with the usefulness of online learning for this purpose. Neutral opinions (18.6%) suggest a balanced perspective, while a smaller group (33.3% combined) expresses disagreement or strong disagreement, indicating differing views on the efficiency of online learning for this task.

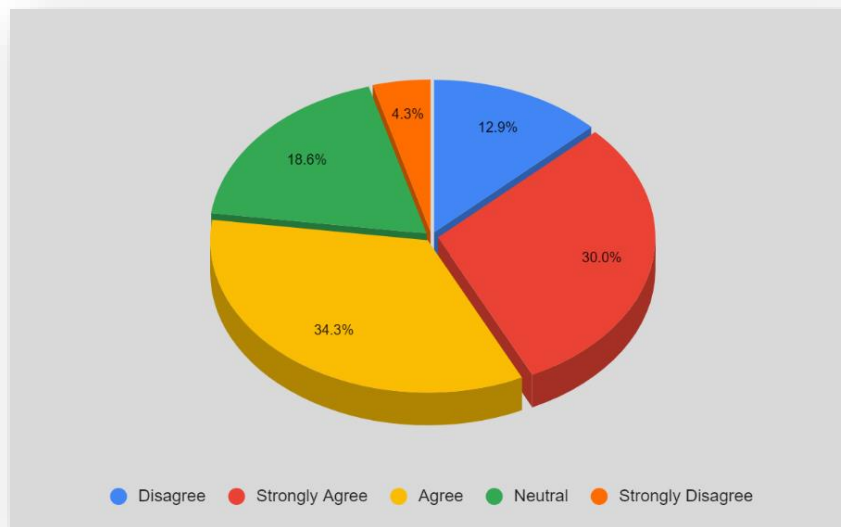
Item 18: Students get easily distracted by social media when they are using their phones.

Table 18*Phone Distractions in Relation with Social Media and Students*

Likert Scale	Percentage
Strongly Agree	30%
Agree	34.3%
Neutral	18.6%
Disagree	12.9%
Strongly Disagree	4.3%
Total	100%

Figure 18

Phone Distractions in relation with social media and Students.



The insights from Table 18 shed light on how students navigate the domain of social media while using their phones. A significant majority, comprising 30% who strongly agree and 34.3% who agree, express a common sentiment: social media can be a significant source of distraction. However, 18.6% find themselves in a state of neutrality. On the other hand, 12.9% disagree and 4.3% strongly disagree, emphasizing that for some, social media does not pose a significant obstacle. These figures show the relationship that students have with technology, showcasing both its draw and capacity to disrupt their focus and engagement.

Item 19: Girls cannot do video conferencing with male students because they might be misunderstood by their parents.

Table 19

Gender Dynamics in Video Conferencing Restrictions

Likert Scale	Percentage
Strongly Agree	25.7%
Agree	42.9%
Neutral	21.4%
Disagree	5.7%
Strongly Disagree	4.3%
Total	100%

Figure 19

Gender Dynamics in Video Conferencing Restrictions

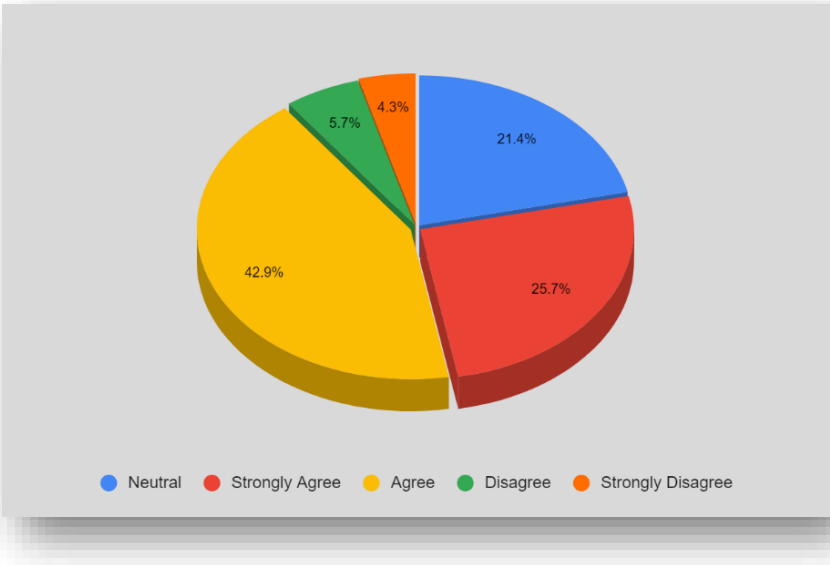


Table 19 explores how gender affects students' participation in video calls with people of the opposite sex, influenced by parents' views. A part of respondents, comprising 25.7% strongly agreeing and 42.9% agreeing, acknowledge the presence of these restrictions. This sentiment likely arises from deeply established social norms and the weight of parental expectations regarding interactions between genders. Meanwhile, 21.4% express neutrality.

Conversely, 5.7% disagree and 4.3% strongly disagree, highlighting a minority who may not encounter such limitations or perceive them differently.

Item 20: Universities should invest more in the development and expansion of online education programs.

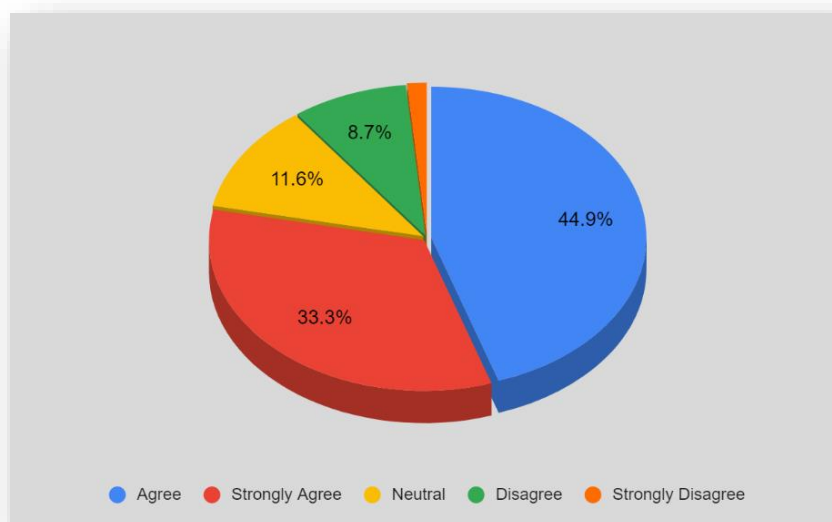
Table 20

Investment in Online Education Expansion

Likert Scale	Percentage
Strongly Agree	33.3%
Agree	44.9%
Neutral	11.6%
Disagree	8.7%
Strongly Disagree	1.5%
Total	100%

Figure 20

Investment in Online Education Expansion



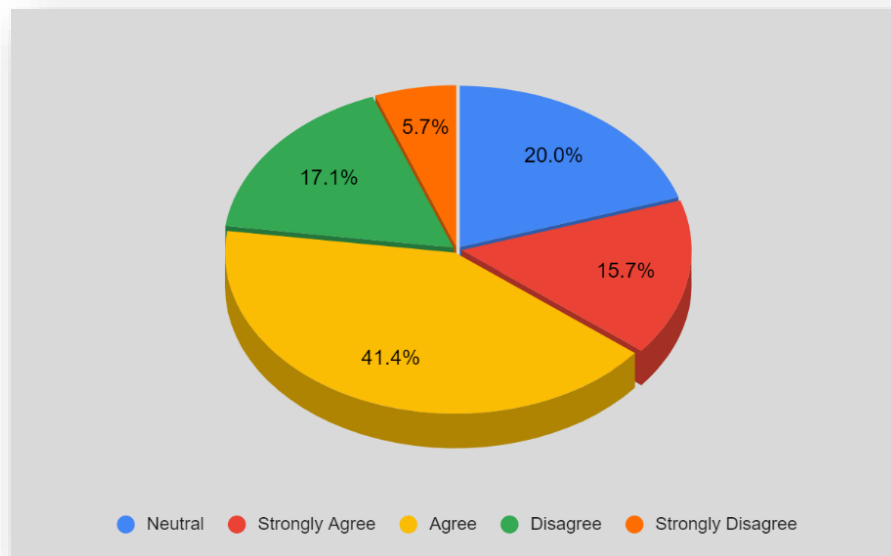
As it can be seen in Table 20, the aim is to shed light on students' perspectives regarding the importance of universities investing in the development and expansion of online education programs. A significant majority, consisting of 33.3% who strongly agree and 44.9% who agree, emphasize the necessity of such investment. This reflects a recognition among students of the potential benefits and opportunities that online education can offer. Additionally, 11.6% express neutrality. In opposition, 8.7% disagree and 1.5% strongly disagree, suggesting a minority who may have reservations or differing viewpoints. These findings underscore the diverse range of opinions among students, while highlighting the growing importance of online education in shaping the future of higher education.

Item 21: The overuse of online learning technologies may cause you depression.

Table 21

The Overuse of Online Learning

Likert Scale	Percentage
Strongly Agree	15.7%
Agree	41.4%
Neutral	20%
Disagree	17.1%
Strongly Disagree	5.7%
Total	100%

Figure 21*The Overuse of Online Learning*

The data presented in Table 21 offers insight into how students perceive the potential impact of excessive use of online learning technologies on their mental well-being. A noted section, comprising 15.7% strongly agreeing and 41.4% agreeing, expresses anxiety about the association between overuse and depression. Meanwhile, 20% adopt a neutral stance, indicating a need for further consideration or exploration of this issue on a personal level. On the contrary, 17.1% disagree and 5.7% strongly disagree, suggesting a minority who may not see online learning as a significant contributor to feelings of depression.

Item 22: Learning outcomes are the same whether in class or at home using the Internet.

Table 22

Equal Learning Outcomes In-Class vs Online

Likert Scale	Percentage
Strongly Agree	15.9%
Agree	34.8%
Neutral	21.7%
Disagree	21.7%
Strongly Disagree	5.8%
Total	100%

Figure 22

Equal Learning Outcomes In-Class vs Online

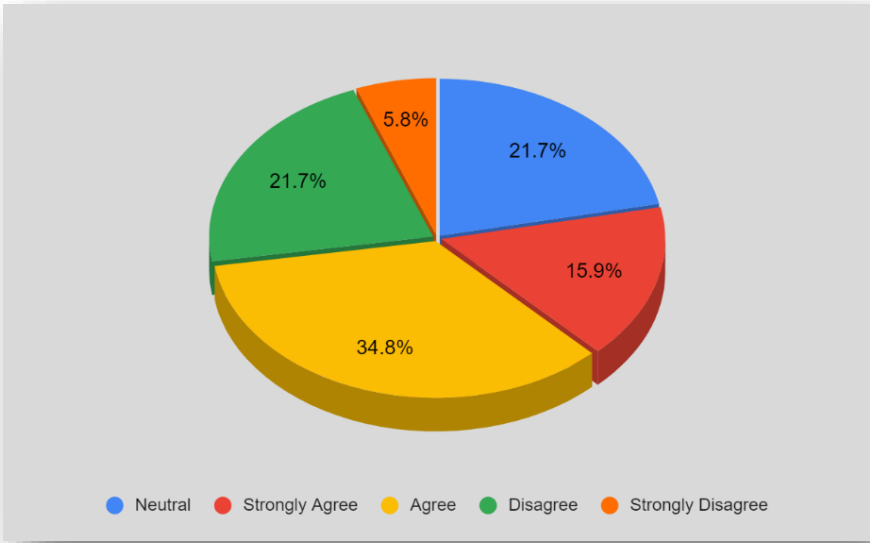


Table 22 examines students' beliefs about the possible negative impacts of heavy reliance on online learning tools on their mental health. A considerable group (15.7% strongly agree, 41.4% agree) worries about the link between too much screen time and feeling depressed. About 20% stay neutral, showing they need to think more about this problem personally. A smaller group (17.1% disagree, 5.7% strongly disagree) sees things differently. These results

show how using tech too much can affect students' mental health, stressing the importance of healthy tech habits and supporting students' emotional safety.

Item 23: I could pass a course on the Internet without any teacher's assistance.

Table 23

Independent Online Course Success

Likert Scale	Percentage
Strongly Agree	30%
Agree	27.1%
Neutral	20%
Disagree	15.7%
Strongly Disagree	7.1%
Total	100%

Figure 23

Independent Online Course Success

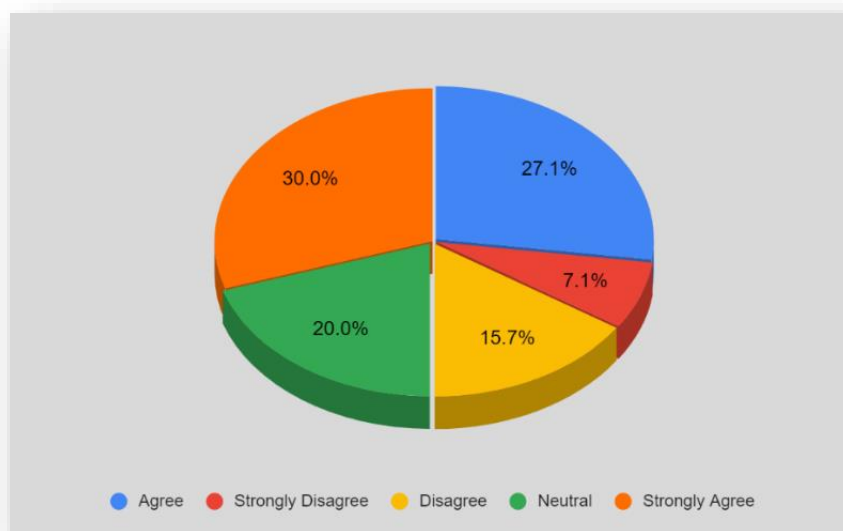


Table 23 explores students' views on whether they can finish an online course on their own without a teacher's help. A significant group (30% strongly agree, 27.1% agree) feels confident making it, likely due to their independence and skill in using online learning tools. About 20% are undecided, showing they need to consider the pros and cons of learning alone. A smaller part (15.7% disagree, 7.1% strongly disagree) prefers having a teacher's help, valuing the structure and support of traditional classes. These results highlight the variety of opinions among students, underlining the need to develop self-learning abilities and offer enough support for those choosing to learn independently.

The results present a detailed view of students' experiences with online learning, highlighting both its advantages and challenges. A large majority adopt online learning for its flexibility and ease of access, mainly using smartphones, though a notable minority face barriers due to lack of internet access and electronic devices. While many students appreciate the developed communication with teachers and prefer online learning materials, satisfaction with online education is mixed, with some finding it ineffective. The COVID-19 pandemic has interrupted traditional schedules, yet some other online tools have become essential for many. Recorded videos aid lesson comprehension, though opinions vary on the effectiveness of online learning for group work and teacher interaction. Although most students perceive online learning as economical and useful for catching up on lessons, concerns about its impact on mental well-being remain. Social media's role as a distraction and parental restrictions on video calls with the opposite sex reflect deeper social aspects. Students emphasize the need for universities to invest in online education, acknowledging its potential while recognizing diverse experiences and the importance of teacher proficiency. Confidence in independent online course completion varies, underscoring the need for support and development of self-learning skills.

3.4.2 Teachers' Questionnaire

The study's questionnaire was organized into two main sections, each consisting of various question types. Due to its semi-structured format, the questionnaire contained a mix of closed-ended questions, such as yes/no and multiple-choice options. These questions were designed to obtain clear and direct responses, making them accessible to the participants, who were educators. This approach was guided by the necessity of collecting data efficiently, using questions that were easy to understand and culturally suitable.

3.4.2.1 Description of Teachers' Questionnaire

The first section of the questionnaire contains ten questions. It gathers general information about teachers and their experience with online teaching. It began by asking about their academic qualifications, offering a range of options. Participants were then asked about their years of experience teaching English, categorized into three ranges. Also, whether they have prior experience with online teaching and, if so, to assess their current level of expertise, ranging from beginner to expert. They are also inquired about the platforms or tools they use for online education. The questionnaire continues with a question regarding the duration of their online teaching experience, categorized into three-time frames. In addition to what prompted them to begin teaching online, with choices such as reaching a wider audience, the COVID-19 pandemic, or career advancement.

The section includes inquiries about how participants assess student learning and progress in the online environment. It explores how participants ensure effective interaction with students in the online setting, presenting choices such as regular emails or messages, virtual office hours, discussion forums, live video sessions, and other methods. Finally, the section seeks participants' opinions on the essential qualities or skills required to be an effective online teacher. Options include adaptability, communication skills, technological proficiency, patience, and other qualities as deemed necessary.

The following section examines educators' perspectives and attitudes towards online teaching, its impact on instructional practices and students' achievement. Its main goal is to know the extension of agreement or disagreement with certain statements. Educators acknowledge that online teaching provides flexibility in delivering instructional content, while some express confidence in their training and preparedness to teach effectively in a virtual environment. They recognize that online teaching can enhance student engagement and participation, offering opportunities for effective assessment and feedback. While some educators find online teaching to be as effective as traditional classroom teaching, others note that it requires additional time and effort.

Confidence in managing online classroom dynamics varies among educators, as they strive to offer personalized learning experiences and reach a broader range of students. They acknowledge the potential of online teaching to become an integral part of the future of education, driving them to modify teaching activities to optimize online learning outcomes. They express willingness to recommend online learning to colleges to facilitate distance learning, while also feeling capable of addressing technological challenges their students may encounter on computers or phones.

3.4.2.2 Validity of the Questionnaire

After preparing the questionnaire, the researcher gave them to a panel of experts to determine if the questionnaire achieved the study's goals. The experts were allowed to comment or modify any errors in the questions. To validate the questionnaire, two experienced professionals in applied linguistics research conducted a review. They identified few issues in the questionnaire. These concerns were promptly addressed, as ignoring them could have compromised the study's continuity. Ensuring the validity of the questionnaire is essential for meeting the study's objectives and securing the integrity of the results (Cohen et al., 2018).

3.4.2.3 Administration of the Questionnaire

The final version of the questionnaire was created and formatted using Google Forms before being distributed online to the target audience, consisting of English Department educators in Biskra University. This category was accessible for data collection during the second semester.

3.4.2.4 Analysis of Teachers' Questionnaire

This section focuses on displaying and interpreting the data collected from the teacher's questionnaire. It involves an in-depth analysis of the responses provided by the teachers, offering insights into their experiences and perspectives. It had 23 multiple-choice questions with frequency distribution rates, thirteen of them are graded on a Likert scale with a maximum of five.

Section One: General Information

Item 01: What is your academic qualification?

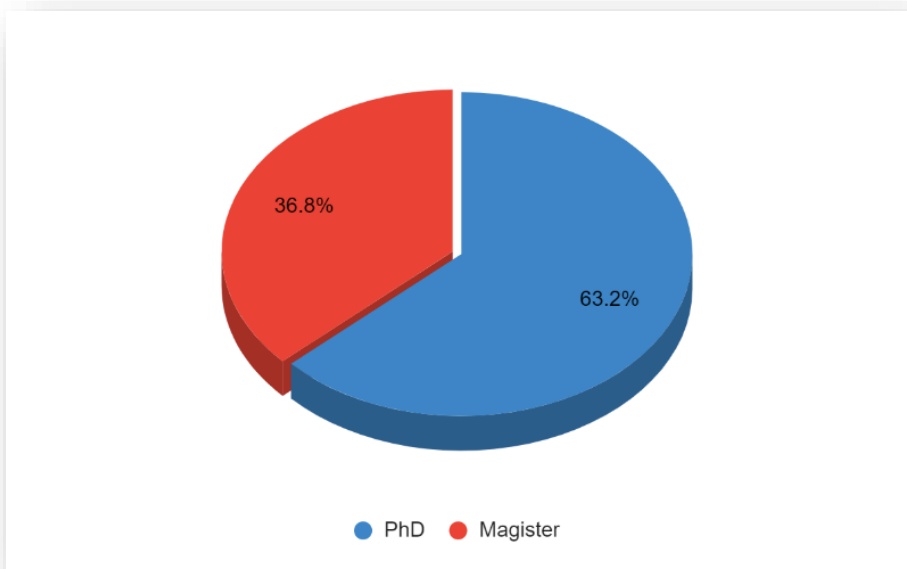
Table 24

Academic Qualification

Option	Percentage
PhD	63.2%
Magister	36.8%
Total	100%

Figure 24

Academic Qualification



As shown in Table 24, the distribution of academic qualifications among your study participants. The largest group (63.2%) have a PhD qualification, while 36.8% have a Magister qualification.

Item 02: How many years have you been teaching English?

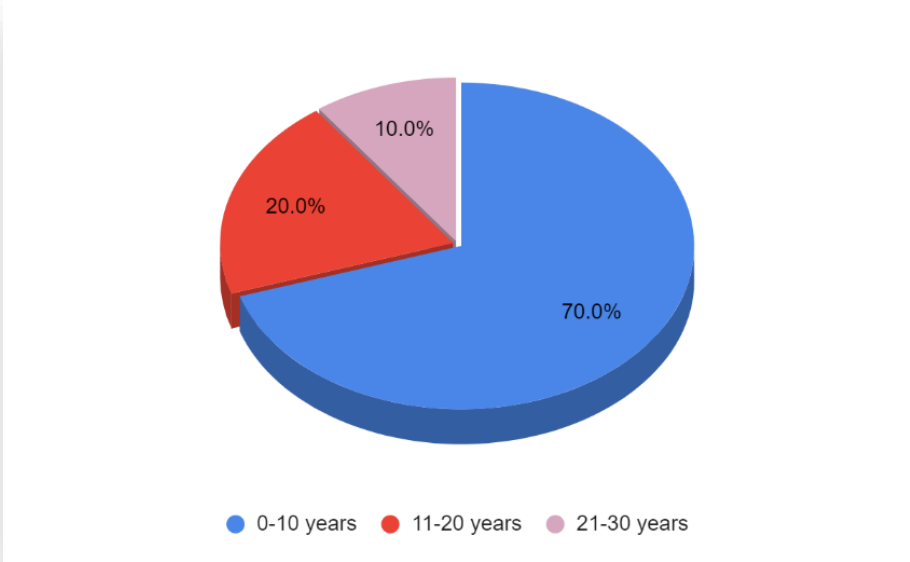
Table 25

Years of Experience Teaching English

Option	Percentage
0-10 years	10%
11-20 years	20%
21-30 years	70%
Total	100%

Figure 25

Years of Experience Teaching English



The data from Table 25 reveals the distribution of years of experience teaching English among your study participants. The largest group (70%) has 21-30 years of experience, while 20% have 11-20 years of experience and 10% have 0-10 years of experience.

Item 03: Have you ever experienced online teaching?

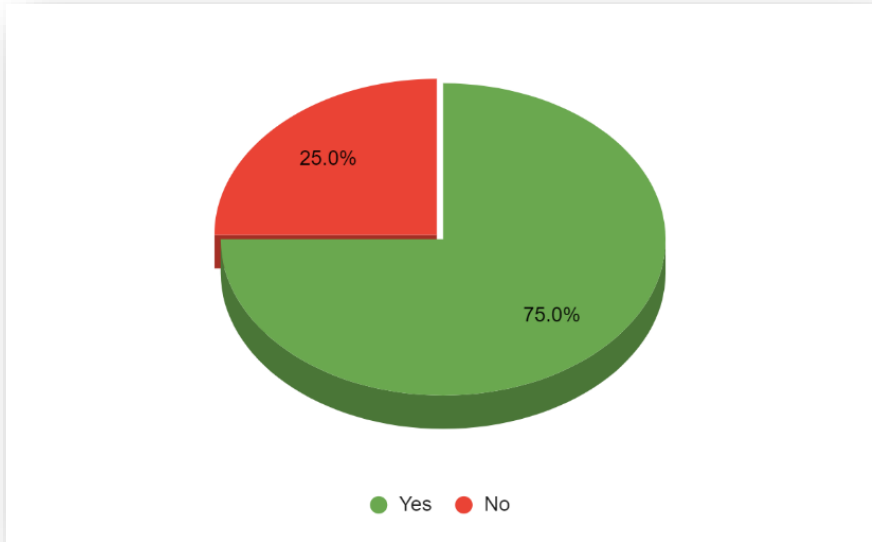
Table 26

Experience in Online Teaching

Option	Percentage
Yes	75%
No	25%
Total	100%

Figure 26

Experience in Online Teaching



The data from Table 26 indicates a significant 75% of individuals have experienced online teaching, indicating widespread adoption and familiarity with digital education tools. On the other hand, 25% of individuals have not experienced online teaching. This minority may include educators in traditional, in-person teaching environments or those who lack access to necessary technology and training.

Item 04: What is your current level of experience with online teaching?

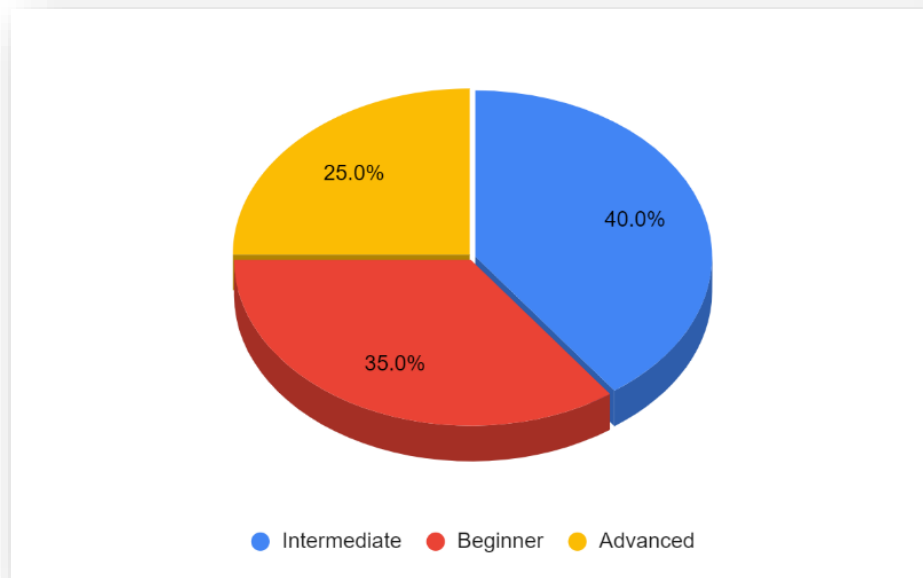
Table 27

Current Level of Expertise in Online Teaching

Option	Percentage
Beginner	35%
Intermediate	40%
Advanced	25%
Total	100%

Figure 27

Current Level of Expertise in Online Teaching

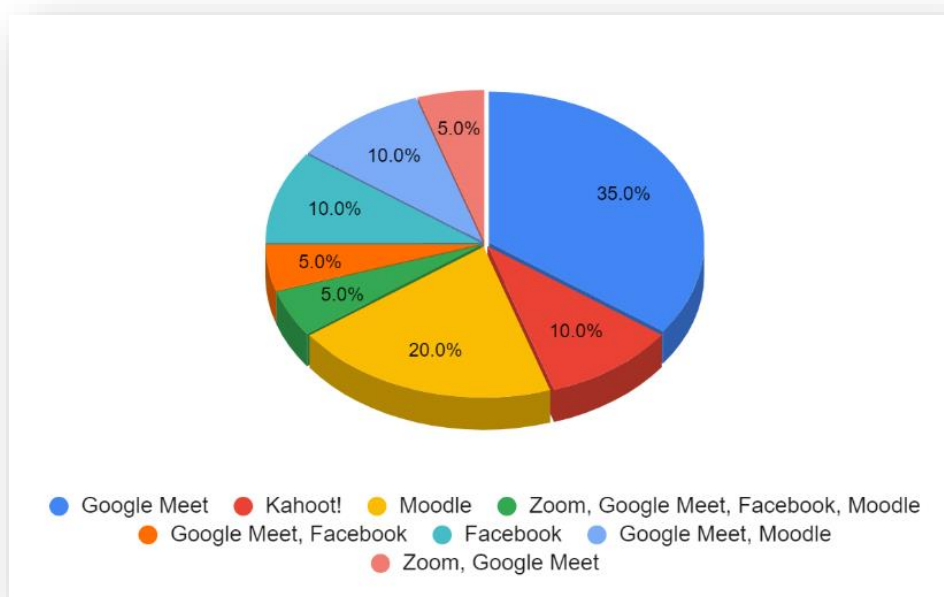


Based on the results, 35% of teachers are beginners in online teaching, indicating a need for basic training and support. A larger section, 40%, are at an intermediate level, suggesting they have a solid understanding but can still benefit from further training. 25% are advanced, showing a high level of proficiency in online teaching and possibly serving as mentors for others.

Item 05: Which platforms or tools do you use for online education?

Table 28*Platforms and Tools Used for Online Education*

Option	Percentage
Google Meet	35%
Kahoot!	10%
Moodle	20%
Zoom, Google Meet, Facebook, Moodle	5%
Google Meet, Facebook	5%
Facebook	10%
Google Meet, Moodle	10%
Zoom, Google Meet	5%
Total	100%

Figure 28*Platforms and Tools Used for Online Education*

As shown in Table 28, Google Meet is the most used platform, with 35% of users relying on it for online education, indicating its popularity and user-friendly interface. Moodle follows with 20%, showing its strong presence as a comprehensive learning management system. Kahoot! and Facebook each account for 10%, reflecting their use for interactive learning and

social connectivity, respectively. Combinations of platforms are also common: 10% use Google Meet and Moodle together, 5% use Zoom, Google Meet, Facebook, and Moodle, another 5% use Google Meet and Facebook, and 5% use both Zoom and Google Meet, highlighting the need for versatile solutions to meet diverse educational needs.

Item 06: How long have you been teaching online?

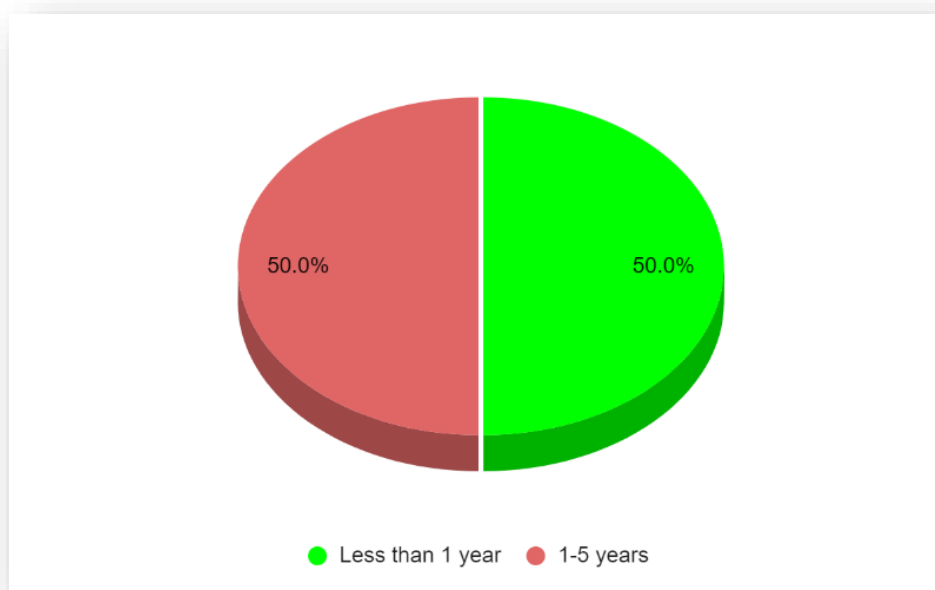
Table 29

Duration of Online Teaching Experience

Option	Percentage
Less than 1 year	50%
1-5 years	50%
Total	100%

Figure 29

Duration of Online Teaching Experience



The data from Table 29 shows that 50% of teachers have been teaching online for less than one year, indicating a significant increase of new online educators. The other 50% have 1-5 years of experience, explaining a balanced distribution between newer and more experienced online educators.

Item 07: What prompted you to start teaching online?

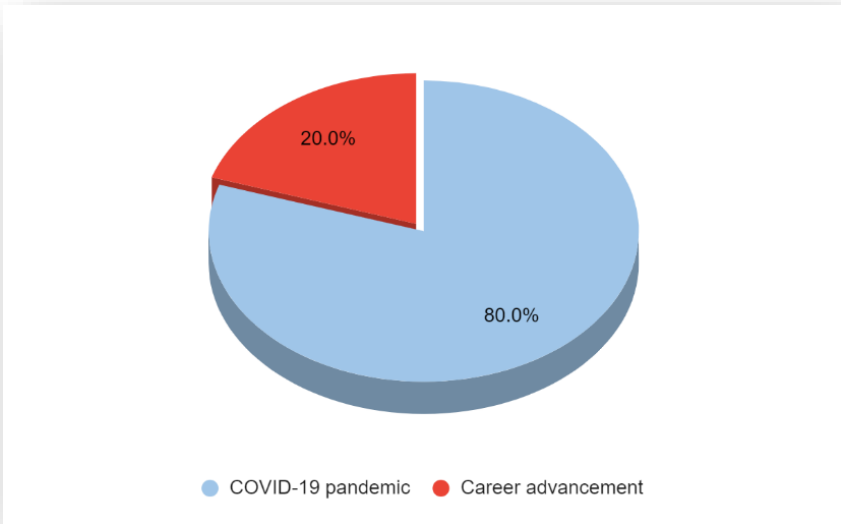
Table 30

Motivations Behind Transitioning to Online Teaching

Option	Percentage
COVID-19 pandemic	80%
Career advancement	20%
Total	100%

Figure 30

Motivations Behind Transitioning to Online Teaching



This question aimed to reveals that 80% of participants were prompted to start teaching online due to the COVID-19 pandemic, highlighting the significant impact of the pandemic on

the education sector and the necessity for distant learning solutions. In contrast, 20% transitioned to online teaching for career advancement, indicating that a portion of educators view online teaching as a strategic move to enhance their professional growth and opportunities.

Item 08: How do you assess student learning and progress in the online environment?

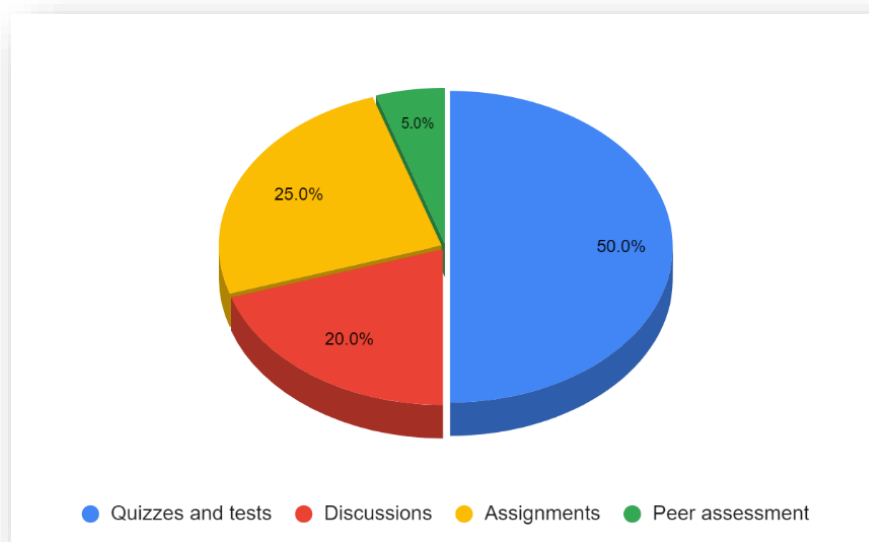
Table 31

Strategies for Assessing Student Learning and Progress in Online Environments

Option	Percentage
Quizzes and tests	50%
Discussions	20%
Assignments	25%
Peer assessment	5%
Total	100%

Figure 31

Strategies for Assessing Student Learning and Progress in Online Environments



The analysis of the Table 31 shows that quizzes and tests (50%) are the primary strategy for assessing student learning and progress in online environments, followed by assignments (25%), discussions (20%), and peer assessment (5%). This division suggests a reliance on traditional evaluation methods. Assignments and discussions, although slightly lower in frequency, still play crucial roles in evaluating students' ability to apply knowledge and engage in critical thinking. Peer assessment, while less commonly used, offers unique insights into collaborative learning and self-reflection skills.

Item 09: How do you ensure effective interaction with students in the online setting?

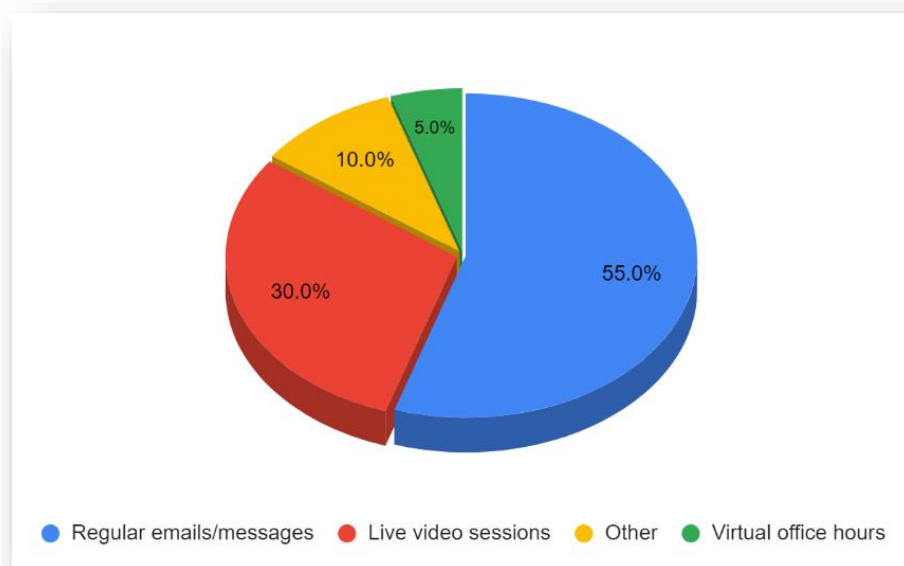
Table 32

Ensuring Effective Interaction with Students in Online Settings

Option	Percentage
Live video sessions	30%
Regular emails/messages	55%
Virtual office hours	5%
Other	10%
Total	100%

Figure 32

Ensuring Effective Interaction with Students in Online Settings



As it can be seen in Table 32, the aim of this question is to indicate that regular emails/messages (55%) are the most effective means of ensuring interaction with students in online settings, closely followed by live video sessions (30%). Virtual office hours account for 5%, and other methods contribute to the remaining 10%. This highlights the importance of direct communication through messaging for maintaining engagement and addressing queries promptly, complemented by live interactions for more immediate feedback and discussion.

Section One: Students' Perspective Towards Online Learning

Item 10: In your opinion, what are the essential qualities or skills required to be an effective online teacher?

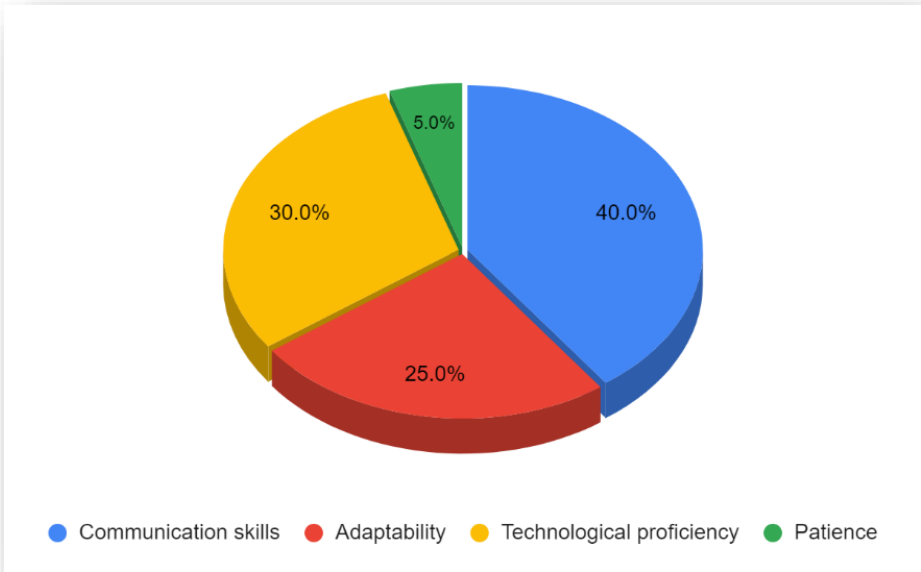
Table 33

Essential Qualities and Skills for Effective Online Teaching

Option	Percentage
Adaptability	25%
Patience	5%
Communication skills	40%
Technological proficiency	30%
Total	100%

Figure 33

Essential Qualities and Skills for Effective Online Teaching



The data in Table 33 indicates that regular emails/messages (55%) are the most effective means of ensuring interaction with students in online settings, closely followed by live video sessions (30%). Virtual office hours account for 5%, and other unspecified methods contribute 10%. Live video sessions, while essential for real-time engagement, are less frequently selected.

Item 11: Online teaching provides flexibility in delivering instructional content.

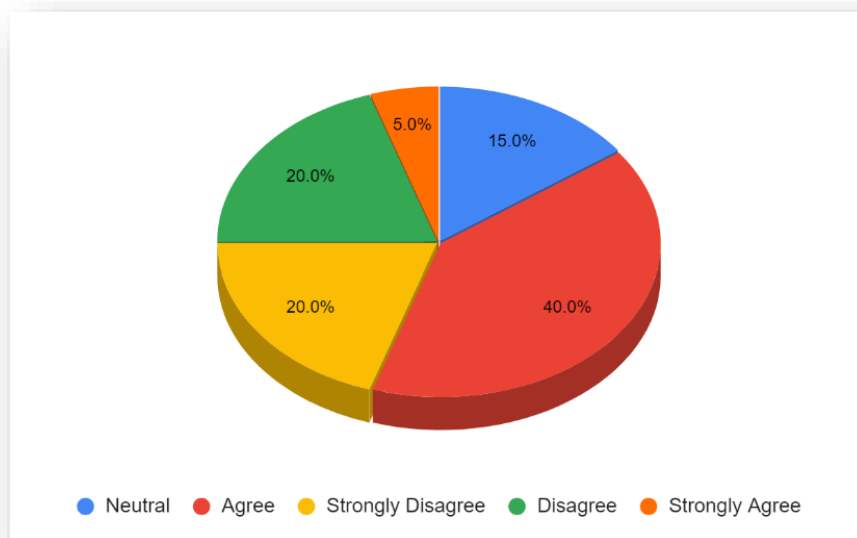
Table 34

Flexibility in Delivering Instructional Content Through Online Teaching

Likert Scale	Percentage
Strongly Agree	5%
Agree	40%
Neutral	15%
Disagree	20%
Strongly Disagree	20%
Total	100%

Figure 34

Flexibility in Delivering Instructional Content Through Online Teaching



The data in Table 34 shows a mixed perception regarding the flexibility offered by online teaching in delivering instructional content. A significant majority (45%) either agrees or strongly agrees with the statement, highlighting the perceived advantages of online teaching in

accommodating varied schedules and learning preferences. However, nearly half (40%) express neutral, disagree, or strongly disagree sentiments, suggesting that while flexibility is recognized, there may be challenges or limitations in achieving this flexibility effectively in all aspects of online instruction.

Item 12: I feel adequately trained and prepared to effectively teach online.

Table 35

Feeling Prepared and Trained for Effective Online Teaching

Likert Scale	Percentage
Strongly Agree	0%
Agree	25%
Neutral	20%
Disagree	40%
Strongly Disagree	15%
Total	100%

Figure 35

Feeling Prepared and Trained for Effective Online Teaching

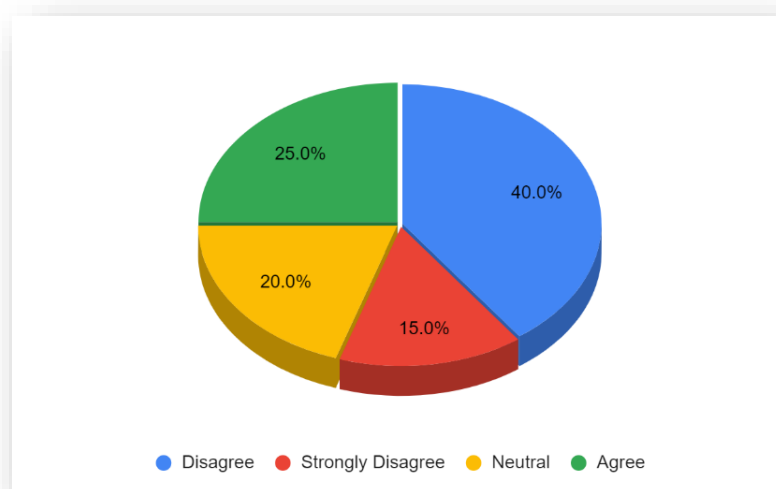


Table 35 presents a divided opinion among educators regarding their preparation and training for effective online teaching. A quarter (25%) agree they are adequately prepared, indicating confidence in their abilities to adapt to online teaching environments. On the other hand, a substantial section (65%) expresses disagreement or neutrality. This difference underscores the need for continuing professional development and support to develop educators' competence in online teaching.

Item 13: Online teaching enhances students' engagement and participation.

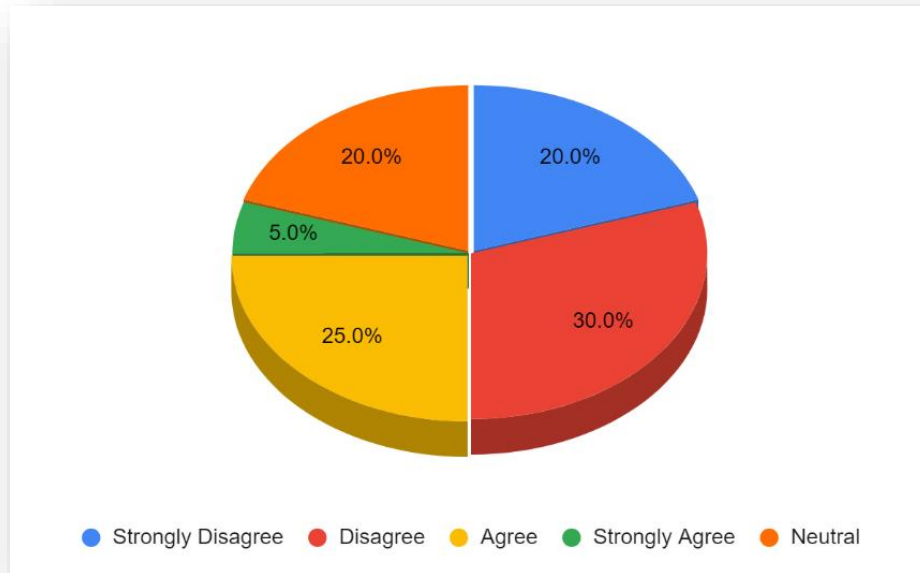
Table 36

Improving Student Engagement and Participation in Online Learning

Likert Scale	Percentage
Strongly Disagree	20%
Disagree	30%
Agree	25%
Strongly Agree	5%
Neutral	20%
Total	100%

Figure 36

Improving Student Engagement and Participation in Online Learning

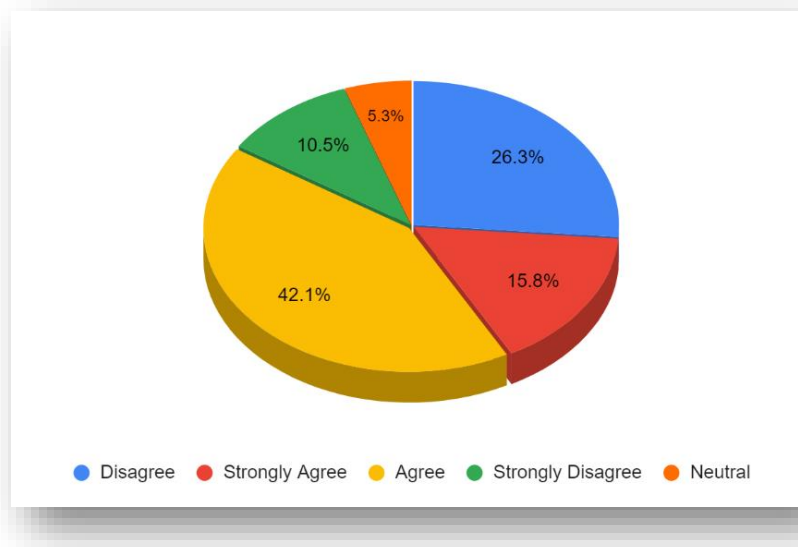


According to the responses, a mixed response regarding the impact of online teaching on enhancing student engagement and participation. A significant proportion (50%) either disagrees or strongly disagrees, pointing to concerns over the effectiveness of online formats in actively engaging students. Meanwhile, a smaller division (30%) agrees or strongly agrees, suggesting that online teaching can positively influence student engagement under certain circumstances. Also, 20% remain neutral, reflecting a balanced view that recognizes both the potential benefits and challenges of online learning environments.

Item 14: Online teaching allows for effective assessment and feedback.

Table 37*Effective Assessment and Feedback in Online Teaching*

Option	Percentage
Disagree	26.3%
Strongly Agree	15.8%
Agree	42.1%
Strongly Disagree	10.5%
Neutral	5.3%
Total	100%

Figure 37*Effective Assessment and Feedback in Online Teaching*

In Table 37, the data represents a positive outlook on the effectiveness of online teaching for assessment and feedback, with a majority (58.7%) agreeing or strongly agreeing. This indicates a belief in the capability of online environments to facilitate meaningful assessment practices and timely feedback. However, a notable minority (27.6%) disagrees or strongly disagrees, suggesting that some educators see challenges in implementing effective assessment and feedback mechanisms in online settings.

Item 15: I find online teaching to be as effective as traditional classroom teaching.

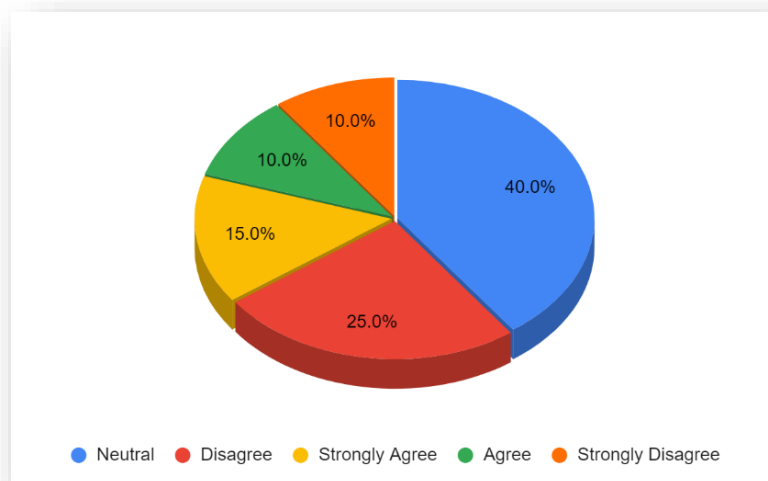
Table 38

Equivalence Between Online and Traditional Classroom Teaching Effectiveness

Likert Scale	Percentage
Strongly Agree	15%
Agree	10%
Neutral	40%
Disagree	25%
Strongly Disagree	10%
Total	100%

Figure 38

Equivalence Between Online and Traditional Classroom Teaching Effectiveness



The data in Table 38 presents a divided view on the comparison between online and traditional classroom teaching effectiveness. A small division (25%) either disagrees or strongly disagrees, indicating uncertainty about the effectiveness of online teaching compared to traditional classroom settings. Conversely, a group (25%) finds them equally effective,

suggesting that online teaching can achieve similar outcomes to traditional classroom teaching under certain conditions. The majority (50%) remains neutral, showing a balanced perspective that acknowledges both the strengths and limitations of each teaching modality.

Item 16: Online teaching requires additional time and effort compared to traditional teaching.

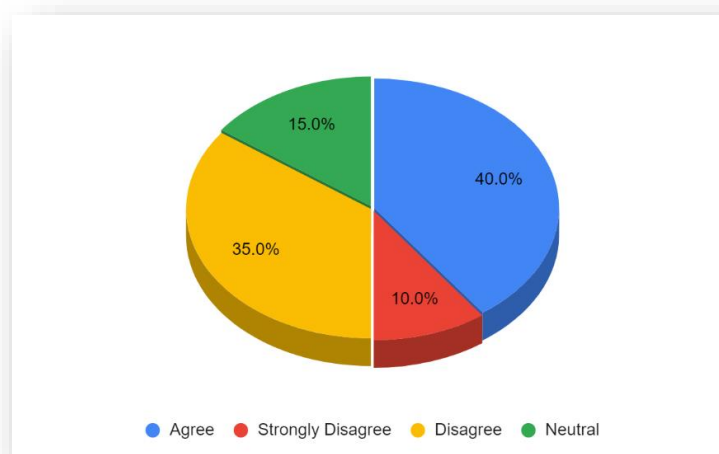
Table 39

Increased Effort in Online Teaching

Likert Scale	Percentage
Strongly Agree	0%
Agree	40%
Neutral	15%
Disagree	35%
Strongly Disagree	10%
Total	100%

Figure 39

Increased Effort in Online Teaching



As shown in Table 39, a majority (60%) either agrees or strongly agrees that online teaching requires additional time and effort compared to traditional teaching. This suggests that

educators perceive online teaching as more demanding, likely due to the complexities involved in adapting course materials. The remaining 40% either disagree or strongly disagree, implying that some educators believe the effort required for online teaching is comparable to or even less than that of traditional teaching, possibly due to efficiencies gained in planning and delivery.

Item 17: I am confident in my ability to manage online classroom dynamics.

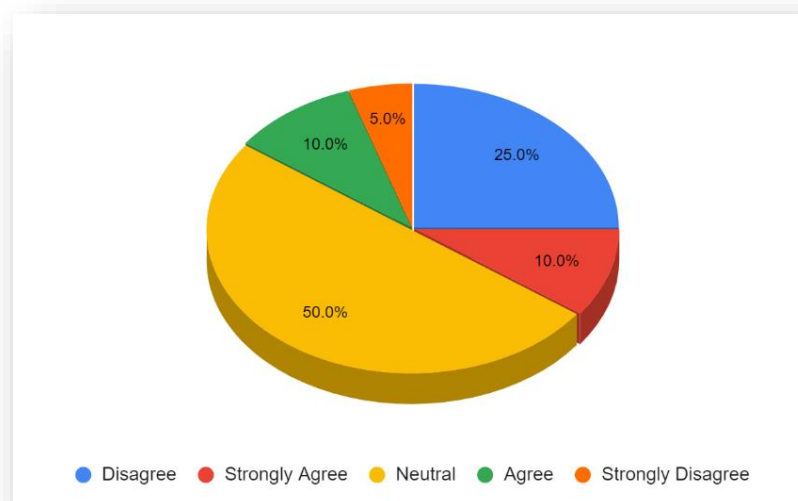
Table 40

Confidence in Managing Online Classroom Dynamics

Likert Scale	Percentage
Strongly Agree	10%
Agree	10%
Neutral	50%
Disagree	25%
Strongly Disagree	5%
Total	100%

Figure 40

Confidence in Managing Online Classroom Dynamics



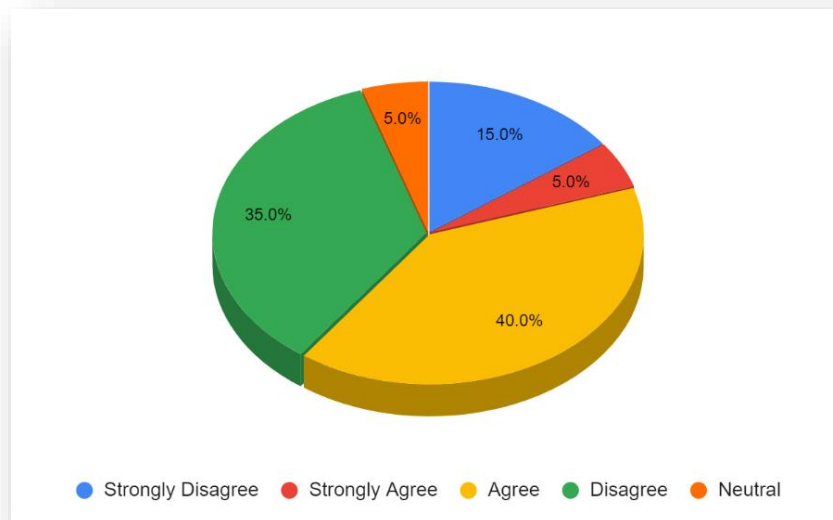
The results indicate a moderate level of confidence among educators regarding their ability to manage online classroom dynamics. A quarter (25%) either disagrees or strongly disagrees, indicating uncertainty or challenges in navigating the complexities of online teaching environments. Conversely, a third (30%) either agrees or strongly agrees, suggesting a sense of competence in handling online classroom management. The largest group (50%) remains neutral, reflecting a balanced view that acknowledges both the potential for effective management and areas where improvement might be needed.

Item 18: Online teaching offers opportunities for personalized learning experiences.

Table 41

Opportunities for Personalized Learning in Online Teaching

Likert Scale	Percentage
Strongly Agree	5%
Agree	40%
Neutral	5%
Disagree	35%
Strongly Disagree	15%
Total	100%

Figure 41*Opportunities for Personalized Learning in Online Teaching*

The insights from Table 41 shed light on a significant majority (45%) believes that online teaching offers opportunities for personalized learning experiences, with a considerable slice (40%) agreeing or strongly agreeing. This suggests that many educators recognize the potential of online environments to tailor instruction to individual student needs. However, nearly half (55%) either disagrees or strongly disagrees, indicating doubt about the extent to which online teaching can truly personalize learning experiences, possibly due to logistical or pedagogical constraints.

Item 19: Online teaching helps me reach a wider range of students.

Table 42*Wider Reach in Online Teaching*

Likert Scale	Percentage
Strongly Agree	5%
Agree	15%
Neutral	25%
Disagree	35%
Strongly Disagree	20%
Total	100%

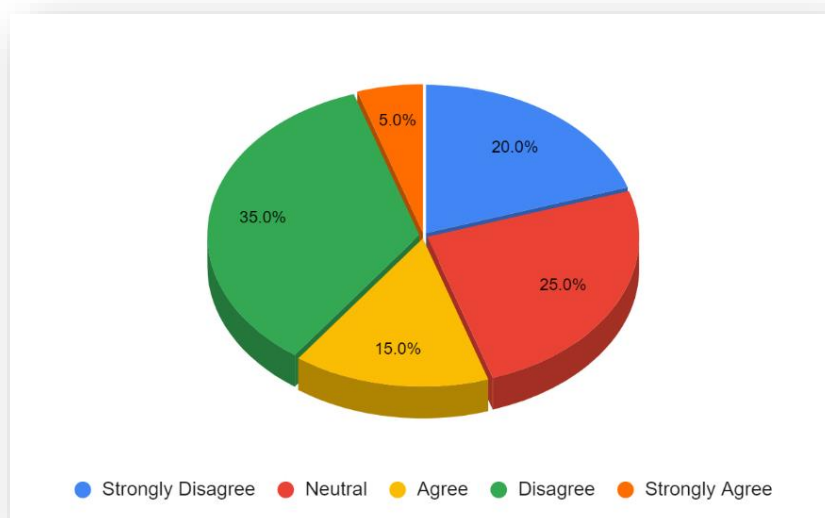
Figure 42*Wider Reach in Online Teaching*

Table 42 explores a mixed perception among educators about the ability of online teaching to expand their reach to a wider range of students. A minority (20%) either strongly disagrees or disagrees, suggesting doubts about the effectiveness of online teaching in reaching a broader audience. Conversely, a smaller group (20%) either strongly agrees or agrees, indicating recognition of the potential for online teaching to overcome geographical and

logistical barriers to education. The majority (60%) remains neutral, reflecting a balanced view that acknowledges both the potential benefits and challenges of using online platforms to extend educational opportunities.

Item 20: I believe online teaching will become an integral part of education in the future.

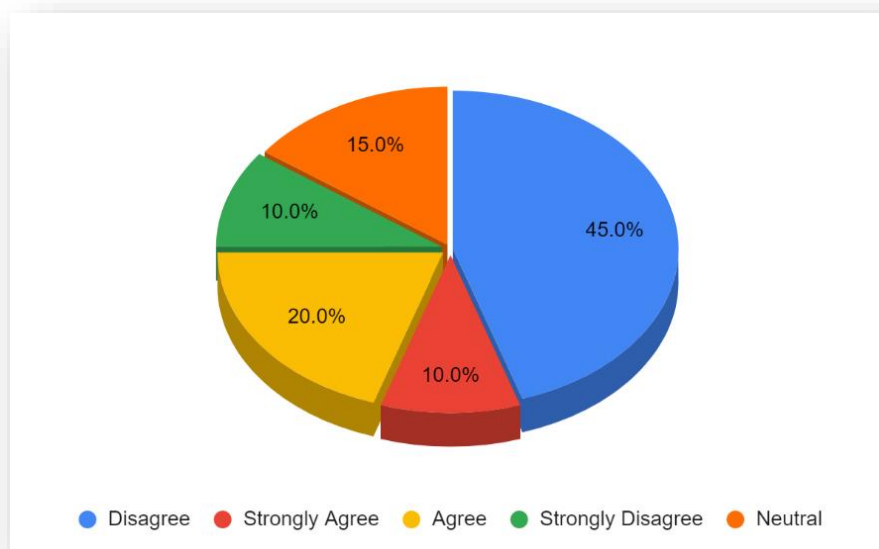
Table 43

Future Integration of Online Teaching in Education

Likert Scale	Percentage
Strongly Agree	10%
Agree	20%
Neutral	15%
Disagree	45%
Strongly Disagree	10%
Total	100%

Figure 43

Future Integration of Online Teaching in Education



As it can be seen in Table 43, the findings show a divided opinion on the future integration of online teaching in education. While 30% support its growing presence, nearly half (45%) are doubtful of online teaching becoming the main way we learn. The remaining quarter hold a neutral position, acknowledging both the pros and cons of increased online integration.

Item 21: I am ready to improve my online teaching experience by adopting innovative methods.

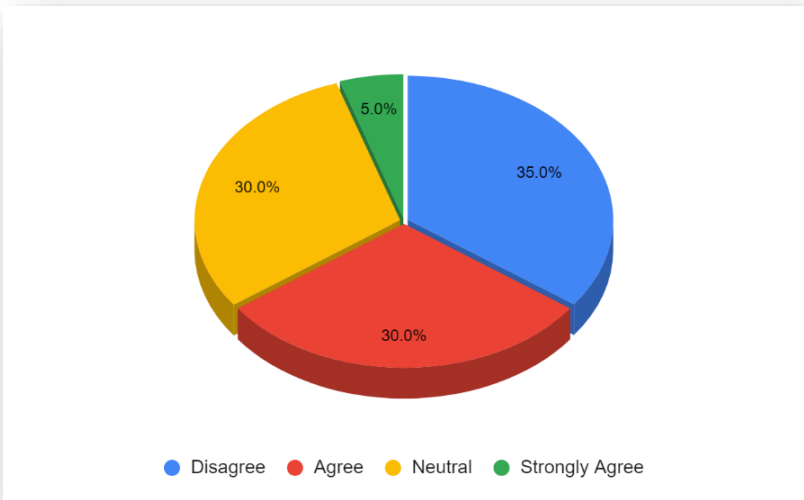
Table 44

Adopting Innovation for Better Online Teaching

Likert Scale	Percentage
Strongly Agree	5%
Agree	30%
Neutral	30%
Disagree	35%
Total	100%

Figure 44

Adopting Innovation for Better Online Teaching



The data presented in Table 44 offers a commitment among educators to enhance their online teaching experience through innovation, with a significant section (35%) either agreeing or strongly agreeing. However, an extensive minority (35%) either disagrees or strongly disagrees, indicating lack of enthusiasm or uncertainty about the value of adopting innovative methods in online teaching. The remaining 30% are neutral, reflecting a balanced attitude that acknowledges the probable benefits of innovation while considering the practical implications.

Item 22: I can deal with any technological problem that my students might have on their computers or phones.

Table 45

Technological Support for Students' Devices

Likert Scale	Percentage
Agree	50%
Neutral	5%
Disagree	45%
Total	100%

Figure 45

Technological Support for Students' Devices

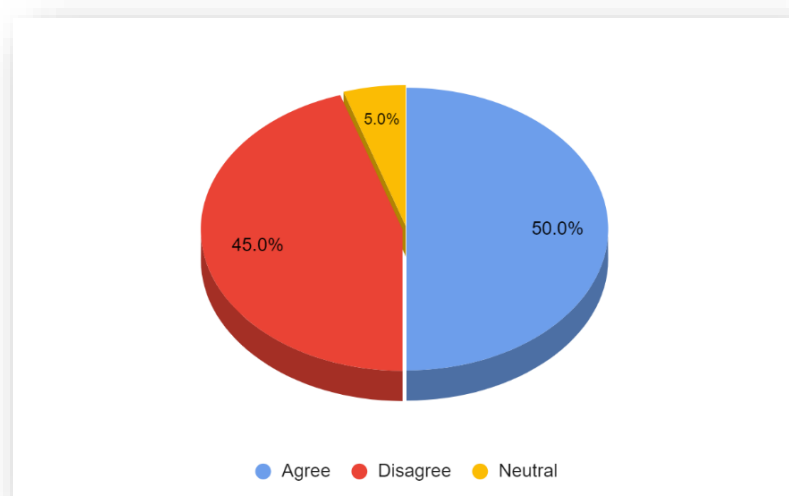


Table 45 examines a mixed confidence among educators in handling student device issues. While half (50%) express confidence in their troubleshooting abilities, the other half (50%) are unsure or lack confidence. This highlights the potential need for additional support or professional development to equip educators with the skills to address student technical challenges in online learning environments.

Item 23: I will recommend online learning to colleges to facilitate distance learning.

Table 46

Promoting Distance Learning via Online Education

Likert Scale	Percentage
Strongly Agree	20%
Agree	20%
Neutral	25%
Disagree	25%
Strongly Disagree	10%
Total	100%

Figure 46

Promoting Distance Learning via Online Education

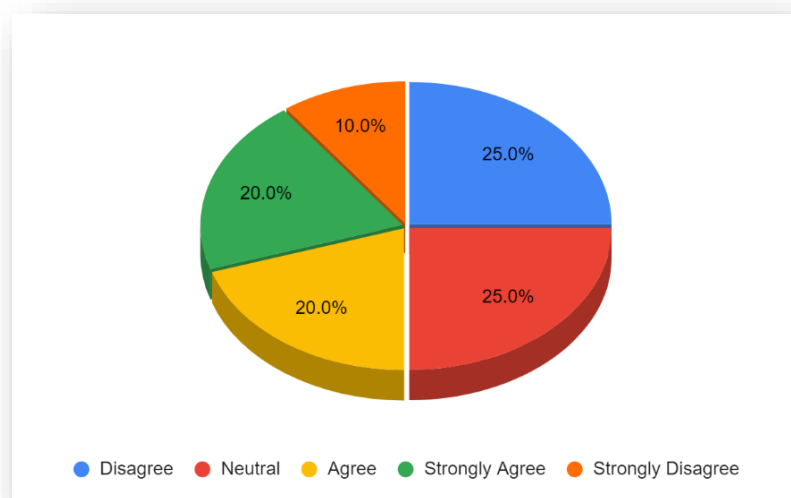


Table 46 explores how online learning for colleges offering distance education paints a neutral picture. While a quarter (25%) actively endorse online education, another quarter (25%) express reservations. The remaining half hold a balanced view, acknowledging both the potential and limitations of online learning in distance education.

The study results expose a diverse scope of perspectives and experiences among educators regarding online teaching. Most participants possess advanced academic qualifications and significant teaching experience, with many having adopted online teaching primarily due to the COVID-19 pandemic. A majority have engaged with online teaching for less than five years, indicating a recent shift towards digital education. While some educators feel confident in their online teaching abilities and recognize its potential for personalized learning and broader student reach, others express concerns about its effectiveness compared to traditional methods. The findings suggest a need for further professional development, particularly in basic online teaching skills and technical troubleshooting. Besides, the mixed views on the time and effort required for online teaching, as well as the impact on student engagement, highlight the complexities and challenges educators face in digital environments. There is also a divided opinion on the future integration of online teaching in education and the willingness to innovate within this space. The present data underlines the necessity for ongoing support and training to enhance educators' proficiency and confidence in online teaching.

3.5 Discussion of the Findings

This section of the study reviews and summarizes the crucial findings of the students and teachers' questionnaires. The hypothesis stands about how the shift to online learning has influenced instructional approaches and the perceived impact on students' academic performance. By reviewing responses from the student questionnaire and teacher interviews, this section provides a comprehensive summary of attitudes and opinions on the effectiveness of online education.

3.5.1 Students' Questionnaire

The detailed outline of students' experiences with online learning presents a comprehensive picture, capturing both the positive aspects and the challenges encountered. A significant percentage of students adopt online learning primarily for its flexibility and accessibility. This mode of education is particularly convenient as it allows learners to engage with their studies from various locations, at times that best suit their individual schedules. The frequency of smartphone usage for accessing online learning platforms is notable, highlighting the importance of mobile-friendly educational resources. However, this shift to online learning is not without its challenges. A notable minority of students face substantial barriers due to insufficient internet access and the lack of necessary electronic devices. These technological limitations delay their ability to fully participate in online education and benefit from its advantages.

On the positive side, many students appreciate the developed communication channels with their teachers that online platforms facilitate. They find that these platforms provide easier and sometimes more direct access to teachers, encouraging better interaction and support. A significant number of students prefer the online learning materials provided, which often include a variety of digital resources that can be returned as needed. Recorded video lessons, in particular, are valued for their ability to help in comprehension, as students can watch them multiple times to reinforce their understanding.

Despite these advantages, satisfaction with online education is mixed. Some students find it ineffective, citing difficulties in staying engaged and motivated without the structure of a traditional classroom setting. The COVID-19 pandemic exacerbated these issues by rapidly disrupting traditional schedules and forcing a rapid transition to online learning, which left some students struggling to adapt. The pandemic also accelerated the adoption of various online tools, making them essential components of modern education. However, the effectiveness of online

learning for activities that require collaboration, such as group work, and the quality of teacher-student interactions remains a major issue. Opinions are divided on whether online platforms can effectively support these aspects of education. The increased screen time and isolation from peers can contribute to stress and anxiety. As well, the role of social media as a distraction during online learning sessions is a significant issue, with many students finding it difficult to stay focused on their studies.

There are also social dynamics at play that affect the online learning experience. Students emphasize the need for universities to invest in improving online education. They recognize its potential to develop learning but also understand that diverse experiences require tailored solutions. This includes ensuring that teachers are proficient with online teaching tools and methodologies, as teacher proficiency directly impacts the quality of education. Confidence in the ability to complete courses independently through online platforms varies among students. This variation underscores the necessity for additional support and the development of self-learning skills to ensure that all students can succeed in an online learning environment. The feedback highlights the importance of providing sufficient resources and training to help students become more self-reliant and capable of navigating the challenges of online education independently.

3.5.2 Teachers' Questionnaire

The study results determine a rich collection of perspectives and experiences among educators regarding their engagement with online teaching. This diversity is underscored by the fact that most participants possess advanced academic qualifications and substantial teaching experience. Despite their expertise, many of these educators began to adopt online teaching primarily due to the demands of the COVID-19 pandemic, resulting in a significant shift from traditional classroom settings to digital platforms. It is noteworthy that most educators have been involved in online teaching for less than five years. This relatively short period suggests

that the transition to digital education is a recent development for many, resulting in the unprecedented circumstances of the global pandemic. The rapid shift has brought about a range of responses and adaptations among educators, highlighting both opportunities and challenges integral in online teaching.

On the one hand, some educators report a sense of confidence in their online teaching capabilities. They recognize the ability of digital platforms to provide personalized learning experiences and to reach a wider student audience. These educators see online teaching as a versatile tool that can enhance educational accessibility and cater to diverse learning needs. They appreciate the flexibility and innovation that digital education can provide, often pointing to the positive aspects such as the ability to include multimedia resources, interactive activities, and asynchronous learning opportunities. There are educators who express significant concerns about the efficacy of online teaching compared to traditional, face-to-face methods. These concerns often revolve around the perceived limitations of online platforms in fostering deep engagement and ensuring the same level of educational quality. Some teachers find the practical environment challenging for maintaining student interest and interaction, which they view as critical components of effective teaching and learning. They highlight issues such as the lack of immediate feedback, the difficulty in building a strong classroom community, and the challenges in assessing student understanding accurately.

The findings also present a clear need for further professional development, specifically in the areas of fundamental online teaching skills and technical troubleshooting. This need underscores the fact that while some educators have adapted well to online teaching, others require more support to navigate the digital landscape effectively. Basic skills such as managing virtual classrooms, using educational technology tools, and addressing technical issues are essential for enhancing educators' confidence and competence in online teaching environments. It highlights mixed views regarding the time and effort required for online teaching. Some

educators feel that the preparation and delivery of online lessons demand significantly more time and energy compared to traditional methods. This increased workload can be a source of stress and breakdown, particularly when combined with the need to continually adapt to new technologies and platforms. On the contrary, there are educators who find that once they become proficient with online tools, they can streamline their teaching processes and manage their time more efficiently.

The impact of online teaching on student engagement is another area of divided opinion. While some educators believe that digital platforms offer unique opportunities to engage students through interactive and multimedia content, others feel that the lack of physical presence delays meaningful interaction and connection. This contrast reflects the broader challenges and complexities of teaching in a digital environment, where traditional markers of engagement may not always translate effectively.

There is a split opinion on the future integration of online teaching in education. Some educators are enthusiastic about the potential for continued innovation and integration of online methods within the wider educational framework. They see digital education as a complement to traditional teaching, capable of enriching the overall learning experience. Conversely, other educators are more hesitant, uncertain about the long-term viability and effectiveness of online teaching as a primary mode of education.

The study underlines the necessity for continuing support and training to encourage educators' proficiency and confidence in online teaching. Designed professional development programs that address specific needs and challenges can help educators navigate the complexities of digital education, developing the quality and effectiveness of online learning experiences for students.

3.6 Pedagogical Implications and Recommendations

Evaluating the transformative effects of online learning on teaching approaches and student achievement, particularly among first-year students in the English Department of Biskra University, requires a challenging understanding of pedagogical implications and recommendations. Considering the results of the current study, further recommendations and suggestions are highlighted for later proceeding studies:

For teachers:

- ✓ Teachers should provide feedback for their students when learning online.
- ✓ Teachers should be given technological and pedagogical support when teaching e-learning courses.
- ✓ Teachers should be able to evaluate their students' needs and identify their learning preferences.
- ✓ Teachers should guide their students through their online learning process.
- ✓ Teachers should be contacted easily.
- ✓ Educators should be encouraged to participate in professional development opportunities to enhance their online teaching skills. This includes workshops, seminars, and online training modules that cover the effective design, delivery, and management of online courses.
- ✓ For online learning to be effective, educators must possess a deep understanding of how to use technology to enhance teaching and learning outcomes.
- ✓ The COVID-19 crisis has highlighted the importance of student-centred approaches and reflective practice in online teaching. Educators who are already engaged in these practices are better equipped to navigate the transition to online learning and to adapt their teaching methods to the digital environment.

For students:

- ✓ The learning environment should be developed in a way that facilitates and motivate students to gain new competencies and construct their knowledge.
- ✓ Students should be engaged in an authentic learning activities and tasks.
- ✓ Students should be involved in various training courses to empower their e-learning environment.
- ✓ Students should be more active and responsible for their learning process.
- ✓ Student-centred learning should be more focused on.
- ✓ Peer tutoring, peer feedback and group learning should be encouraged within e-learning environment.
- ✓ E-courses designs should meet students' needs, skills, knowledge.
- ✓ Learning outcomes should be regularly reviewed to ensure aptness and usefulness of e-learning.
- ✓ The functionality of the technological platforms used by students should be regularly assessed.

3.7 Limitations of the Study

Although the results of the study were quite interesting and played an essential role in describing the students' attitudes towards online leaning, like any other study, the present study faced some obstacles and restrictions in various forms.

- √ The inaccessibility of some sources such as books and articles which are not free of charge obliged the researchers to change some of the content.
- √ The unavailability of references for certain elements in the theoretical part.
- √ The questionnaires were delivered during exams period; it was not easy to interact with both educators and first-year students in the English Department.

3.8 Suggestions for Further Research

Online education is a transformative approach to learning that has rapidly expanded in recent years, especially due to the COVID-19 pandemic. As such, it offers numerous opportunities for further research from the perspectives of students, teachers, and its impact on teaching approaches and student achievement.

From the teachers' perspective, online education presents unique challenges and opportunities that secure further investigation. Research could focus on how educators adapt their teaching methods to suit virtual settings and how this shift influences their pedagogical approaches. For instance, studies might examine the effectiveness of various online teaching strategies, such as the use of multimedia, interactive quizzes, and collaborative projects, in engaging students and improving learning outcomes. Moreover, research could explore the professional development needs of teachers in online education. As educators transition to virtual teaching, they may require additional training and support to effectively use digital tools and design engaging online courses. Investigating the types of professional development opportunities available to teachers and their impact on teaching efficacy and student achievement is an important area for study.

From the students' perspective, research can investigate the impact of online learning environments on engagement, participation, and academic success. For example, a study could explore how different types of online instruction, such as synchronous (live, real-time teaching) and asynchronous (recorded lectures and self-paced activities), influence students' motivation and learning outcomes. Research could also examine the role of flexibility in online education, as it offers students the ability to manage their schedules and study at their own pace, which can positively or negatively affect their learning experiences. Another area for exploration is the influence of online learning on students' autonomy and self-regulation. Since online education often requires students to take more responsibility for their learning, research could

investigate how students' ability to manage their time, set goals, and monitor their progress impacts their achievement. Additionally, access to digital resources, such as recorded lectures, online libraries, and discussion forums, can provide students with various ways to enhance their understanding of the material and improve their performance on assessments.

Online education provides a rich field for research from both students' and teachers' perspectives. Exploring how online learning environments affect teaching approaches and student achievement can offer valuable insights into optimizing educational practices in the digital age. Researchers can contribute to the ongoing development of effective and innovative approaches to online learning by examining the various aspects of online education, such as student engagement, teaching methods, and the role of technology.

Conclusion

In conclusion, the main goal of this chapter was to analyse and discuss the findings results from the data that is acquired the students and teachers' questionnaires. Teachers and first-year students in the English Department of the University Mohamed Khider of Biskra were given a questionnaire for each, aimed to gather their different opinions about the concept of e-learning. the study's questionnaires and their analysis provide a foundation for understanding the complexities of online learning. The findings contribute to the broader discourse on the effectiveness of online education, the challenges faced by both students and educators, and the potential for improving online learning experiences. The methodology, including the questionnaires' design, validation, and administration, ensures the credibility and reliability of the results, setting a high standard for future research in this area.

General Conclusion

The current study aims at evaluating the transformative effects of online learning on teaching approaches and student achievement. This study is composed of three parts: two theoretical parts and a practical part. The first and second chapters are dedicated to the theoretical part, offering a comprehensive understanding of the concept of online learning. The third chapter focuses on the practical part, analysing and interpreting the data gathered from the two questionnaires to assess the impact of online learning on both teaching methods and student performance.

Chapter One explores the perspectives of educators and students towards online education. It begins by explaining what online education is, describing it as a type of learning that uses the internet and digital tools to teach students remotely. It outlines the main parts of online education, such as virtual classrooms, digital resources, and communication tools. It emphasizes the importance of online education, pointing out its role in providing flexible learning opportunities and helping students continue their education despite physical barriers like the recent global pandemic. The chapter also talks about different types of online learning, such as live classes, recorded lessons, and mix models that combine online and in-person teaching. Also, it discusses the pros and cons of online education. The benefits include easy access, convenience, and the ability to meet different learning needs. However, there are also downsides like lack of face-to-face interaction, technical problems, and difficulties in keeping students motivated. Teachers' views on online classes are examined, focusing on their experiences, challenges, and the methods they use to adapt to this type of teaching. Similarly, students' views are explored, looking at their satisfaction, the challenges they face, and their overall involvement in online learning. The chapter ends with a summary of these perspectives, preparing for the next chapter.

Chapter Two looks at the challenges, effective practices, and platforms related to online education. It begins by discussing the specific problems teachers face, such as needing to be good with technology, keeping students engaged, and adapting their teaching materials for online use. Students also face challenges, like dealing with technical issues, avoiding distractions at home, and staying disciplined. The chapter explains how teaching methods must be changed for online education, highlighting the need for interactive and engaging strategies to keep students interested. It also examines the impact of online education on student participation, noting how different approaches can help or hinder student involvement. Balancing the use of technology with proper support is another key point, as both teachers and students need reliable tech and good support to have smooth learning experiences. The chapter then outlines best practices for online education, giving tips for teachers to create engaging lessons and advice for students on managing their time and resources effectively. It also looks at various online learning platforms, discussing their features and how they help both teachers and students. The chapter concludes with a summary of the main points.

Chapter Three focuses on data analysis and discussion of the results. The introduction gives an overview of the research methods used to gather and analyse information from both teachers and students. It describes the people who took part in the study and how they were selected. The tools used to collect data, such as questionnaires for students and teachers, are explained in detail. Each questionnaire is described in terms of what it covers, and the chapter discusses how their reliability was ensured. It also explains how the questionnaires were given out and how the data was collected. The analysis of the responses from students and teachers is presented separately, highlighting key findings and trends. The discussion section compares these findings, looking at what they mean for online education practices. Recommendations are offered based on the study's findings, giving practical advice for improving online education. The chapter also addresses the limitations of the study, acknowledging any factors that might

have affected the results and suggesting improvements for future research. Finally, suggestions for further research are provided, identifying potential areas for continued study in online education. The chapter concludes by summarizing the main findings and their significance, covering up the study.

Regarding the first research question “What are the benefits and drawbacks of online university education as perceived by students and teachers?”, the results confirm that students and educators perceive several benefits and drawbacks associated with online university education. The advantages include flexible scheduling, access to diverse resources, and opportunities for personalized learning. However, challenges such as reduced social interaction, technological hurdles, and difficulties in maintaining engagement and motivation are also noted. This is based on the notion that online education is a combination of benefits and challenges. Addressing the second question, which is “How do the challenges of shifting to online learning impact educators' teaching approaches and influence student engagement and participation?”, the shift to online learning has indeed encouraged educators to refine their teaching methods and explore innovative instructional strategies. Many educators have developed student engagement and participation through dynamic virtual classroom environments. Yet, the effectiveness of these methods varies, with some educators expressing concerns about their impact compared to traditional teaching. This confirms the hypothesis that adapting to online learning presents opportunities for innovation, although with challenges that need addressing. In response to the research question number three, which is “What are the most suitable practices and platforms considered most effective in facilitating performance for both students and educators?”, effective online learning practices and platforms have been identified. Tools such as recorded videos and interactive platforms are appreciated for their role in facilitating learning and engagement. The need for ongoing investment in online education

infrastructure and support is also highlighted, confirming the hypothesis that certain practices and platforms are recognized for their effectiveness in the online learning environment.

The research emphasizes the importance of continuous support and development for both students and educators in the transition to online education. While online learning offers significant capability, its successful implementation requires addressing the challenges identified, investing in appropriate technologies, and fostering an environment conducive to innovative teaching and effective learning. The diverse experiences and perspectives of students and educators highlight the complexity of online education and the need for designed solutions to meet their varied needs.

In the light of the results obtained in this research, some pedagogical recommendations were suggested as the need to develop and make online learning more effective using more effective online educational technologies and providing good internet connection quality. It is hoped that the outcome of this study will provide useful guidelines for students, teachers, and administrators to include in the online learning process. It is also hoped that the results of this study will be used for further research.

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Appendices

Appendix A: Students' Questionnaire

Students' Questionnaire

Dear Students,

Thank you for taking the time to participate in this questionnaire. You are kindly invited to answer this questionnaire. Your feedback is valuable in understanding the perspectives of university students towards online education. Please indicate your level of agreement with the following statements using the scale provided. It would provide us with the data needed to investigate the transformative effects of online learning on teaching approaches and student achievement. Please give your answers sincerely in order to guarantee the success of this study. Your collaboration is much appreciated.

Please put a tick (✓) in the appropriate box or boxes if needed.

Section One: General Information

1) Have you ever experienced online learning?

a. Yes

b. No

2) Which electronic device do you have?

a. Smart phone b. Computer c. Laptop d. Tablet e. Nothing

3) Do you have access to Internet connection?

a. Yes

b. No

4) Do you have your teachers' email account?

a. Yes

b. No

5) Do you contact your teachers through online tools to get feedback or assessment?

a. Yes

b. No

6) How often do you use internet for studying?

a. Always b. Often c. Sometimes d. Rarely e. Never

7) How do you evaluate your online learning experience?

a. Poor b. Fair c. Good d. Very good e. Excellent

8) Which kind of online learning tools have you used for studying?

a. Facebook b. Google Meet c. Kahoot!

d. YouTube e. Zoom f. Other

9) How would you evaluate your understanding of the feedback and assessment given by teachers through online courses?

a. Poor b. Fair c. Good d. Very good e. Excellent

Section Two: Students' Perspective Towards Online Learning

➤ To what extent do you agree/ disagree with the following statements:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Corona virus widespread made it hard to attend all the classes like before with the same timetable and class number.					
Using online learning can make learning interesting and enjoyable.					
The use of online learning materials is easier than using books in the library.					
Using recorded videos helps students to understand the lessons in less time.					
Online learning helps students in group work and facilitates interaction with teachers.					
Teachers in the university are well educated about online learning and know how to use online learning materials.					
Online learning is economic in terms of time and money.					
Online learning is useful in terms of copying up missed lessons.					
Students get easily distracted by social media when they are using their phones.					
Girls cannot do video conferencing with male students because they might be misunderstood by their parents.					
Universities should invest more in the development and expansion of online education programs.					
The overuse of online learning technologies may cause you depression.					
Learning outcomes are the same whether in class or at home using the Internet.					
I could pass a course on the Internet without any teacher's assistance.					

Thank you for your kind participation.

Appendix B: Teachers' Questionnaire**Teachers' Questionnaire**

Dear Teachers,

Your participation in this questionnaire is greatly appreciated. It seeks to gather valuable data about university teachers' perspectives on online education, facilitating a deeper understanding of its transformative effects on teaching approaches and student achievement.

Your sincere responses will contribute to the success of this study, supporting the development of the current project at the university. All responses will remain confidential and only accessible to the project researcher, ensuring the integrity of the data collected.

Thank you in advance for your cooperation and for the time devoted to answer the questionnaire.

Please put a tick (✓) in the appropriate box or boxes if needed.

Section One: General Information

1) What is your academic qualification?

a. Magister b. PhD

2) How many years have you been teaching English?

a. 0-10 years b. 11-20 years c. 21-30 years

3) Have you ever experienced online teaching?

a. Yes b. No

4) What is your current level of experience with online teaching?

a. Beginner b. Intermediate c. Advanced d. Expert

5) Which platforms or tools do you use for online education?

- a. Zoom b. Google Meet c. Facebook
d. Moodle e. Kahoot! f. Other

6) How long have you been teaching online?

- a. Less than 1 year
b. 1-5 years
c. More than 5 years

7) What prompted you to start teaching online?

- a. Reach a wider audience
b. COVID-19 pandemic
c. Career advancement

8) How do you assess student learning and progress in the online environment?

- a. Quizzes and tests
b. Assignments
c. Discussions
d. Peer assessment
e. Other

9) How do you ensure effective interaction with students in the online setting?

- a. Regular emails/messages
b. Virtual office hours
c. Discussion forums
d. Live video sessions
e. Other

10) In your opinion, what are the essential qualities or skills required to be an effective online teacher?

- a. Adaptability
b. Communication skills
c. Technological proficiency

d. Patience

e. Other

Section Two: Teachers' Perspective Towards Online Teaching

➤ To what extent do you agree/ disagree with the following statements:

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Online teaching provides flexibility in delivering instructional content.					
I feel adequately trained and prepared to effectively teach online.					
Online teaching enhances students' engagement and participation.					
Online teaching allows for effective assessment and feedback.					
I find online teaching to be as effective as traditional classroom teaching.					
Online teaching requires additional time and effort compared to traditional teaching.					
I am confident in my ability to manage online classroom dynamics.					
Online teaching offers opportunities for personalized learning experiences.					
Online teaching helps me reach a wider range of students.					
I believe online teaching will become an integral part of education in the future.					
I am ready to improve my online teaching experience by adopting innovative methods.					
I can deal with any technological problem that my students might have on their computers or phones.					
I will recommend online learning to colleges to facilitate distance learning.					

Thank you for your kind participation.

ملخص الدراسة

نجاح أنظمة التعلم عبر الإنترنت يعتمد على تجارب ومواقف كل من الطلاب والأساتذة. يركز هذا البحث على مواقف الأساتذة وطلاب السنة الأولى في قسم اللغة الإنجليزية بجامعة محمد خيضر ببسكرة تجاه التعلم عبر الإنترنت. الهدف الرئيسي للدراسة هو تقييم التأثيرات التحويلية للتعلم عبر الإنترنت على أساليب التدريس والتحصيل الأكاديمي للطلاب، بالإضافة إلى تسليط الضوء على تصورات ومواقف الطلاب والأساتذة تجاه التعليم عبر الإنترنت. هدفت الدراسة إلى تحديد العوامل المؤثرة في هذه المواقف، وكذلك تسليط الضوء على الممارسات غير الملائمة في التعليم عبر الإنترنت واقتراح الأساليب الأكثر فعالية لكل من الأساتذة والطلاب، وأيضاً المنصات الأكثر ملاءمة لتسهيل هذه العملية. يميل الباحث إلى استخدام المنهج الكمي. في هذه النقطة، تم توزيع استبيانين على 100 طالب و30 أستاذ. أشارت النتائج إلى أن طلاب السنة الأولى لديهم مواقف إيجابية بشكل عام تجاه التعلم عبر الإنترنت، ومواقف مختلطة فيما يتعلق بوجهات نظر الأساتذة. بالإضافة إلى ذلك، حددت الدراسة العوامل الرئيسية المؤثرة في هذه المواقف، بما في ذلك الكفاءة في استخدام التقنيات التعليمية عبر الإنترنت، جودة نظام التعلم عبر الإنترنت، جودة اتصال الإنترنت، ومستوى التفاعل مع المعلم. أخيراً، تم مناقشة التوصيات، الحدود، والاقتراحات للبحوث المستقبلية.