Acceptance of the use of Virtual Mode of Learning among Student Nurses in Lagos State College of Nursing, Igando

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Abstract
This study explores the acceptance of virtual learning among student nurses at Lagos State College of Nursing (LASCON). Specifically, it examines students' knowledge, perception, and acceptance levels regarding the use of virtual learning platforms. A descriptive survey design was employed, with a sample of 133 Basic Nursing students. Data were collected using a structured questionnaire and analyzed using frequency tables, percentages, and correlation analysis. Findings indicate that respondents demonstrated a high level of knowledge and a generally positive perception toward virtual learning. Furthermore, most students showed a strong level of acceptance, although a minority reported lower acceptance. The study concludes that while student nurses at LASCON possess good knowledge of virtual learning, this does not significantly influence their perception. Overall, the results highlight a favorable outlook toward the adoption of virtual learning among the students.

Keywords: education, tutor, virtual learning, student nurse, e-learning

Chapter one
Introduction
1.1 Background of the Study
Learning is a continuous process of acquiring knowledge and skills that enable individuals to understand and perform tasks previously unfamiliar to them (Moro, Stromberga, & Stirling, 2017). Effective learning typically involves three key components: motivation, clearly defined goals, and adequate engagement. When these conditions are met, education becomes a meaningful and enriching experience. In recent years, educational practices have been transitioning from traditional classroom-based instruction to online learning environments. This shift includes the use of digital platforms such as Google Meet, Google Classroom, and Zoom, among others (Guarino et al., 2014). Educators are increasingly adopting innovative methods to enhance student learning outcomes and ensure content mastery. Technological advancements in both hardware and software have created new opportunities to develop interactive learning systems that are not restricted by time or physical space (Chittaro & Ranon, 2007; Mosquera, 2017). In Nigeria, the adoption of virtual learning platforms in educational settings has historically been limited, primarily due to cost-related challenges and educators' unfamiliarity with such systems. The growth of Information and Communication Technology (ICT) has significantly advanced distance education worldwide. Over the past few decades, educational institutions across the globe have responded by integrating online courses into their curricula, both for on-campus and remote

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learners. Many postgraduate students now prefer online learning due to benefits such as reduced tuition costs, flexible learning schedules, and exposure to diverse perspectives. Research suggests that online learning can be just as effective as face-to-face instruction. However, concerns remain regarding the quality of virtual education, particularly due to challenges like limited interaction and communication, which can affect learners' engagement and success—especially for international students dealing with cultural and social interaction differences in virtual environments (Zaborova & Markova, 2016). Virtual learning has gained momentum and is now a growing phenomenon in higher education, largely driven by ICT integration (Markova, Glazkova, & Zaborova, 2017). ICT tools, particularly multimedia applications, have the potential to enhance learning efficiency, increase motivation, promote active engagement, and foster independent, student-centered learning. These technologies also encourage critical thinking and logical reasoning. The use of interactive media in learning environments makes educational experiences more engaging and flexible, allowing learning to occur anytime and anywhere while improving overall quality and outcomes (Sutarno, 2011; Huang et al., 2018). According to UNESCO (2015), ICT encompasses a range of technological tools and resources used to communicate, create, disseminate, store, and manage information. Modern educators are expected to design activities that support not only content knowledge but also the development of 21st-century skills. This includes leveraging frameworks like the SAMR model (Substitution, Augmentation, Modification, Redefinition) to prepare students for critical thinking, digital literacy, and real-world problem-solving.

These tools include computers, internet-based resources (websites, blogs, social media, Google Classroom), virtual platforms (Zoom, VEDAMO), and communication technologies such as radio, television, video conferencing, podcasts, and more. The increasing demand for virtual learning among undergraduate students has positioned online education as a significant mode of instruction in today‘s technology-driven academic environment (Aheto-Domi et al., 2020; Platt, Raile, & Yu, 2014). While e-learning can be facilitated through the internet or other communication technologies, it does not always require online access (Falch, 2004). Gillingham and Molinari (2012) define virtual learning as the use of technological tools—primarily network-based—for instructional purposes. They argue that virtual learning is a pedagogical process supported by digital technology, including both online and offline tools such as CD-ROMs and DVDs. This perspective highlights that virtual learning is fundamentally rooted in ICT and continues to evolve with technological advancements. As such, students‘ access to resources like computers, internet connectivity, data, smartphones, and other digital tools plays a critical role in shaping their learning behaviors and preferences. Gillingham and Molinari further assert that the selection of appropriate technologies to support student learning should consider learners' preferences and experiences, which are often influenced by multiple factors. However, limited research exists on students' specific preferences for e-learning delivery modes. Understanding these preferences is essential to aligning instructional strategies with students' needs and ensuring effective learning experiences. Educational institutions must therefore identify and accommodate students' preferred modes of virtual learning to avoid mismatches that may hinder engagement and academic performance.

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1.2 Statement of the Problem

While virtual learning offers a range of opportunities compared to traditional face-to-face instruction (Kumar & Al-Samarraie, 2018; Yamo, 2017), its implementation is not without significant challenges. One major concern is the difficulty lecturers face in delivering detailed explanations and contextual examples, which are often more effectively communicated through in-person interactions. Kebritchi, Lipschuetz, and Santiague (2017) identified key issues related to course content development, the integration of multimedia, instructional strategies, and compatibility with students' diverse learning styles—all of which impact the adoption and effective use of learning management systems, especially in developing countries such as Nigeria. Moreover, virtual learning platforms must present content in a way that actively supports skill development. However, several constraints—including limited access to stable internet, complex and time-consuming content development processes, and inadequate technical support—pose serious barriers to the successful implementation of virtual learning in many African higher education institutions. Other critical challenges include ineffective assessment mechanisms, delayed feedback, and their subsequent impact on students‘ academic performance (Chawinga, 2016). These issues have contributed to a growing reluctance among students, particularly nursing students, to fully engage with virtual learning environments. The perception and acceptance of virtual learning among Nigerian student nurses remains a subject of ongoing debate, as highlighted in previous research (Oni & Mavuyangwa, 2019; Padayachee, 2017). Barriers such as limited awareness, insufficient institutional support, inadequate funding, poor infrastructure, minimal commitment to fostering interactive learning environments, and unreliable internet access continue to hinder progress in this area.

Given these persistent challenges, it is essential to further explore how nursing students in Nigeria perceive and accept virtual learning. This study, therefore, seeks to assess the level of acceptance and the factors influencing the use of virtual learning among student nurses at Lagos State College of Nursing, Igando.

1.3 Objective of the Study

The primary objective of this study is to examine the level of acceptance of virtual learning among student nurses at the Lagos State College of Nursing, Igando. The specific objectives are to:

1. Assess the level of knowledge possessed by student nurses at LASCON regarding the use of virtual learning platforms.
2. Explore the perceptions of student nurses at LASCON toward the implementation of virtual learning.
3. Determine the extent to which virtual learning is accepted by student nurses at LASCON.

1.4 Research Questions

This study seeks to answer the following research questions:

1. What is the level of knowledge among student nurses regarding the use of virtual learning platforms?
2. How do student nurses perceive the use of virtual learning in their academic experience?
3. To what extent do student nurses accept and utilize virtual learning as part of their education?

1.5 Research Hypotheses

The following null and alternative hypotheses guide this study:

- **H_0:** There is no significant relationship between students‘ academic level and their

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knowledge of virtual learning in Lagos State College of Nursing (LASCON).

- **H_1:** There is a significant relationship between students' academic level and their knowledge of virtual learning in LASCON.
- **H_0:** The level of knowledge of student nurses has no significant effect on their perception of virtual learning in LASCON.
- **H_1:** The level of knowledge of student nurses significantly affects their perception of virtual learning in LASCON.

1.6 Significance of the Study

Virtual learning has emerged as a powerful tool in the development of human capital by enhancing the delivery of educational content and fostering innovation in teaching. When effectively implemented, virtual learning allows nursing educators to improve instructional strategies, adapt content delivery, and promote student engagement (Loogma, 2012; Agostini & Nosella, 2020). For nursing students, virtual learning offers multiple advantages, such as flexible access to educational resources, personalized learning experiences, and the development of critical thinking through diverse online platforms. The significance of this study lies in its potential to inform stakeholders—including academic institutions, nursing education policymakers, professional bodies, and government authorities—about the current level of acceptance and challenges associated with virtual learning among nursing students. By identifying factors that affect the use of virtual learning platforms, this research contributes valuable insights for future academic planning, capacity building, and policy formulation. It also serves as a resource for researchers, educators, and curriculum developers seeking to optimize virtual learning practices within nursing education. Moreover, it aims to support institutional efforts to improve infrastructure, awareness, and adoption of virtual learning systems in Nigeria's nursing schools.

1.7 Scope of the Study

This study focuses on assessing the acceptance of virtual learning among student nurses at the Lagos State College of Nursing, Igando. The research is geographically limited to this institution, and the population under study consists of Basic Nursing students currently enrolled at the college.

1.8 Operational Definition of Terms

- **Education:** The structured process through which individuals acquire knowledge, skills, values, and behaviors via methods such as teaching, discussion, and research.
- **Information and Communication Technology (ICT):** A collective term for technologies that enable the storage, retrieval, transmission, and manipulation of information, including telecommunications, computers, software, and internet-based applications.
- **Learning:** The process through which individuals develop new knowledge, skills, attitudes, or understanding through experience, study, or instruction.
- **Student Nurse:** An individual enrolled in a formal nursing education program that leads to professional certification and licensure in nursing practice.
- **Tutor:** An educator who provides individualized or small-group instruction to assist learners in mastering specific subjects or skills.
- **Virtual:** Refers to something that exists digitally or through simulation, rather than in physical form.
- **Virtual Learning:** A digital learning environment supported by web-based platforms, offering structured educational resources, activities, and assessments that facilitate teaching and learning remotely.

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Chapter Two
Literature Review
2.1 Conceptual Review

Advancements in modern information and communication technologies (ICT) have significantly enhanced opportunities for effective communication, particularly within virtual learning environments. Research suggests that communication and interaction in virtual settings can be more student-centered, less intimidating, and promote greater engagement compared to traditional classroom interactions (Markova, 2016; Ni, 2013). However, to fully harness the potential of ICT in education, deliberate efforts are required to integrate its capabilities meaningfully. Guri-Rosenblit (2009) cautions that not all forms of interaction contribute to improved learning outcomes. The effectiveness of interaction—whether on-campus or remote—depends largely on its quality and relevance. ICT encompasses the tools and systems, both hardware and software, that facilitate the electronic processing, transmission, and presentation of data and information (Lobato Rubio, 2008). Over the past two decades, the World Wide Web has become central to global education, enabling widespread access to hypermedia resources and extensive information networks (Oprea, 2014). While several models have been developed to assess the acceptance of e-learning systems, many focus solely on the technological dimensions, neglecting the socio-cultural contexts in which learners operate. Although the internet is a global tool, its effectiveness must be evaluated locally, as users often engage with it within national or community-specific frameworks. Effective virtual learning is also supported by regular, detailed, and constructive feedback. Such feedback—particularly when it is timely and specific—enables students to monitor their learning progress and take responsibility for self-improvement. For distance learners, the need for collaboration and a sense of community is even more pronounced (Valentine, 2002; Liaw & Huang, 2013). Therefore, issues of interaction and collaboration must be thoroughly considered in the design of instructional content and student support services. Student support plays a critical role in learner satisfaction and success in online environments. According to Tait (2000), student support encompasses a broad range of services that supplement core learning materials and should be accessible to all learners, not only those with special needs. He identifies three key functions of student support: cognitive (through tutoring and assessment), affective (promoting motivation and confidence), and systemic (ensuring access to information and resources). Thorpe (2012) emphasizes that due to the high level of interaction required for effective online learning, student support should be integrated into the instructional design rather than treated as an ancillary component. This integration reduces learners‘ anxiety around using ICT tools and enhances their engagement and enjoyment in online learning experiences. Ongoing assessment is essential in fostering critical thinking and deep engagement with content in virtual learning environments (Tai & Ting, 2019). To meet students‘ diverse learning needs, educators must employ various assessment methods aligned with individual or group-based distance learning approaches. However, not all assessment types are equally effective or motivating. Research indicates that students often perceive assessments as indicators of their academic ability; hence, low scores can negatively impact their confidence and engagement. The literature suggests that assessment should prioritize supporting learning over merely measuring outcomes.

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Effective assessment should be continuous, purposeful, and include challenging tasks that actively involve students. This approach not only encourages greater effort and study time but also promotes deeper learning strategies rather than superficial engagement. While these strategies have shown promising results for full-time students, there is still a lack of comprehensive data on the most effective assessment practices within virtual learning environments. Nonetheless, it is evident that quality learning in online settings is closely tied to the presence of meaningful interaction between students and instructors.

Virtual Mode of Learning

Virtual learning has been conceptualized in various ways, often interchangeably with terms such as e-learning, online learning, technology-enhanced learning, and distance education (Moore, Dickson-Deane, & Galylen, 2011). Lim and Yoon (2012) describe virtual learning primarily in terms of content delivery, defining it as the dissemination of educational materials through electronic media, including intranets, extranets, the internet, satellite broadcasts, social media platforms, audiovisual tapes, interactive television, and CD-ROMs. According to Meyen (2013), virtual learning involves the acquisition and application of knowledge through digital means. Khan (2015) expands on this by framing virtual learning as a learner-centered, interactive, and flexible instructional model that leverages various technological tools to provide education to anyone, anywhere, and at any time. This model is designed to support open and distributed learning systems. In today‘s world, education and technology are deeply interconnected. The integration of technology into education enhances the learning process by making it more dynamic, meaningful, and future-oriented. Virtual reality, in particular, has emerged as a powerful educational tool, offering immersive experiences that boost student engagement and focus. It enables learners to interact with simulated environments and virtual tools that would otherwise be inaccessible (Ahn & Cho, 2015). Pantelidis (2010) posits that virtual reality promotes motivation through interactive and participatory learning, sometimes encouraging collaboration and social engagement through platforms such as text-based communication in virtual worlds. It allows for personalized pacing, offers accessibility to learners with disabilities, and bridges cultural and linguistic gaps by providing equitable communication opportunities (Kim & Ko, 2012). Virtual learning also supports self-directed and self-regulated learning, facilitating independent engagement (Mncedisi & Olufemi, 2020). It has been shown to increase student motivation and participation (Adigun, 2020; Millham et al., 2014), while also enhancing access to education through cost-effective and flexible modalities. However, the success of virtual learning depends heavily on educators, who must take responsibility for designing learning objectives, content, instructional processes, assessments, and feedback mechanisms. As such, the implementation, management, and sustainability of virtual learning systems in higher education institutions are largely contingent upon the commitment and capacity of academic staff. Technological advancements have further simplified distance education. Many learning formats—such as online learning, open learning, blended learning, and mobile learning—share the core principle of using networked computers to enable flexible, location-independent, and self-paced learning (Cojocariu, Lazar, Nedeff, & Lazar G., 2014). Virtual learning thus fosters a

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more student-centered, innovative, and adaptable educational experience.

Singh and Thurman (2019) define online learning as an educational experience conducted in synchronous or asynchronous formats via devices like smartphones and laptops with internet access, allowing learners to engage with peers and instructors from any location. Synchronous environments feature live lectures and real-time interaction, offering immediate feedback. Conversely, asynchronous settings are more flexible but lack real-time communication, as learning materials are accessed at the student‘s convenience (Littlefield, 2018). In response to global disruptions such as the COVID-19 pandemic, the need for robust online platforms became paramount. Basilaia et al. (2020) emphasize the importance of platforms that support video conferencing with large groups, facilitate class discussions, offer reliable internet connectivity, support mobile access, allow lecture recordings, and enable real-time student feedback and assignment submissions. While several studies have explored students' experiences with virtual learning (Arthur-Nyarko & Kariuki, 2019; Bagarukayo & Kalema, 2015), significant knowledge gaps remain, particularly regarding educators' experiences—especially within the Nigerian context. Marimo et al. (2013) argue that instructors‘ behavioral intentions, attitudes, and perceptions significantly influence their adoption and use of virtual learning platforms. These factors determine how educators implement and engage with e-learning systems. However, Mncedisi and Olufemi (2020), along with Sife et al. (2007), report that many African higher education institutions face substantial challenges in integrating ICT into teaching. These include inadequate training, limited technical infrastructure, and insufficient institutional support. Such constraints hinder academic staff's capacity to effectively adopt virtual learning tools, thereby affecting their awareness, experience, and attitudes toward e-learning. Makgato (2014) similarly identifies the lack of technical assistance as a major barrier to the effective utilization of virtual learning platforms in several higher education institutions.

Challenges of the Virtual Mode of Learning

One of the significant challenges in virtual learning environments relates to cultural perceptions of participation and knowledge sharing. In many educational settings, particularly those emphasizing collaborative learning, students are encouraged not only to pursue personal understanding but also to contribute to the collective learning of their peers. Collaborative learning has been widely recognized for fostering deeper understanding, critical thinking, knowledge retention, and the development of interpersonal and social skills. It also cultivates positive attitudes towards learning and facilitates relationship-building among learners (Johnson et al., 2000; Kreijns et al., 2003; Chi-Jen Lin & Gwo-Jen Hwang, 2018). In the Nigerian context, students are encouraged to be self-directed and to engage actively in group discussions. Instructors often adopt a facilitative role, similar to a guide or moderator, actively participating in discussions by providing feedback and acknowledging student contributions. This is akin to the metaphor of "King Arthur and the Knights of the Round Table," where every participant holds equal responsibility in the learning dialogue. Regular feedback and peer support have been shown to enhance motivation and increase course completion rates. However, some students—especially those unfamiliar with this egalitarian model of education—struggle to adapt to the social and participatory nature

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of online learning. This challenge is particularly evident among learners who are accustomed to more hierarchical, teacher-centered classroom structures. Educators may even need to persuade mature learners that collaboration is an essential component of postgraduate education (Damary & Pryadilina, 2014). Academic writing also poses a considerable challenge in virtual learning environments. Nigerian students often display varying levels of proficiency in writing, from participating in discussions to composing academic essays and research theses. While language may not be the primary barrier, cultural influences on rhetorical style and textual organization often impact the quality of written work. These differences are evident in paragraph structure, argument development, use of transitions, and citation practices. Many students struggle with structuring essays, often failing to adhere to the basic principle of developing one idea per paragraph. This reflects a broader issue of inadequate writing instruction and poor assimilation of academic content. Another pervasive issue is plagiarism, exacerbated by the vast availability of online resources. Students often succumb to the temptation of copying and pasting content directly from the internet into their assignments. This behavior is comparable to simultaneous interpretation, where the interpreter relays the speaker's words without fully processing them. In contrast, effective academic writing requires careful analysis, internalization, and re-expression of information—similar to consecutive interpretation, which demands deeper understanding and memory. A further cultural challenge lies in students' expectations of the instructor‘s role. In traditional Nigerian classrooms, teachers are often perceived as authoritative figures who dispense knowledge. In contrast, virtual learning requires educators to act as facilitators, guiding students as they construct their own understanding. This shift can be difficult for students who are used to hierarchical, teacher-dominated settings. In such environments, the teacher-student relationship is more egalitarian, with students expected to take greater responsibility for their learning. However, some learners fail to adopt this active role, resulting in feelings of isolation, frustration, and poor academic performance. These difficulties can be explained by cultural dimensions such as **Power Distance**. Students from low Power Distance cultures—where equality and autonomy in learning are emphasized—are generally more comfortable with student-centered approaches. They are more likely to initiate discussions, challenge opinions, and ask questions. Conversely, students from high Power Distance cultures tend to rely heavily on the teacher's authority and are often hesitant to question or contradict instructors. Such cultural expectations can significantly hinder virtual interactions and negatively impact learning outcomes (Zhu, Valcke, & Schellens, 2010; Kanwal & Rehman, 2017). Assessment in virtual education also presents considerable challenges. While online platforms are generally effective for administering multiple-choice questions, short-answer tests, and certain types of formative assessments, they fall short in delivering comprehensive theoretical examinations—especially when students take exams from home without supervision. This limitation has spurred interest in developing technologies that can monitor learners remotely during assessments. Emerging solutions include the use of Internet of Things (IoT) technologies, such as motion sensors and monitoring systems, to track student behavior during exams. These systems can log learner activity, detect unauthorized movements, and send real-time alerts to ensure academic integrity (Pelgrum, 2011). However, the adoption of

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such technologies is still in its infancy, especially in low-resource settings like many Nigerian institutions.

In summary, while virtual learning offers flexibility and expanded access to education, its effectiveness is hindered by cultural expectations, writing and academic integrity challenges, misconceptions about the instructor‘s role, and limitations in conducting secure assessments. Addressing these issues is essential to improving the quality and sustainability of virtual education in Nigeria and similar contexts.

Barriers to the Integration of Virtual Learning

The integration of virtual learning faces numerous challenges, which can be broadly categorized into four domains: students, instructors, curriculum, and institutions (Assareh & Bidokht, 2011). At the student level, key barriers include insufficient digital literacy, limited access to technological infrastructure and internet connectivity, and a general lack of motivation to engage with e-learning platforms. Assareh and Bidokht (2011) further explain that these barriers can be both **material** and **non-material**. Material barriers involve inadequate access to ICT tools and infrastructure, while non-material barriers pertain to gaps in educators‘ knowledge and pedagogical skills required for online teaching. In terms of student-related barriers, issues such as financial constraints, inadequate learning support, limited exposure to online learning environments, isolation from peers, and lack of interaction all hinder meaningful participation. For educators, challenges include insufficient technical competence, lack of confidence, time constraints for lesson planning, and difficulty in assessing students effectively in virtual formats. Curriculum-related barriers encompass ambiguity in content delivery, poor instructional design, limited resources, and inadequate evaluation methods. Institutional barriers include structural inefficiencies, lack of administrative support, and poor policy frameworks for e-learning integration. Quadri et al. (2017) identify four major categories of barriers to virtual learning implementation: student-related, teacher-related, technological/infrastructure challenges, and institutional governance issues. Their findings indicate that infrastructural and technological limitations are the most significant hindrances, while students‘ ICT skills were found to be the least concerning. Notably, the lack of time for developing digital content emerged as a major constraint for educators. Hadija and Shalawati (2017) also highlight the difficulties faced by teachers in integrating virtual learning. A significant issue was the limited time available to prepare technology-based lessons. Additional barriers included insufficient professional development in digital pedagogy, inadequate technical resources, lack of support systems, and low levels of digital proficiency and confidence among educators.

Addressing Barriers to Virtual Learning Integration

While virtual learning presents certain challenges, especially during crises, its benefits are undeniable. Rather than dismissing its limitations, pragmatic solutions must be adopted to overcome them. Technical difficulties can be mitigated by pre-recording lectures, testing content before delivery, and having contingency plans in place to ensure continuity in the teaching-learning process. To increase engagement, online courses should be designed to be interactive, dynamic, and student-centered. Educators are encouraged to create detailed schedules and send timely reminders to keep students informed and organized. Humanizing the virtual classroom experience is essential—

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personalized support and proactive communication via social media platforms and messaging apps can enhance student engagement and reduce feelings of isolation. Course content should not only be informative but also skill-enhancing. Continuous improvement in content quality and instructional strategies is vital. Effective online programs must be designed to promote creativity, collaboration, relevance, and peer interaction (Partlow & Gibbs, 2003; Brain et al., 2020). Teachers should dedicate significant time and effort to developing pedagogically sound approaches to virtual instruction. This includes fostering regular feedback, encouraging student inquiries, and expanding learners' intellectual engagement with the subject matter (Keeton, 2004; Dhawan, 2020). Institutions must also play a proactive role by focusing on pedagogical innovation and promoting interactive learning models such as case-based learning, collaborative projects, and inquiry-driven instruction (Kim & Bonk, 2006; Dhawan, 2020). The real challenge for educational institutions lies not just in adopting new technologies but in rethinking educational delivery to support both students and faculty effectively in the digital age.

2.2 Theoretical Review

Theoretical frameworks serve as essential tools in explaining, predicting, and understanding complex phenomena, while also guiding the extension of knowledge within defined conceptual boundaries. In the context of this study, two key theoretical perspectives—**Constructivist Theory** and **Technology Acceptance Theory**—are employed to explain the behavioral intentions of learners toward virtual learning environments. Both frameworks provide insights into the factors that influence the acceptance, engagement, and effectiveness of virtual learning systems. Prior studies (e.g., Islam, 2013; Weibel, Stricker, & Wissmath, 2012) have demonstrated that learners‘ perceptions of ease of use, usefulness, enjoyment, playfulness, system quality, information quality, and service delivery significantly influence attitudes toward digital learning technologies. Liaw and Huang (2014) further emphasized that self-efficacy plays a critical role in shaping learner attitudes toward technology-based educational platforms.

Constructivist Theory of Virtual Learning

Constructivist theory posits that learners actively construct knowledge by connecting new information with prior understanding, rather than passively receiving content (Huang, Rauch, & Liaw, 2010). This learner-centered approach underlines the importance of personal experience, reflection, and contextualization in the learning process. Research supports the idea that constructivist principles are central to effective virtual learning environments (Cheng & Wang, 2011; Huang et al., 2010). Dewey (1916) emphasized that the primary aim of education is to foster reasoning and problem-solving skills. He argued that learners must be intrinsically motivated and that learning activities should stem from the learners‘ own interests to be meaningful. This philosophy supports the integration of real-world problem-solving and discovery-based learning, both of which enhance motivation and self-efficacy. Constructivism also highlights the **social nature of learning**. Vygotsky's social constructivist theory outlines three zones of learning: tasks a learner can perform independently, tasks that cannot be achieved even with assistance, and tasks that can be completed with guidance from peers or instructors. This "zone of proximal development" underscores the importance of interaction and collaboration in the learning process.

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Studies have shown that **interaction**, **perceived self-efficacy**, and **motivation** are foundational to creating an effective constructivist learning environment (Chu & Chu, 2010; Liaw & Huang, 2013; Wu, Lee, Chang & Liang, 2013). Problem-based learning is often employed within constructivist pedagogy to simulate real-life contexts and promote critical thinking (Herrington & Oliver, 2000; Diep et al., 2017). In this approach, learners are guided to identify, analyze, and solve problems collaboratively—skills that are vital for lifelong learning.

Perceived Self-Efficacy

Self-efficacy, defined as a learner's belief in their ability to succeed, is a significant predictor of performance in virtual learning settings. High levels of perceived self-efficacy are associated with improved learning outcomes, persistence, and positive attitudes toward digital learning tools (Liaw & Huang, 2013; Chu & Chu, 2010). Learners with strong self-efficacy are more likely to engage with course materials, set academic goals, and persist in the face of challenges.

Learning Motivation

Keller's ARCS model (Attention, Relevance, Confidence, Satisfaction) provides a framework for enhancing motivation in learning environments. According to this model:

- **Attention** is gained through perceptual arousal (novelty, surprise) and inquiry arousal (engaging questions, problem-solving activities).
- **Relevance** ensures the learning content aligns with learners' needs and life experiences.
- **Confidence** develops as learners gain mastery and feel capable of success.
- **Satisfaction** arises from intrinsic enjoyment and extrinsic rewards, reinforcing continued engagement.

These elements are crucial in virtual environments, where maintaining learner interest and self-regulation is more challenging due to reduced face-to-face interactions.

Technology Acceptance Theory (TAM)

The **Technology Acceptance Model (TAM)** provides a widely accepted framework for understanding how users come to accept and use technology. Developed by Davis (1989), TAM posits that an individual's intention to use a system is primarily influenced by two key perceptions: **Perceived Usefulness (PU)** and **Perceived Ease of Use (PEOU)**.

- **Perceived Usefulness (PU)** refers to the degree to which a user believes that using a system will enhance their performance—in this case, learning effectiveness.
- **Perceived Ease of Use (PEOU)** is the extent to which a user believes that engaging with the system will be free of effort.

Importantly, PEOU directly influences PU; if a system is easy to use, it is more likely to be perceived as useful. These two perceptions shape the user's **attitude toward the technology**, which subsequently determines their **behavioral intention** and ultimately, **actual system use**.

TAM also recognizes the influence of **external variables**—such as system design features, user experience, training, and environmental context—on both PU and PEOU (Wojciechowski & Cellary, 2013). Numerous empirical studies have validated TAM across various contexts, including virtual learning, confirming its relevance in predicting user engagement and satisfaction. In summary, TAM illustrates how the successful adoption of virtual learning systems depends not only on technological functionality but also on user perceptions

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and attitudes, which are shaped by both system design and contextual factors.

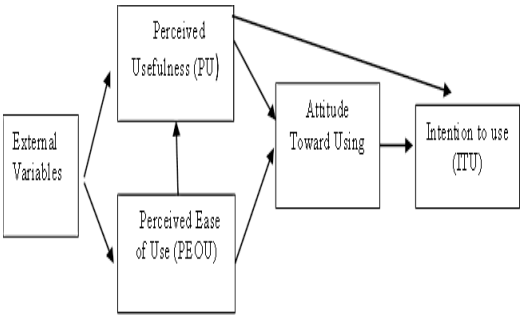

Figure 1: Technology Acceptance Theory

Application of Theory to the Study

The application of both **Constructivist Theory** and the **Technology Acceptance Model (TAM)** provides a robust framework for understanding learner behavior in virtual learning environments. From a **constructivist perspective**, learners play an active and central role in constructing knowledge. Learning occurs when new information is integrated with prior knowledge, enabling students to derive meaning and develop cognitive structures that support deeper understanding. Motivation plays a pivotal role; unmotivated learners are less likely to engage meaningfully with problems unless the content aligns with their interests and real-life experiences. This theoretical lens also emphasizes that **learning is inherently social**, and that interactions with peers and instructors are critical for promoting engagement, collaboration, and knowledge construction. Additionally, constructivism underscores the importance of **self-efficacy**—the belief in one's ability to succeed—as a core determinant of learners' persistence, strategy use, and academic success. When learners feel competent and confident, they are more likely to develop positive attitudes toward virtual learning and actively participate in it. Complementing this, the **Technology Acceptance Model (TAM)** explains how learners' perceptions influence their adoption and use of virtual learning systems. Specifically, **Perceived Usefulness (PU)**—the belief that the system will enhance learning performance—and **Perceived Ease of Use (PEOU)**—the belief that the system is user-friendly—are primary factors shaping learners' attitudes and intentions to engage with the technology. These attitudes ultimately affect learners' behavioral intention to use and their actual engagement with virtual learning environments. By integrating both theories, this study explores how **learner motivation, self-efficacy, perceived usefulness, ease of use, and learner–system interaction** collectively shape students' attitudes and acceptance of virtual learning platforms.

2.3 Empirical Review

A number of empirical studies have contributed to the understanding of virtual learning and its associated dynamics in various educational contexts.

Leonard (2017) conducted a qualitative descriptive study to evaluate the impact of virtual learning environments (VLEs). The findings revealed that students expressed enthusiasm and motivation when engaging with VLEs and advocated for their broader inclusion in classroom instruction. However, despite students' familiarity with digital technologies, challenges were encountered in adapting to certain educational tools. Notably, limited access to laboratory facilities, computers, and stable internet connections were identified as persistent obstacles. Nonetheless, when these constraints were addressed, students reported a highly satisfactory experience with technology-mediated learning. **Nguyet et al. (2017)** examined the **quality of online interaction among adult learners**, applying both **social cognitive theory** and **social capital theory**. The study explored variables such as trust, reciprocity, sense of belonging, altruism, and perceived learning

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benefits. The results indicated that only **sense of belonging** and **perceived learning benefits** significantly predicted learners' perceptions of interaction quality in virtual settings—highlighting the importance of community and perceived value in online education. **Ali (2020)**, in a study on the necessity of online and remote learning in higher education during the COVID-19 pandemic, used meta-analytical methods to synthesize insights from global experiences. The findings demonstrated a global shift toward virtual learning due to lockdowns and social distancing measures. The study identified key success factors for online education: **infrastructure availability, staff readiness, learner motivation, confidence, and accessibility**. Ali concluded that online learning is no longer optional but necessary, particularly during emergencies, and it presents a foundation for ongoing innovation and research in education delivery. **Kanwal and Rehman (2017)** explored **predictors of perceived ease of use and usefulness** in virtual learning systems. They identified **computer self-efficacy, internet experience, enjoyment, and system characteristics** as significant predictors of ease of use. Among these, **system characteristics** were found to be the most influential factor affecting perceived usefulness. Their findings offer practical recommendations for policymakers and education stakeholders seeking to implement effective virtual learning systems. **Huang and Liaw (2018)** analyzed learners' intentions toward adopting **virtual reality (VR)** in education using both the constructivist framework and TAM. Their study emphasized the **active and interactive nature of learning** in VR environments, which simulate real-world experiences. The findings highlighted **perceived self-efficacy** and **perceived interaction** as key factors influencing perceived ease of use, perceived usefulness, and learning motivation. In turn, these variables significantly impacted learners' **intentions to engage** with virtual learning platforms, reinforcing the intertwined relationship between motivation, usability, and adoption.

Chapter Three
Research Methodology

3.0 Introduction

This chapter outlines the methodology adopted for the study. It details the research design, study setting, target population, sample and sampling techniques, data collection instruments, procedures for ensuring validity, data collection methods, data analysis strategies, and ethical considerations. These components collectively guided the systematic investigation into the acceptance of virtual learning among nursing students.

3.1 Research Design

This study adopts a **descriptive survey design**, chosen for its appropriateness in capturing and describing the current status of phenomena as they exist. Specifically, the research aims to examine the level of acceptance and perception of virtual learning among student nurses at the Lagos State College of Nursing (LASCON). According to Ogula (2019), survey research involves collecting data from a sample of individuals to estimate characteristics of a broader population. This method was selected for its ability to gather data efficiently from a relatively large group and to describe patterns, trends, and relationships among variables related to virtual learning.

3.2 Research Setting

The study will be conducted at **Lagos State College of Nursing (LASCON)**, situated in Lagos State, a highly urbanized state located in the South-West geopolitical zone of Nigeria. Lagos shares boundaries with Ogun

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State, Edo State, and the Republic of Benin. LASCON is a government-owned institution established to train competent nursing professionals who meet both national and international standards in nursing practice. The college offers professional training in **Basic Nursing**, **Midwifery**, and **Community/Public Health Nursing**. Its mission is to produce nurses who are academically and professionally prepared to compete effectively on both local and global stages.

3.3 Target Population

The target population for this study is the Basic Nursing Students of Lagos State college of Nursing.

3.4 Sampling Techniques

The subject of this study will be selected using convenience sampling technique. The method is used to allocate the individual units of analysis for the interviews. This is because the method is flexible and facilitates easy and quick collection of data.

3.5 Sample Size of the Study

The total sample size of the study was one hundred and thirty-three (133) Basic Nursing Students of Lagos state college of nursing.

3.6 Instruments for Data Collection

In carrying out the study the researcher employed the use of self-constructed questionnaire to collect necessary data. The questionnaire is of closed type which allows for either strongly agree (SA), agree (A), strongly disagree (SD), Undecided (U) or disagree (D) responses from respondents. The questionnaire was for basic nursing students that are randomly selected in the above case study. The instrument was divided into four sections.

Section A: contain socio-demographical data (bio-data) of the Basic student Nurses.

Section B: contain questions to examine the level of knowledge of students Nurses in LASCON on the use of virtual mode of learning among nursing students.

Section C: contain questions to investigate the level of perception of student Nurses on the use of virtual mode of learning.

Section D: contain questions to determine level of acceptability among student Nurses on the use of virtual mode of learning.

3.7 Validity of Instrument

According to Mugenda and Mugenda, (2016), validity is the accuracy and meaningfulness of inferences, which are based on the research results. In fact, it is the degree to which the results obtained from the analysis of the data actually represent the phenomenon under study. In order to increase content validity of the instruments, items from the questionnaire were tested using the same questions to different participants. The researcher also consults research expert who gave feedback useful in validating the instruments. Pilot testing enables the researcher to identify shortfalls in the instruments such as ambiguity, unclear directions, clustered questions, insufficient space for responses, wrong numbering and spellings among other mistakes. The researcher then corrects the erroneous areas and therefore confirmed content validity of the instruments.

3.8 Reliability of Instrument

The reliability of the instruments was determined by pretesting the research instrument administering the same instrument to the respondents. The researcher determined the reliability of the instruments through internal consistency. However, the reliability of the instrument was checked using the Cronbach‘s Alpha Statistic. The reliability statistics indicates the amount of variation to expect in the measurement from one occasion to another.

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It reveals internal consistency of the scale instrument and shows the extent to which scores are consistent from one part of the instrument to another. According to Bowling (2002), an alpha of 0.5 or higher is considered a sign of acceptable internal consistency.

3.9 Method of Data Collection

The questionnaire was administered to the basic Nursing students of Lagos state college of Nursing. The data collection was conducted during students' academic period. The questionnaire was answered individually and collected back on the day they were administered to ensure that no questionnaire get lost. The questionnaire was scored based on the responses of the respondents for data analysis.

3.10 Method of Data Analysis

The data was collected individually, coded and entered into the computer using statistical package for social sciences (SPSS) version 22.0. The research questions were answered using descriptive statistics, the analyzed result was presented in tables and charts and inferential statistics. The hypotheses were tested at 0.05 level of significance using chi-square test of homogeneity and correlation analysis. The weightings are SA=5, A=4, U=3, D=2 and SD=1. Mean value = (5 +4+3+2+1)/5 = 15/3 = 3.00. A cut off point of 3.0 was adopted for decision taking. If the item mean value was equal to or greater than 3.0, the item was considered as ―high level‖ while mean value less than 3.0 was considered as ―low level‖

3.11 Ethical Consideration

Approval for the study was obtained from LASCON Research Committee. Detailed explanation about the study and the purpose was explained to the study participants. All information gathered was treated with utmost confidentiality.

Chapter Four

Results

4.1 Introduction

This chapter presents the findings of the study, which explored the **acceptance of virtual learning among student nurses** at **Lagos State College of Nursing**. The analysis is based on data obtained from questionnaires distributed to participants. A total of **133 questionnaire** was administered, and all **133 were successfully retrieved**, resulting in a 100% response rate. The study was guided by **three research questions** and **two hypotheses**, which were statistically tested. Data analysis was carried out using **frequency counts**, **percentages**, and **Pearson's correlation coefficient** to evaluate relationships among variables. The results are presented under the following subheadings:

- Analysis of **socio-demographic characteristics** of respondents
- Analysis of data related to the **research questions**
- Analysis of data related to the **research hypotheses**

Table4.1:Socio-Demographic Characteristics of Respondents

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Variables	Frequency (n=133)	Percentage (%)
Gender		
Male	86	64.7
Female	47	35.3
Age		
17-22 years	74	55.6
23-26 years	38	28.6
27-32 years	10	7.5
32 years and above	11	8.3
Educational Level		
ND1	40	30.1
ND2	93	69.9
Marital status		
Single	115	86.5
Married	18	13.5
Religion		
Christianity	31	23.3
Islam	102	76.7
Ethnicity		
Yoruba	101	75.9
Igbo	19	14.3
Hausa	9	6.8
Edo	3	2.3
Nupe	1	0.8

Table 4.1 above presents the socio-demographic profile of the study participants, including variables such as age, marital status, academic level, religion, and ethnicity. The data reveal that a majority of the respondents were male (64.7%), while only a small proportion (8.3%) were aged 32 years and above. Most participants (69.9%) were enrolled in the ND2 academic level. In terms of marital status, the majority were single (86.5%). With respect to religion, over half (56.6%) identified as Muslims. Ethnic distribution shows that the Yoruba ethnic group accounted for the largest proportion (75.9%) of the respondents, followed by Igbo (14.3%), Hausa (6.8%), and other ethnic groups (3.1%).

Presentation of Results

Table 4.1.1: Knowledge of Student Nurses in LASCON on the use of virtual mode of Learning

Variable	Yes	No
The Internet is a resource for learning and having fun	132 (99.2%)	1 (0.8%)
Has your experience in the use of ICT been great?	128 (96.2%)	5 (3.8%)
The use of technology in learning impact	127 (95.5%)	6 (4.5%)
Should the use of virtual mode of learning for nursing courses be implemented	123 (92.5%)	10 (7.5%)
Has your experience with the use of virtual mode of learning been great?	119 (89.5%)	14 (10.5%)
Virtual mode of learning encourages time flexibility	126 (94.7%)	7 (5.3%)

The data presented in the table 4.1.1 above indicate that an overwhelming majority of respondents (99.2%) acknowledged the internet as both an educational and

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recreational tool. A significant proportion (96.2%) reported having a positive experience with the use of ICT. Similarly, 95.5% affirmed that the integration of technology has positively influenced their learning. However, a small minority (7.5%) expressed disagreement with the use of virtual platforms for nursing education. Additionally, 89.5% of participants described their virtual learning experience as positive, while a few respondents (5.3%) disagreed with the notion that virtual learning supports time flexibility.

4.2 Addressing the Research Questions Response to the First Specific Objective (SO1) and Research Question 1 (RQ1)

SO1: To assess the extent of knowledge student nurses at Lagos State College of Nursing (LASCON) possess regarding the use of virtual learning platforms.
RQ1: What is the level of knowledge among student nurses in LASCON concerning the use of virtual learning systems?

Table 4.2.1: Knowledge Level of Respondents on the use of virtual mode of learning

Knowledge Level	Frequency (%)
Good	132 (99.2%)
Poor	1 (0.8%)
Total	133 (100%)

Table 4.2.1 above reveals that a substantial majority of respondents, 132 (99.2%), demonstrated a high level of knowledge regarding the use of virtual learning platforms. Only 1 respondent (0.8%) showed a limited understanding in this area. These knowledge levels were determined by assigning scores to responses in the questionnaire—where each correct answer was awarded one point, and incorrect or

VARIABLES	Strongly Disagreed	Disagreed	Undecided	Agreed	Strongly Agreed
I prefer physical mode of learning to virtual mode of learning	5 (3.8%)	15 (11.3%)	16 (12.0%)	31 (23.3%)	66 (49.6%)
Virtual mode of learning supports teacher-students interaction	37 (27.8%)	47 (35.3%)	10 (7.5%)	27 (20.3%)	12 (9.0%)
Virtual mode of learning is costly than physical mode of learning.	10 (7.5%)	21(15.8%)	16(12.0%)	48 (36.1%)	38 (28.6%)
Students show new learning strategy with the use of virtual mode of learning	2 (1.5%)	17 (12.8%)	21 (15.8%)	51 (38.3%)	42 (31.6%)
Virtual mode of learning triggers motivation	9 (6.8%)	31 (23.3%)	25 (18.8%)	41 (30.8%)	27 (20.3%)
Virtual mode of learning helps students sustain concentration during lectures	13 (9.8%)	44 (33.1%)	11 (8.3%)	31 (23.3%)	34 (25.6%)

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poor responses received a zero. Based on this scoring system and the empirical data obtained, it can be concluded that student nurses at LASCON possess a strong understanding of virtual learning, thus affirming the first specific objective and positively answering Research Question 1.

Table 4.2.2: Perception of Student Nurses in LASCON on the use of virtual mode of Learning

Table 4.2.2 above presents students' perceptions regarding the use of virtual learning. Nearly half of the respondents (49.6%) strongly supported the transition from traditional face-to-face instruction to virtual learning platforms, whereas a small fraction (3.8%) strongly disagreed with this shift. A minor proportion (7.5%) remained neutral about whether virtual learning fosters improved teacher-student interaction, while 20.3% agreed that it does enhance such interaction. Furthermore, a modest 15.8% disagreed with the notion that virtual learning is costlier than conventional classroom methods. Only a very small minority (1.5%) strongly disagreed that students develop new learning strategies through virtual platforms. Notably, 30.8% of respondents acknowledged that virtual learning increases their motivation to learn, while 25.6% strongly agreed that it supports students in maintaining focus during lectures. However, 33.1% expressed disagreement, indicating that virtual learning may not necessarily aid in sustaining concentration for all learners. These findings address the **second specific objective (SO2)** and effectively respond to **Research Question 2 (RQ2)**. Overall, the data reflect a moderately positive perception of virtual learning among student nurses at LASCON, highlighting both its perceived benefits and limitations in the learning process.

Table 4.2.3: Perception Level of Respondents on the use of virtual mode of learning

Perception Level	Frequency (%)
Positive	90 (69.9%)
Negative	43 (31.1%)
Total	133 (100%)

Table 4.2.3 above reveals that the majority of respondents, 90 (69.9%), demonstrated a positive perception toward the use of virtual learning, while 43 (31.1%) exhibited a negative perception. This classification was determined by assigning scores to respondents' answers on perception-related items in the questionnaire. Each favorable response was scored, and a cutoff mean score of 3.0 was used for interpretation—responses with a mean score of 3.0 or higher were categorized as *positive*, whereas those below 3.0 were considered *negative*. Based on these empirical findings, the study concludes that student nurses at LASCON generally hold a positive perception of virtual learning. This supports the second specific objective of the study and aligns with the findings in response to **Research Question 2 (RQ2)**.

Table 4.2.4: Level of Acceptability on the use of virtual mode of learning among LASCON Student.

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VARIABLES	Strong agreed	Agreed	Undecided	Disagreed	Strongly Disagree
I support the use of virtual mode of learning because the platform is user friendly.	74 (55.6%)	40 (30.1%)	9 (6.8%)	8 (6.0%)	2 (1.5%)
I support the use of virtual mode of learning because the platform supports a flexible working system.	74 (55.6%)	48 (36.1%)	5 (3.8%)	4 (3.0%)	2 (1.5%)
I support the use of virtual mode of learning because it boosts student's confidence.	65 (48.9%)	38 (28.6%)	10 (7.5%)	13 (9.8%)	7 (5.3%)
I support the use of virtual mode of learning because the platform enabled students to take test and submit assignments electronically.	81 (60.9%)	44 (33.1%)	5 (3.8%)	1 (0.8%)	2 (1.5%)
I support the use of virtual mode of learning because the platform enabled interactive communication between instructor and student without meeting face to face.	75 (56.4%)	45 (33.8%)	4 (3.0%)	8 (6.0%)	1 (0.8%)
I support the use of virtual mode of learning because the platform simplifies learning process.	68 (51.1%)	44 (33.1%)	7(5.3%)	9 (6.8%)	5 (3.8%)
I support the use of virtual mode of learning because it boosts student's confidence while using online learning contents.	69 (51.9%)	48(36.1%)	5 (3.8%)	10 (7.5%)	1 (0.8%)
I support the use of virtual mode of learning because it makes finding of necessary information easy.	75 (56.4%)	49 (36.8%)	7 (5.3%)	1 (0.8%)	1 (0.8%)

From the data presented in table 4.2.4 above, more than half of the respondents (55.6%) strongly supported the use of the virtual mode of learning, citing the platform's user-friendly nature. A minimal proportion (1.5%) strongly disagreed with its use, despite acknowledging that the platform offers a flexible learning structure. Additionally, a small percentage (7.5%) were undecided on whether virtual learning boosts students' confidence. Over one-third of the respondents (33.1%) agreed that they support virtual learning because it facilitates electronic testing and assignment submission, while a negligible proportion (0.8%) strongly disagreed that the platform supports interactive communication without the need for physical meetings.

Interestingly, slightly more than half (51.1%) strongly disagreed with supporting virtual learning, even though it was considered to simplify the learning process. A small group (1.5%) remained undecided about its potential to enhance students' confidence in navigating online content. Meanwhile, a notable portion (36.8%) agreed to support virtual learning because it simplifies access to relevant educational resources. Addressing the Third Specific Objective (SO3) and Answering the Third Research Question (RQ3):

- **SO3**: To determine the level of acceptability of the use of virtual learning among student nurses at LASCON.
- **RQ3**: What is the level of acceptability of the use of virtual learning among student nurses at LASCON?

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Based on the findings, it can be inferred that while a considerable number of students express strong support for the adoption of virtual learning platforms—due to their usability, flexibility, and resource accessibility—there remains a notable level of hesitation among others. Nevertheless, the general trend suggests a growing acceptance of virtual learning among student nurses at LASCON.

Table 4.2.5: **Acceptability of the use of virtual mode of learning among Respondents**

	Frequency (%)
High	103 (77.5%)
Low	30 (22.5%)
Total	133(100%)

Table 4.2.5 above presents data indicating that a significant majority—103 respondents (77.5%)—demonstrated a high level of acceptability toward the use of virtual learning, while the remaining 30 respondents (22.5%) exhibited a low level of acceptability. This classification was determined by assigning scores to each respondent‘s answers on the questionnaire, based on whether their responses reflected high or low acceptability. A cut-off mean value of 3.0 was used as the threshold for decision-making: mean values equal to or above 3.0 were categorized as ―High,‖ while values below 3.0 were categorized as ―Low.‖ From this analysis, it can be concluded that the overall level of acceptability of virtual learning among student nurses at LASCON is high. This finding is consistent with the third specific objective of the study, which sought to determine the level of acceptability of the virtual learning model among the student nurses.

4.3 Hypothesis Testing

NullHypothesis(Ho1):
There is no significant relationship between the academic level (class) of the respondents and their level of knowledge regarding the use of virtual learning at LASCON.

Table 4.3.1: Validation of Hypothesis I (Pearson Correlation) Correlation

		Level of knowledge of student Nurses in LASCON towards the use of virtual mode of learning
Class (level) of respondents	Pearson Correlation	0.019*
	Sig. (2-tailed)	0.466
	N	133

Table 4.3.1 above presents the outcome of the Pearson correlation analysis conducted to examine the relationship between the academic level of the respondents and their level of knowledge regarding the use of virtual learning among student nurses at LASCON. The hypothesis was tested at both the 1% and 5% significance levels using a two-tailed test. The results yielded a Pearson correlation coefficient (r) of 0.064 and a p-value of 0.466. Given that the p-value exceeds the conventional significance thresholds (0.01 and 0.05), there is insufficient statistical evidence to reject the null hypothesis. Based on these findings, it is concluded that there is no significant relationship between the respondents‘ academic level and their knowledge of the virtual mode of learning. This suggests that knowledge of virtual learning among the

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Correlation		
		Level of perception of student Nurses in LASCON on the use of virtual mode of learning
Level of knowledge of Nursing Students in LASCON	Pearson Correlation	-0.005*
	Sig. (2-tailed)	0.952
	N	133

student nurses is not dependent on their class level.

Hypothesis2(Ho_2):
There is no statistically significant effect of nursing students' level of knowledge on their perception of the use of virtual learning

at Lagos State College of Nursing (LASCON).

Table 4.3.2: Validation of Hypothesis II (Pearson Correlation)

Table 4.3.2 above presents the outcome of the Pearson correlation analysis examining the effect of nursing students' level of knowledge on their perception of virtual learning at Lagos State College of Nursing (LASCON). The hypothesis was tested at both the 1% and 5% significance levels using a two-tailed test. The results revealed a p-value of 0.952 and a Pearson correlation coefficient (r) of -0.005, indicating very weak and statistically insignificant correlation. Based on this result, the null hypothesis is retained. Therefore, it can be concluded that there is no significant effect of the level of knowledge on student nurses' perception of the use of virtual learning at LASCON.

Chapter Five
Discussion, Summary, Conclusion, and Recommendations

5.0 Introduction
This chapter presents a comprehensive discussion of the study's findings, summarizing the major outcomes, drawing relevant conclusions, and highlighting implications for nursing practice. It also outlines the study's limitations, provides actionable recommendations, and suggests directions for future research.

5.1 Discussion of findings
The study involved 133 student nurses from Lagos State College of Nursing (LASCON). The majority of participants were aged between 17 and 21 years and predominantly in their 100 level. Most of the respondents were single and practiced Christianity, with Yoruba being the most represented ethnic group.

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Level of Knowledge of Student Nurses on the Use of Virtual Learning

Findings from the study indicate that most student nurses demonstrated a high level of knowledge regarding the use of virtual learning platforms. Only a small fraction showed limited understanding. This aligns with research conducted in South Africa by Wojciechowski and Cellary (2013), which also found high levels of virtual learning awareness among nursing students. However, the outcome contradicts a study from Thailand by Yamo (2017), which reported that most participants lacked sufficient knowledge of virtual learning systems.

Perception of Student Nurses Towards VirtualLearning

The analysis further revealed that a significant proportion of respondents held positive perceptions about virtual learning, while a minority viewed it negatively. This corresponds with findings from Adika et al., (2019) in Nigeria, which observed that a favorable perception positively influenced students‘ frequent engagement with virtual platforms. Nevertheless, many respondents also perceived virtual learning as more expensive than traditional classroom instruction—a viewpoint supported by Adinma et al., (2018), who similarly reported that learners considered virtual platforms more costly.

Level of Acceptability of Virtual Learning

The study also assessed the extent to which virtual learning was accepted among student nurses at LASCON. Results showed that a majority reported a high level of acceptability, while a smaller group expressed low acceptance. These findings are consistent with earlier studies conducted in Ethiopia (Turoff, 2007), Nigeria (Salter et al., 2014), and Ghana (Mangal, 2009), which all reported high levels of acceptance of virtual learning among nursing students.

Hypotheses Testing

Hypothesis1:

There is no significant relationship between the class (level) of respondents and their level of knowledge regarding virtual learning.

Pearson‘s correlation analysis showed no statistically significant relationship between respondents‘ academic level and their knowledge of virtual learning (p = 0.466), leading to the acceptance of the null hypothesis. This outcome is supported by Maphalala (2020), who similarly found no association between class level and knowledge of virtual learning in a comparable study.

Hypothesis2:

There is no significant effect of the level of knowledge on students’ perception of virtual learning.

The second hypothesis also yielded no statistically significant relationship (p = 0.952), indicating that knowledge levels do not significantly influence students' perceptions of virtual learning. Consequently, the null hypothesis was retained. This finding contrasts with the results of Littlefield (2018), who reported a strong positive relationship between knowledge and perception of virtual learning tools.

5.2 Implications of the study for nursing practice

In light of recent global events, such as the COVID-19 pandemic, nursing education has increasingly embraced virtual learning as a necessary alternative to traditional classroom instruction. This transition has become a widespread and transformative experience for nursing students across Nigeria, including those at Lagos State College of Nursing. The emergence of online learning as a viable and effective model for undergraduate nursing education

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underscores the critical role of self-regulation and learning engagement, particularly in digital environments. Unlike face-to-face settings, online learning demands heightened self-discipline, intrinsic motivation, and the ability to maintain sustained learning flow. The findings of this study affirm that virtual learning can lead to positive educational outcomes, largely influenced by the learner‘s behavior and engagement, rather than solely by course design. Students‘ ability to adapt, stay motivated, and interact effectively with virtual platforms plays a key role in maximizing learning outcomes. These results provide valuable insights for nursing educators and curriculum developers. By acknowledging the importance of learner traits and integrating supportive instructional strategies, educators can design online courses that enhance engagement and retention. Moreover, online learning offers flexibility in time and location, making it an essential educational approach during disruptions such as pandemics. Nonetheless, students must be adequately prepared to overcome the challenges of reduced face-to-face interaction and increased autonomy. Therefore, both faculty and students must be encouraged to adopt and enhance their competence in using online teaching platforms. Well-structured online learning should not be viewed merely as a temporary substitute but as a permanent, complementary mode of instruction that enriches nursing education.

5.3 Limitations of the study

One of the key limitations encountered in this study was the potential for incomplete responses or reluctance to disclose sensitive information due to the personal nature of some questions. To address this issue, respondents were assured of strict confidentiality and anonymity, which helped to mitigate response bias and encourage honest participation.

5.4 Summary of findings

This study explored the acceptance of virtual learning among student nurses at Lagos State College of Nursing. A total of 133 completed questionnaire was analyzed using SPSS version 22.0, with results presented in tables.

Key findings include:

- A majority of respondents demonstrated a high level of knowledge about virtual learning.
- Most participants exhibited a positive perception of virtual learning platforms.
- A significant number of respondents showed high levels of acceptance toward the use of virtual learning.

Furthermore, statistical analysis revealed:

- No significant relationship between the students' academic level and their knowledge of virtual learning.
- No significant effect of knowledge level on students‘ perception of virtual learning.

5.5 Conclusion

The study concludes that while student nurses at LASCON possess good knowledge and positive perceptions about virtual learning, these factors do not significantly influence one another. Most respondents showed a high level of acceptance for virtual learning, indicating its growing relevance in nursing education. However, student satisfaction with virtual learning was found to be lower when compared with traditional lecture-based methods. Still, well-designed and thoughtfully implemented virtual programs can significantly contribute to the development of nursing competencies in knowledge, skills, and attitudes.

5.6 Recommendations

Based on the study‘s findings, the following recommendations are proposed:

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1. **Develop Comprehensive Virtual Learning Programs:** Institutions should design structured and outcome-driven virtual courses to enhance nursing students' competencies.
2. **Integrate Technology into Curriculum:** Program directors are encouraged to adopt virtual platforms as sustainable tools for instruction, given their cost-effectiveness and flexibility.
3. **Provide Faculty and Student Training:** Formal training sessions on the use of e-learning platforms should be organized to ensure effective teaching and learning.
4. **Adopt Interactive E-Learning Strategies:** Use engaging methods such as online discussions, gamification, and interactive sessions to maintain student interest and motivation.

5.7 Suggestions for further studies

This research focused solely on student nurses at Lagos State College of Nursing, which may limit the generalizability of its findings. Future studies should be conducted in other nursing institutions across Nigeria to gain broader insights into students' knowledge, perception, and acceptance of virtual learning. Additionally, further research should investigate the barriers and challenges affecting the effective implementation of virtual learning among nursing students.

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