
**A Comparative Analysis of
E-learning and Conventional
Teaching Methods in
Higher Education**

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Abstract

The rapid advancement of technology has transformed the landscape of education, with e-learning emerging as a popular alternative to conventional teaching methods in higher education. With the widespread availability of online resources, e-learning has gained popularity as an alternative or complementary method to traditional face-to-face instruction. However, the extent to which e-learning can match or surpass the outcomes achieved through conventional teaching methods remains an open question. This study aims to address this gap in knowledge and provide a comprehensive analysis of both approaches. This comparative analysis research specifically investigates and compares the effectiveness, advantages, and challenges associated with e-learning and conventional teaching methods in the higher education context. By examining these factors, the study intends to provide insights into the strengths and weaknesses of each method, contributing to the understanding of their implications for teaching and learning in higher education. Research was conducted with the assistance of teachers from three higher educational

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institutions in Anambra State, Nigeria. A questionnaire survey was designed and distributed to voluntary respondents, keeping in mind key areas of conventional and e-learning teaching methods. The data was analysed using simple sampling proportions and Modality of Preference theory, propounded by Neil Fleming (1987). The theory was designed to help students and others learn more about their individual learning preferences. Findings indicate that adopting contemporary digital technology in higher education offers greater benefits, but teachers should take into account student requirements, class objectives, and potential challenges before choosing a teaching technique. It equally advocates the cooperation of both teaching approaches for optimal learning outcomes. The study will contribute to a deeper understanding of the benefits and limitations of both approaches, offering insights to educators, institutions, and policymakers for informed decision-making.

Keywords: **Comparative analysis, Conventional** teaching methods, E-learning, Modality preference, Higher education.

Introduction

In recent years, the field of education has witnessed a remarkable transformation with the advent of e-learning technologies. Traditional classroom-based teaching methods, which have been the cornerstone of higher education for centuries, are now being challenged by the rapid advancement of digital platforms and online learning environments. This shift has sparked a growing interest among researchers, educators, and policymakers in understanding the

implications of e-learning and its potential to revolutionize the educational landscape. However, the effectiveness and impact of e-learning in comparison to conventional teaching methods remain topics of considerable debate and investigation, a gap this study is trying to cover by providing a comprehensive analysis of both approaches.

The conventional teaching method, characterized by face-to-face interactions in a physical classroom setting, has long been considered the old standard of education. It allows for direct engagement between instructors and students, fostering dynamic discussions, immediate feedback, and collaborative learning experiences. However, this approach is not without its challenges. Limited access, geographical constraints, and scheduling conflicts are some of the barriers that students face in pursuing higher education through traditional means.

On the other hand, e-learning presents a digital alternative that overcomes many of the limitations associated with conventional teaching methods. Through online platforms, students can access course materials, lectures, and interactive resources anytime and anywhere, thus providing flexibility and convenience. Moreover, e-learning opens up opportunities for collaborative learning, personalized instruction, and the integration of multimedia elements, enhancing student engagement and knowledge retention.

While the potential benefits of e-learning are evident, it is imperative to critically examine its limitations. Issues such as lack of face-to-face interactions, potential for technological difficulties, and the need for self-discipline and motivation pose challenges that may hinder the learning experience for some students. Therefore,

understanding the comparative advantages and disadvantages of both e-learning and conventional teaching methods is crucial in designing effective and inclusive educational strategies.

The purpose of this research paper is to conduct a comparative analysis of e-learning and conventional teaching methods in higher education. By examining the benefits and limitations of each approach, this study aims to provide valuable insights into the following research objectives by:

- i. identifying the extent to which study material is available for students in online learning compared to conventional learning.
- ii. discussing the impact of online instruction on student performance in comparison to traditional teaching.
- iii. analysing the contributions of online instruction in motivating students' learning.
- iv. explaining how students comprehend the meaning of instructional concepts during online instruction?

To address these research objectives, the study employ a qualitative research method. A research question was developed using questionnaires for the lecturers, in order to allow for a comprehensive analysis of their perspectives, experiences, and perceptions. The effect of online teaching on students' academic performance compared to traditional teaching, will be analysed using these questions:

- i. Does online learning give students more access to study material in comparison to conventional learning?
- ii. When compared to traditional teaching, does online instruction significantly improve student performance?

- iii. Does online instruction increase students' learning motivation?
- iv. Do students comprehend the meaning of instructional concepts better during online instruction?
- v. Is monitoring students' attendance more effective in online teaching than in conventional teaching?

Overview of E-learning and Conventional Teaching Method

E-learning Teaching Method:

The Internet has become one of the most important methods for educators and students to share and acquire research and learning resources (Richard & Haya, 2009). Technology-based e-learning entails the use of the internet and other significant technologies to create learning materials, instruct learners, and manage courses within an organization (Fry, 2001). There has been much discussion concerning a consistent definition of the word "e-learning." Existing definitions, according to Dublin (2003), tend to disclose the researchers' speciality and interests. As a concept, e-learning encompasses a wide range of applications, learning methodologies, and procedures (Rossi, 2009). As a result, it is difficult to identify a widely accepted meaning for the term elearning, and according to Oblinger & Hawkins (2005) and Dublin (2003), there is no such definition. In response to these contradictions, Holmes & Gardner (2006) stated that there may be as many definitions of the term e-learning as there are scholarly articles on the issue.

The following are some definitions of the term e-learning as provided by various researchers and institutions. Oblinger & Hawkins (2005) noted that e-Learning has evolved from a completely online course to the use of technology to transmit a portion or the entirety of a

course independent of a fixed time and location. In addition, the European Commission (2001) defines e-Learning as the use of new multimedia technologies and the Internet to improve the quality of learning by facilitating access to facilities and services as well as remote exchanges and collaboration. Abbad et al. (2009) defined e-learning in its broadest sense as any learning that is facilitated electronically. According to Maltz et al. (2005), the term 'e-learning' is used in a variety of contexts, such as distributed learning, online-distance learning, and hybrid learning. OECD (2005) defines e-learning as the use of information and communication technologies in diverse educational processes to support and enhance learning in institutions of higher education. This definition includes the use of information and communication technologies as a supplement to traditional classrooms, online learning, or a combination of the two. According to Liu % Wang (2009), the characteristics of the e-learning process are primarily focused on the internet; global sharing and learning resources; information broadcasts and knowledge flow via network courses; and, finally, flexibility of learning as a computer-generated environment for learning is created to overcome issues of distance and time.

E-learning has recently become an integral part of this generation's daily learning cycle. Consequently, it enables instructors to impart their knowledge in a variety of formats and platforms. According to Tagoe (2012), the type of learning made possible by information and communication technology (ICT) through the internet, intranets, extranets, and numerous other platforms is what improves the quality of instruction and learning. Horton (2005) defines e-learning as the use of the Internet and digital technologies to create educational experiences for other individuals; implying that e-learning is not limited to the

traditional classroom setting, but can also be used in churches, mosques, and markets to educate, inform, and collect valuable information from people. E-learning, as opined by (Terande, 2012) has the potential to revolutionize how we teach and learn. It can be viewed as a teaching method in addition to a learning method. Furthermore, Olaniyi (2006) opine that the use of network technologies to create, foster, disseminate, and facilitate learning at any time and in any location is e-learning.

E-learning significantly contributes to the educational development of any nation. Additionally, it offers opportunities for developing nations to advance their educational development. It can also play a significant role in preparing a new generation of educators and refining the skills of the current teaching force to utilize 21st-century learning tools and pedagogies. Thus, the educational trend is shifting. Thanks to the Internet and other modern technologies, education is no longer confined to the four walls of a classroom.

Conventional Teaching Methods

Conventional teaching, also known as traditional teaching, is a teaching approach that involves instructors and students engaging face-to-face in the classroom. These teachers begin classroom conversations and are solely concerned with the content of textbooks and notes. According to McCarthy & Anderson, (2000), students passively absorb the information and recite the information they have memorized on examination. Laurillard, (2013) posits that in today's classrooms, technology is not a novelty, but many education systems are still constrained by traditional teaching and learning methodologies. Many teachers are still teaching their students in the same manner as how they

were taught and how their own teachers were taught, not much of progress in terms of the teaching perspectives (Anglin & Anglin, 2008).

Furthermore, Chiang et al., (2010) noted that transformation to less conventional methods of teaching results in fear and reluctance from teachers, who find the change hard and risky. Devinder & Zaitun (2006) noted that many lecturers are still using conventional teaching and have noted that in conventional teaching classrooms, while the lecturer is explaining and writing on the board, students will be copying the same thing onto their notes, some day-dreaming and some sleeping. It would be difficult to stop students from copying the notes from the board and at the same time ensured that every student was paying attention in the class because the lecturer was too busy explaining the lecture.

Conventional teaching is also limiting the room for more creative thinking and also seldom considering individual differences. It is necessary to realize these limitations in conventional teaching and take a step to move forward.

Benefit and Limitations of E-learning and Conventional Lecture-Based Instruction:

E-learning has gained popularity in recent years as an alternative to conventional lecture-based instructional methods. In this comparative analysis, we will examine the benefits and limitations of e-learning and conventional lecture-based instruction, despite the fact that both modalities are now a component of teaching in higher education.

Advantages of E-Learning:

- i. Flexibility and Convenience: When compared to traditional

classroom environments, online learning offers more flexibility and convenience. Personalised learning is made possible by the ability of students to access course materials and lectures on their own terms and schedule. This flexibility meets the requirements of those who might have career or family obligations, allowing them to juggle their commitments while completing their education.

- ii. Access to Resources: Students now have a wider selection of courses and subjects to choose from thanks to online learning. Without regard to location, students can access specialised programmes from renowned institutions all around the world. They can explore a variety of interests and learn more than is accessible locally thanks to the variety of possibilities open to them. There may be restrictions on the kinds of courses and universities that can be studied using traditional techniques.

Students get access to a wide variety of digital resources and content through online learning. To better grasp the material, they can explore multimedia resources, interactive modules, and online libraries. Additionally, virtual communities and discussion boards are frequently provided by online platforms, fostering networking and collaboration opportunities between students and teachers.

- iii. Personalised Learning: Online learning systems can make use of adaptive learning strategies, which mould the educational

process to the demands of certain students. These platforms can recognise students' strengths and shortcomings and give tailored information as a result by utilising data analytics and algorithms. By focusing on particular areas where students might need more help, this personalised approach can enhance learning outcomes.

- iv. **Improved Time Management and Self-Control:** Students who learn online must have strong time management skills and self-control. As a result of having to arrange their own study schedules and adhere to deadlines, students who learn in this way develop self-motivation and accountability. These abilities can be useful in a variety of spheres outside the classroom.
- v. **Geographical Flexibility:** Because there are no geographical restrictions with online learning, students can take advantage of educational possibilities from any location in the world. This is especially helpful for people who live in remote places or who are unable to move for their education. Additionally, it enables global partnerships and the discussion of other viewpoints.

Disadvantages of E-Learning:

- i. **Limited interaction:** Face-to-face interaction between students and teachers is absent from e-learning courses, which may make learning more difficult. This can be a big problem,

especially for students who want a more sociable learning environment or who need more individualised attention.

- ii. Technical challenges: Problems with a poor internet connection or faulty software might make learning difficult. Additionally, it might be less beneficial for students who have restricted access to technology or who lack the technical know-how to make efficient use of online materials.
- iii. Self-discipline: E-learning calls for a high degree of self-control and motivation from students, which might be difficult for some people.
- iv. Limited feedback: Students may find it challenging to assess their progress in e-learning courses because the instructor rarely provides comments.

Advantages of Conventional Lecture-Based Instruction:

- i. Interactive learning: Conventional lecture-based instruction allows for face-to-face interaction with the instructor and other students, which promotes active learning and discussion.
- ii. Immediate feedback: Students receive immediate feedback from the instructor, which helps them understand the material better.
- iii. It provides a structured and systematic approach to learning.

They are particularly effective for learners who prefer a more traditional classroom setting and who benefit from direct instruction and guidance from instructors.

- iv. It also provides opportunities for learners to interact with their peers and engage in group activities, which can enhance the learning experience.
- v. Structured learning: Conventional lecture-based instruction follows a structured curriculum, which helps students stay organized and on track.
- vi. Personalized attention: Instructors can provide personalized attention to students, which helps them understand the material better.

Disadvantages of Conventional Lecture-Based Instruction:

- i. Limited flexibility: Because they need students to attend classes at set times and locations, traditional lecture-based instruction techniques can be less accommodating and flexible than e-learning. Students with difficulties with their schedules or those unable to attend in person may not be able to access them.
- ii. Passive learning: Since traditional lecture-based training is frequently passive, students might not actively participate in the learning process.
- iii. Conventional lecture-based teaching strategies also largely rely on the instructor's capacity to provide compelling and

effective lectures, which might be difficult for some teachers.

- iv. Limited access to course resources: Students may not have access to course materials outside of class, which could impede their ability to review and revisit topics.
- v. Cost: Traditional lecture-based training necessitates a physical infrastructure, which can be pricey.

Review of the Related Literature

There is a dearth of current research on the differences between students' learning environments in traditional classrooms and online. Comparable research studies have explored differences in how students perceive and react to instructions in various learning environments. The following list includes several studies comparing online learning to traditional classroom instruction:

Justin Anene et al., (2018) conducted a comparative analysis of the difficulties with e-learning in Nigerian universities, focusing on the difficulties that students encountered. According to their findings, the sustainability of e-learning was not given priority; they lacked access to relevant content for ICT-enhanced learning and training; and they also lacked access to affordable, dependable PCs.

A 2016 empirical study by Wai Kit Wong & PohKiat Ng looked at how students studying electrical engineering online differed from those studying it traditional classroom setting. The results demonstrated that e-learning produced much better performance and agreeability than

traditional learning.

Through teacher and student perceptions, Ryan Otter et al, (2013) compared online and traditional courses. They employed 7-point likert scales to assess student motives for enrolling in online courses, faculty members' assessments of online versus traditional courses, student perceptions of online courses, and demographic data. They came to the conclusion that traditional learning is less difficult and more complicated than online instruction.

According to a 2016 study by Alsaaty et al., (2016) titled "Traditional versus Online Learning in Institutions of Higher Education: Minority Business Students' Perceptions," teachers disagreed on which form of teaching technique is best. Some contend that online learning is superior, while others assert that the best way to provide knowledge is through a hybrid model that combines online learning with in-person lectures.

Redding & Rotzien (2001) compare the educational outcomes of a course offered over the Internet to those of a similar course delivered in a classroom. The fact that the online students were self-selected was the main explanation for the superior level of cognitive learning attained by the online group. The instructional design of the online course, which incorporated adult motivation and learning theories, was also associated with improved learning outcomes.

To the knowledge of the researcher, none has studied the comparative study of the two methods; (e-learning and conventional teaching methods) with the ultimate goal of advocating for their combined use to maximise student learning outcomes, a gap this study want to fill.

Theoretical Framework

There are numerous methods to classify learning styles, but Neil Fleming's VARK model is one of the most well-known. In 1987, Fleming introduced an inventory designed to assist students and others better understand their individual learning preferences.

According to the VARK model, learners are identified by whether they have a preference for:

- i. Visual learning (pictures, movies, diagrams)
- ii. Auditory learning (music, discussion, lectures)
- iii. Reading and writing (making lists, reading textbooks, taking notes)
- iv. Kinesthetic learning (movement, experiments, hands-on activities)

The VARK model suggests that these four different sensory modalities learning preferences reflect how students learn best.

Within the context of learning, advocates of modality preference assume that individuals have a dominant sense: visual, auditory, or kinesthetic – and that new material should be presented through this preferred modality for learning to be maximised (Barbe & Milone, 1981; Dunn & Dunn, 1978). Based on this premise, individuals are classified as visual, auditory or kinaesthetic learners according to the sensory modality most closely aligned to learning. Thus;

- i. An Aural (or auditory) learners learn best by hearing information and through listening or participating in discussion. They tend to get a great deal out of lectures and are good at remembering things they are told.
- ii. The visual learners learn best by seeing. This type of learning

would rather see information presented in a visual rather than in written form. They prefer graphic displays such as charts, diagrams; illustrations, hand-outs, videos and other visual means of communication and interactions are all helpful learning tools for visual learners.

- iii. Reading and writing learners prefer to take in information that is displayed as words and text.
- iv. Kinesthetic (or tactile) learners learn best by touching and doing. Hands-on experience is important for kinesthetic learners.

While individuals are expected to retain more information from material presented in their preferred modality, it should be noted that learning of material presented via non-dominant modalities still occurs.

Research Methodology

The research method to be used in this study is qualitative research method. To determine the efficacy of both online teaching and traditional teaching on the learning processes of students, the study requires human participants. Therefore, the sample used for this study consists of sixty (60) teachers; twenty (20) from each university, randomly chosen from three different universities: Madonna University (Okija campus), Chukwuemeka Odimegwu University, Igbariam, and Nnamdi Azikiwe University, Awka, all in Anambra State. All these teachers have had the opportunity to teach students both in the classroom and online using various e-learning gadgets.

A questionnaire consisting of five (5) questions was developed and sent to gather information from the teachers' respondents through

their various WhatsApps. The data were evaluated using a five-point scale of five options, which are: strongly agree (SA); agree (A); neutral (N); disagree (D); and strongly disagree (SD), to analyse the teachers' responses to the question.

Data Analysis

Question No. 1

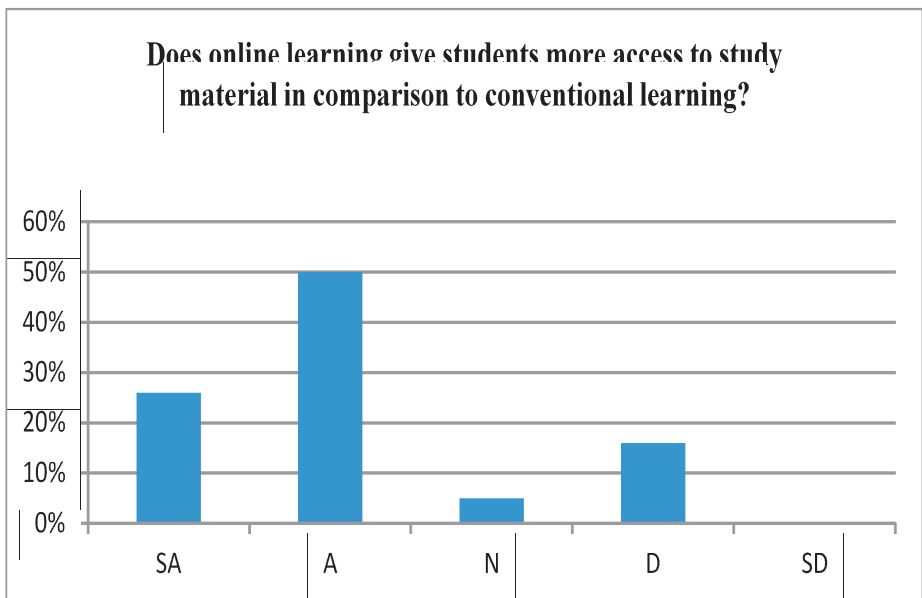
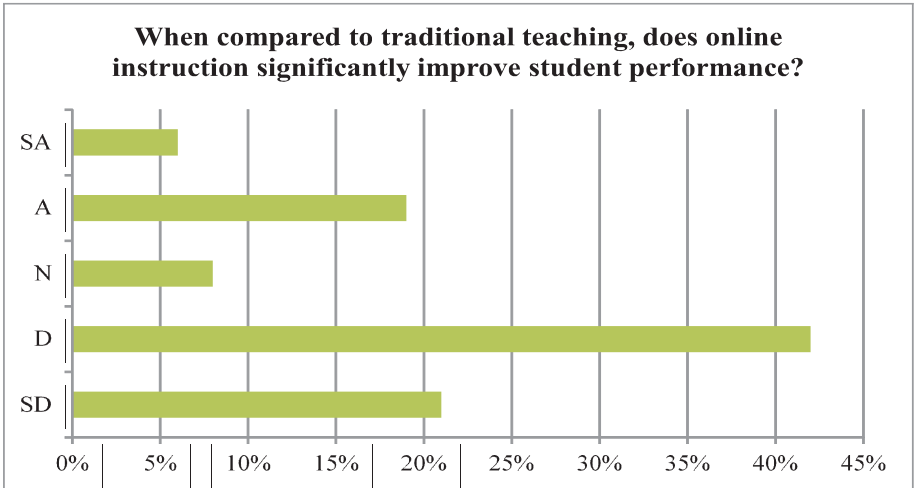


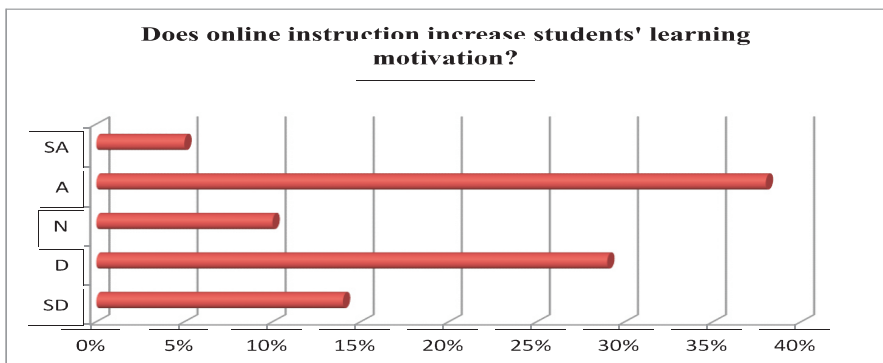
Table 1 shows the percentage mean of the respondents concerning whether online learning provides the students with more material for learning. 50% agree that online learning provides students with more study material, while 16% disagree. 5% are neutral, 26% strongly agreed, and nobody strongly disagreed in this particular question.

Question No. 2:



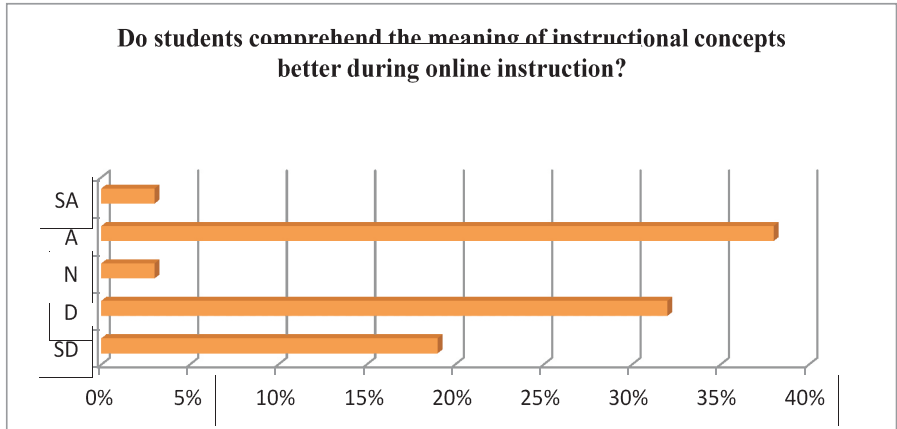
The second research question was designed to investigate the improvement in performance during online learning compared to traditional learning methods. 42% of respondents disagreed, 19% agreed, 6% strongly disagreed, and 21% strongly agreed that performance was greatly improved, while 8% remained neutral.

Question No.3



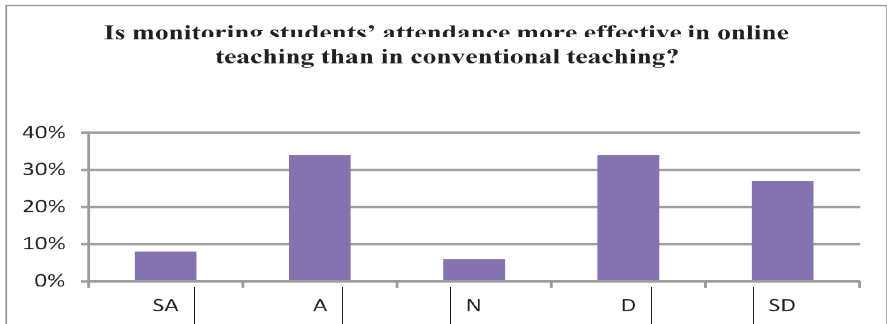
The majority of the respondents 38% agreed that motivation for learning is enhanced through online teaching; 5% strongly agreed; 29% disagreed; 14% strongly agreed; and 14% are neutral.

Question No. 4:



38% of respondents agreed on an increase in the interpretation of concepts, and 32% disagreed that online teaching aids the remembrance of concepts taught. 3% strongly agreed, 19% strongly disagreed, and 3% were neutral.

Question No. 5:



This question was to establish the attendance rate in online learning compared to traditional teaching. The majority of the participants are of the opinion that attendance and concentration rates did not improve during online teaching compared to traditional teaching. Thus, 8% strongly agreed, 21% agreed, 34% disagreed, and 27% strongly disagreed that monitoring students' attendance was more effective during online teaching. 6% were neutral.

Discussion of the analyses

The results of the study as analysed show the significant difference between online teaching and traditional teaching. Due to the limited time of this study, the sample size was limited, which might not be a true representative of teachers globally.

1. Assessing whether online learning provides students with greater access to study materials than conventional learning; According to the feedback, online platforms offer an abundance of multimedia resources, such as videos, interactive assessments, and virtual simulations. These resources can increase interest and comprehension while catering to various learning preferences. Traditional learning methods, on the other hand, rely primarily on textbooks and classroom lectures, which may not appeal to all students or adequately cover complex concepts.

There are many different variables to consider when comparing the effectiveness of online instruction on student performance to traditional instruction; some students may have thrived in an online learning

environment, while others may have experienced difficulties.

Secondly, various learners may not find online learning to be a good fit for their preferences and skills because of different learning styles. There is a funding issue; since online learning heavily depends on having access to a dependable internet connection, devices (like computers or tablets), and necessary software, students with limited access to these resources may struggle to fully engage in online learning, which may have an impact on their performance.

Another issue is involvement and engagement; face-to-face interactions, quick feedback, and collaborative activities are frequently provided in conventional teaching, all of which can improve student engagement and comprehension. Online instruction might need more work to keep students interested, and some students might find it difficult to interact with others in person.

2. On the research question three: the majority of respondents believed that the desire of students to use digital technologies like WhatsApp, Instagram, Twitter, Facebook, etc. may be a motivation factor for their want to study through online education because of the desire of modern age innovations.

Online instruction gives students the freedom to access learning materials and pursue learning at their own pace and convenience. This flexibility can inspire students who like to learn at their own pace or who have other obligations that make attending traditional classes difficult.

Once more, online platforms frequently provide personalised feedback and adaptive learning technologies, enabling students to receive teaching that is specifically suited to meet their needs. Students'

motivation to study and succeed might be increased when they see that their particular learning needs are being met.

Additionally, multimedia, interactive exercises, and gaming components are frequently included in online instruction to enhance the learning experience. When compared to traditional classroom techniques, these interactive tools offer a more engaging and dynamic learning environment, which can inspire pupils. Regardless of distance, online learning settings frequently give students the chance to connect and work with their classmates. The sense of community, support, and social contact that can be fostered by this connectivity may have a good effect on student motivation.

3. On the evaluation of whether online instruction aids students' comprehension of instructional concepts, the majority of respondents concurred that online instruction offers certain benefits that can aid students' comprehension of instructional concepts. For example, online platforms frequently provide access to a variety of multimedia resources, such as videos, simulations, and interactive tools, which can be utilised to reinforce the concepts being taught. Beneficial for comprehension, students can review these materials at their own pace, rewinding or replaying them as required.

In addition, online instruction can facilitate self-directed learning. Students can independently engage with the material, investigate additional resources, and assume responsibility for their learning process. This degree of independence can be empowering for some students and lead to a deeper comprehension of instructional concepts.

4. On the evaluation of the question of whether monitoring students' attendance is more effective in online teaching than in traditional teaching, the majority of respondents disagreed, citing the potential for students to cheat or impersonate others as a challenge to ensuring the accuracy of attendance records, whereas traditional teaching relies on visual identification and physical presence, which may make it more difficult for students to cheat.

Despite the fact that online learning has become increasingly popular recently, particularly with the development of technology and wider access to the internet, the effectiveness of online learning ultimately depends on a number of factors, including the learner's preferred learning style, the subject being taught, the calibre of the online resources, and the degree of student engagement. Self-motivated students who are adept at managing their time and utilising digital resources could find it more fit. But a blended learning strategy that blends traditional and online instruction could offer a more thorough and well-rounded educational experience by using the advantages of both strategies.

Conclusion

The decision between conventional lecture-based education and e-learning, which have both benefits and limitations, mostly depends on the learning objectives, the target audience, and the available resources. Although e-learning offers convenience and easy access to a variety of multimedia tools, it might not be as successful for students who want more individualised attention or who prefer a more social learning

environment. However, they may not be as adaptable or accessible to all learners as traditional lecture-based instructional approaches, which offer a planned and methodical approach to learning. The most successful teaching strategies are those that cater to the particular requirements and preferences of each learner.

Neither online learning nor traditional learning can be deemed to be more effective than the other. The learning topic and the method used to determine its efficacy will undoubtedly affect this. However, generally speaking, it appears that online education is a full-fledged replacement for traditional classroom instruction. There is strong and convincing research that shows that employees learn just as much online as they do in traditional training.

While there are many benefits to online learning, there are also difficulties. As students must efficiently manage their time and maintain engagement without the actual presence of a teacher, it necessitates self-discipline and motivation. The learning process can also be hindered by technical problems and the lack of internet connection in some areas. Furthermore, it may be more difficult to properly teach some courses online, such as practical skills or experiments that take place in a lab.

In conclusion, this research paper contributed to the ongoing discourse on e-learning and its potential impact on higher education. By conducting a comparative analysis of e-learning and conventional teaching methods, it aimed to provide valuable insights into their advantages, limitations, and overall effectiveness. The findings of this study will serve as a valuable resource for educational institutions, policymakers, and instructors as they navigate the evolving landscape of teaching and learning in the digital age.

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