

## Research Article

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# Hybrid Learning Experiences of Nigerian Pre-service Teachers: A Phenomenological Study

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## Abstract

**Background/purpose.** This study examined the preservice teachers' hybrid learning experience and its impact on their learning outcomes. The approach has gained significant global attention across most higher education institutions due to its transformative role in education. However, only a few studies have critically examined the benefits and challenges in Nigeria using a phenomenological approach.

**Materials/methods.** The study employed a phenomenological approach to delve into the lived experiences of 10 preservice teachers at a Nigerian university, where 75% of its teaching practices use a hybrid instructional strategy. A semi-structured interview lasting approximately 15 minutes was conducted with each participant, and the collected data were analyzed thematically.

**Results.** Four themes emerged for this study: perceived academic benefit, effectiveness and efficiency, challenges, and coping strategies. The findings revealed that hybrid learning improved students' understanding and flexibility, primarily through recorded lectures that allow them to rewatch. However, issues such as unstable internet connectivity, unequal lecturer attention, environmental distractions, and lack of supervision limited its effectiveness. Peer collaboration and self-time management were suggested as coping strategies, but they were only partially successful.

**Conclusion.** One of the main limitations of this study is its limited generalizability; therefore, future research is expected to broaden its scope. It also recommends strengthening digital infrastructure and enhancing the lecturer's digital skills. Quality assurance measures should be implemented. These insights provide valuable guidance for policymakers, administrators, and educators seeking to improve hybrid learning outcomes in Nigeria.



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## 1. Introduction

Before the outbreak of the COVID-19 pandemic in late 2019, numerous studies had examined the effectiveness of blended and flipped learning approaches. These studies confirmed the significant impact of these instructional models on teaching and learning (Alqarni, 2018). However, the COVID-19 pandemic made it necessary for many higher institutions of learning to temporarily suspend their activities. Globally, this situation led to a shift from flipped and blended learning to remote online learning, and later to hybrid learning (Ironsi, 2022; Xie & Rice, 2021). Research has shown that hybrid learning is highly relevant across all aspects of education, as it ensures continuity of teaching and learning during crises, such as natural disasters (Gordes et al., 2022), and under normal circumstances (Mettis & Våljataga, 2021).

Fabula (2023) asserted that teaching and learning have not remained the same globally after the pandemic. Many higher institutions of learning were compelled to adopt new technologies, and modern pedagogical strategies were also introduced to improve students' learning outcomes, completely reshaping the classroom atmosphere (Mishra et al., 2020). This immediate shift has led to a long-lasting transformation in educational practices, in which hybrid and blended learning are increasingly regarded as sustainable models rather than temporary responses. These two instructional approaches are not entirely new; they have been providing learners with expanded opportunities. Due to these developments, many higher education institutions are investing more in technologically advanced learning environments to support teaching and learning (Raes et al., 2020). Meanwhile, Huggett (2022) confirms that technology-enabled learning has greatly revolutionized education and created new avenues for learning.

Despite the global increase in the adoption of hybrid and blended learning, a notable lack of empirical evidence persists regarding the lived experiences of preservice teachers in their learning environments in Nigeria. According to Anthony et al. (2022), existing studies on hybrid and blended learning have primarily focused on technological adoption and accessibility, rather than on the experiences and interactions between lecturers and students. Addressing these gaps presents an opportunity to understand how specific factors, such as infrastructure, digital competence, and institutional support, can impact the effectiveness of hybrid learning in Nigeria.

In this study, the terms 'hybrid learning' and 'blended learning' may be used interchangeably, as other researchers use them differently. However, they are not entirely the same. Though the two approaches are regarded as innovative pedagogical models in the scientific literature (Qutián & González, 2020). Hybrid learning is a strategy that allows some students to attend classes in person while others participate online simultaneously (Gudoniene et al., 2025). In contrast, blended learning is a strategy that combines face-to-face classroom learning with online learning at different times (Vaughan et al., 2023). In the hybrid learning approach, traditional face-to-face instruction is blended with remote or online teaching that extends beyond the classroom setting, offering flexibility to the teaching and learning process (Khadidos et al., 2025). This strategy typically enables synchronous participation, allowing both in-person and remote students to interact in real-time (Raes et al., 2020). Additionally, it allows learners control over time, pace, path, and place, thereby transforming conventional teacher-led instruction into a personalized approach (Vaughan et al., 2023).

Several studies have shown that hybrid learning has garnered significant attention in education (Al-Qatawneh et al., 2020; Kazu & Yalçın, 2022). According to Gordes et al. (2022) and Li et al. (2021), hybrid learning serves as a more effective alternative approach for mitigating the pressures associated with online learning, although it remains a demanding approach. In addition, other studies acknowledged and recognised the efficacy of a hybrid learning environment in many courses, including Islamic studies (Fauziah, 2022; Irani-Kermani et al., 2021; Sarwendah et al., 2023). However, some authors also identified the challenges associated with this mode of instruction (Bülow, 2022;

Kovacs et al., 2018; Li et al., 2021). These mixed findings highlight the need for further investigation and exploration of the hybrid instructional approach. Meanwhile, only research can ascertain the efficacy and drawbacks of this approach. Based on the existing literature, it is evident that hybrid learning in the post-pandemic period has achieved notable successes while also facing persistent challenges.

Hybrid learning offers several benefits, which include improved flexibility and increased access to learning opportunities (Azouri & Karam, 2023). This fosters creativity in education (Bennett et al., 2020). However, the effectiveness of hybrid learning is often undervalued by lecturers who focus solely on implementation, giving limited attention to learners' satisfaction. Studies have also shown that students' satisfaction is a key determinant of the effectiveness of interventions used in the teaching and learning process (Wong & Chapman, 2023; Gao et al., 2020). Despite this, increasing students' active participation in hybrid learning remains a challenge because it spans both in-class and online contexts. The nature of a hybrid environment can affect students' interest, which in turn influences their current and future engagement (Khan et al., 2022; Elshami et al., 2022). Although many studies have been conducted in educational settings, few have explicitly examined their dynamics in post-pandemic contexts.

Furthermore, there are limited studies examining preservice teachers' perspectives and experiences with hybrid learning during this period (Mumford & Dikilitaş, 2020). The sudden shift from blended and flipped learning to hybrid learning in most higher institutions presents an important area for research, as understanding students' experiences can reveal both the challenges they face after the pandemic and the achievements they have attained so far. Thus, getting insights from preservice teachers will enhance the existing literature regarding students' experiences and perceptions of switching learning modes in post-pandemic education. In order to achieve this, the study aims to address the following research questions:

1. What are preservice teachers' opinions regarding the academic performance associated with the hybrid learning approach?
2. How do preservice teachers perceive the effectiveness and efficiency of adopting a hybrid learning approach?
3. What are preservice teachers' opinions on the challenges encountered and the coping strategies adopted in the hybrid learning approach?

## **2. Literature Review**

### **The Role of Technologies in Enhancing Hybrid Learning**

Hybrid learning extends beyond the use of technology in the classroom (Eyal & Gil, 2022). Hybrid learning requires the active integration of digital tools with traditional face-to-face methods by both students and lecturers (Atwa et al., 2022). Blended learning is considered adequate when technology and pedagogy work together to promote learning satisfaction (Marshall, 2023). New technologies and pedagogies have been well-received and adopted by many students, contributing to the growing popularity of online learning. This approach is not only easier and faster for interactions between students and lecturers but also among peers (Feng et al., 2023). The use of technology in online learning environments has enriched students' learning experiences and enhanced their satisfaction with their learning compared to face-to-face approaches (Cheng et al., 2023; Duc-Long et al., 2021). According to Carstens et al. (2021), incorporating technology into a blended learning approach offers highly engaging content that significantly enhances learners' abilities and interests.

### 2.1. Learning Experiences with Hybrid Learning

Students' learning experiences are a crucial factor in evaluating and improving the teaching and learning process, particularly in hybrid instructional models, which have become the dominant pedagogical approach since the pandemic (Fabula, 2023). The integration of technology into classroom teaching has significantly reshaped learners' experiences, shifting learning from the physical constraints of traditional classrooms to digitally delivered models that transform how students perceive teaching and learning. This transition has moved education away from a "mono," teacher-centered approach toward more interactive, student-centered practices (Liu, 2022), making it necessary to adopt hybrid models in which information technology and online activities are integral to the learning process. However, some scholars argue that the abrupt shift to online learning, coupled with limited training, inadequate bandwidth, and poor preparation, led to unsatisfactory student experiences, raising concerns about the sustainability of such approaches (Hodges et al., 2020; Kapasia et al., 2020; Zalat et al., 2021).

### 2.2. Learning Satisfaction with Hybrid Learning

Learners' satisfaction in this context is described as the discrepancy between students' academic performance before and after the intervention. It refers to students' psychological satisfaction with the quality of teaching they experienced, measured against their expectations or requirements before the learning process. According to Zhu et al. (2024), learners' satisfaction is the learning outcome or learning experience perceived by the learners. It is based on their holistic view, which includes motivation during the learning experience, knowledge construction, academic performance, and attitude (Cheng et al., 2023). Motivated online learners are more likely to be committed to their studies, thereby improving their learning outcomes and enhancing their academic success (Weiler et al., 2022). Existing research and literature have shown that students are more motivated when taught using a hybrid learning approach than when taught face-to-face or online alone (Singh et al., 2021; Raes et al., 2020; Ananga & Biney, 2017).

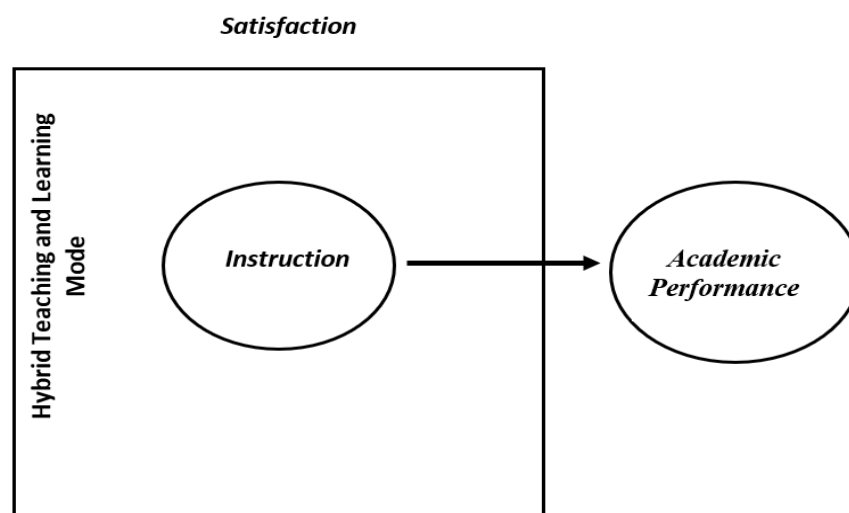


Figure 1. Hybrid Teaching and Learning: Engagement for the Development of Cognition

## 3. Research Methodology

### 3.1. Design

This study adopted a phenomenological inquiry to gather data. The phenomenological approach is a qualitative research design that describes the coherence of an individual's life experience within a particular group (Creswell, 2017). This approach seems appropriate because it enables participants

to provide accurate information based on their experiences. This research design also allows the researchers to understand preservice teachers' hybrid learning experiences and examine the root causes of their behavior and actions. In line with this paradigm, this study adopts a social constructivist worldview, which holds that individuals gain understanding through their interactions and engagement with their environment (Robson & McCartan, 2016). Therefore, this approach is well-suited to investigate the diverse and complex perspectives of the participants.

### Participants

This study employed a non-probability, purposive sampling technique. The population comprises all 400-level preservice teachers in South-West Nigerian universities, whereas the target population is limited to a single public university in Nigeria. Ten preservice teachers (Coded as PST1-PST10) were selected purposively to participate in the study based on their grade level and how they feel about the effectiveness and challenges of hybrid learning for instructional delivery (See Table 1)

**Table 1.** Participants' Profiles Based On Diagnosis

Participants	Gender	Level	Programme	Diagnostic Condition
PST1	Male	4	Arts & Social Science	Upper Credit
PST2	Female	4	Science	Third Class
PST3	Female	4	Guidance & Counselling	Lower Credit
PST4	Male	4	Arts & Social Science	Third Class
PST5	Male	4	Science	Lower Credit
PST6	Female	4	Educational Technology	Upper Credit
PST7	Female	4	Science	Upper Credit
PST8	Female	4	Arts & Social Science	Third Class
PST9	Male	4	Science	Third Class
PST10	Female	4	Science	Lower Credit

This study was conducted at the end of the 2023/2024 academic year at a Nigerian university that had been running 75% of its lectures in a hybrid learning mode, while 25% of the teaching and learning process took place face-to-face. This shift in pedagogical approach was driven by the university's multi-campus structure, where students' programs often require attending courses on two or more campuses, necessitating travel for both lecturers and students between campuses.

Sixteen students initially responded to the invitation to participate in the study. However, only when they learned that, as the first requirement, their results would be collected by the department did four students decline immediately. Of the remaining twelve, two withdrew prior to the interviews, citing reasons known to them, leaving a final sample of ten students.

### **3.2. Data Collection and Analysis**

The study data were collected through semi-structured interviews with participants, conducted one after the other and lasting approximately 15 minutes. Experts scrutinized the interview questions to ensure they aligned with the study's objectives and eliminated ambiguity. The purpose of the interview questions was to allow participants to express their experiences, perspectives, advantages, and disadvantages of learning through a hybrid learning approach, as well as how it affects their

learning outcomes. The data collected through the interview were recorded and transcribed (Braun & Clarke, 2021) using thematic analysis (Robson & McCartan, 2016).

### 3.3. Ethical Principles

Participants were duly informed of the study's objective and assured that they had the right to withdraw at any stage if they so wished. They were also asked to voluntarily sign a consent form. This was to assure them of anonymity and confidentiality, and that the data collected would be used only for the purpose for which it was collected, so participants should be free to share their thoughts with complete honesty.

## 4. Results

This section presents the findings in response to the three research questions. Each result is provided based on the themes and subthemes, as they align with the research questions: Theme 1 addresses RQ1 on academic performance, and Theme 2 aligns with RQ2 on effectiveness and efficiency. In contrast, Themes 3 and 4 relate to RQ3, explicitly addressing the challenges and coping strategies associated with the hybrid learning approach.

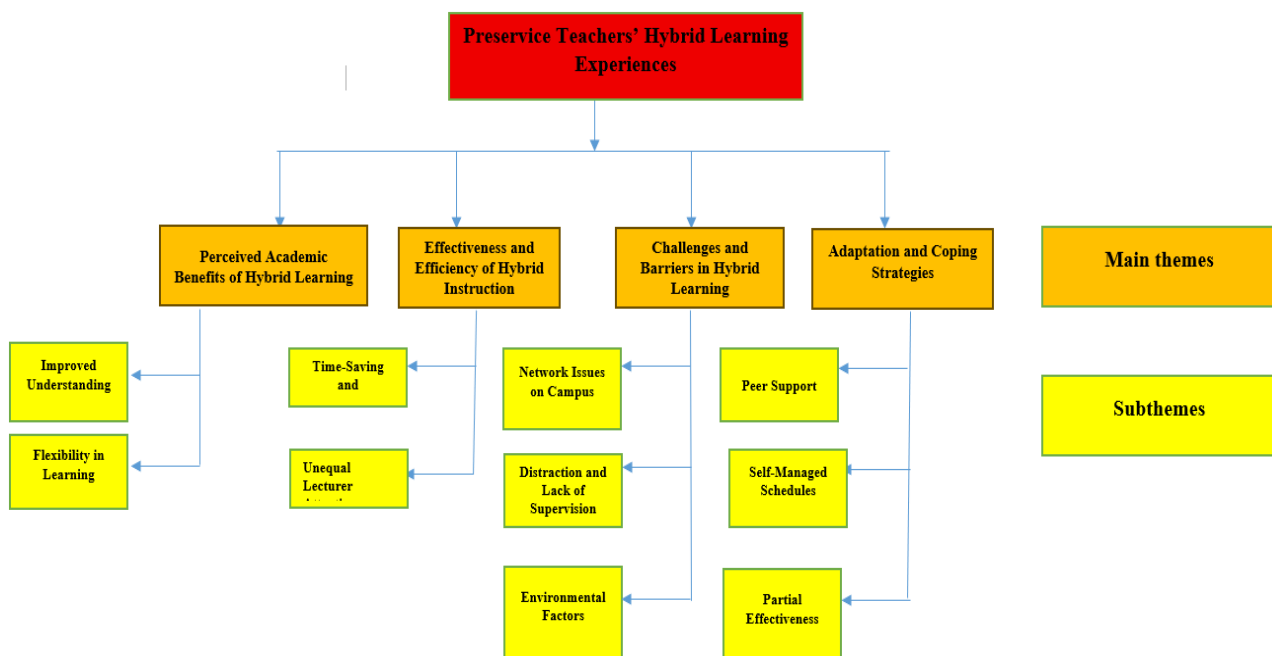


Figure 2. Thematic Framework: Preservice Teachers' Experiences with Hybrid Learning

### Interviews

RQ 1: What are preservice teachers' opinions regarding the academic performance associated with the hybrid learning approach?

#### 4.1. Theme 1: Perceived Academic Benefits of Hybrid Learning

This theme was divided into sub-themes: improved understanding and flexibility in learning to elicit information. The participants were asked about the benefits they experienced through the hybrid learning approach during their course of study.

##### 4.1.1. Subtheme. Improved Understanding

PST1 (Male, upper credit) and PST7 (Female, upper credit) explained that with hybrid learning, they have the opportunity to revisit online lessons. This allowed a better understanding of certain concepts. PST1 stated, "Hybrid classes allowed me to rewatch lecture slides and videos sent to us by

the course lecturers, but to be sincere, some of these concepts still required a face-to-face explanation by the lecturers." PST7 added, "I always make extra effort to ensure I understand some topics myself because there are always issues with online lectures. They are not always clear."

Interestingly, participants in lower grades, such as PST3 (Female, Lower Credit) and PST8 (Female, Third Class), also reported some benefit from hybrid learning, though inconsistently. PST3 said, "Sometimes the online lessons helped, but most times I easily got lost." This suggests that while hybrid learning can enhance students' comprehension, its effectiveness varies regardless of academic performance.

#### **4.1.2. Flexibility in Learning**

Several participants appreciated the flexibility of accessing online materials sent by the lecturers after each class. PST2 (Female, Third Class) stated, "I liked attending some sessions online because it saves time and risk." However, the flexibility of hybrid learning was not always sufficient to overcome challenges in understanding certain concepts. This indicates that the advantages of hybrid learning are inconsistent and selective.

RQ 2: How do preservice teachers perceive the effectiveness and efficiency of adopting a hybrid learning approach?

### **4.2. Theme 2: Effectiveness and Efficiency of Hybrid Instruction**

This theme was divided into time-saving, convenience, and unequal lecturer attention. Participants were asked to share their perceptions of the efficiency and effectiveness of learning with the hybrid learning model, using the sub-themes as a framework.

#### **4.2.1. Time-Saving and Convenience**

PST7 (Female, Upper Credit) mentioned that, "Attending online sessions on campus saved me time, convenience, and risk of boarding transport to other campus, however, some lecturers do not give online students attention, they focus more on their face-to-face students." Similarly, PST5 (Male, Lower Credit) reflected that, "Online parts were useful at times, but often most students felt neglected or distracted by other students' noise." Their statements revealed that hybrid learning offers students conveniences, but the approach's efficiency is undermined by inadequate attention and supervision.

#### **4.2.2. Unequal Lecturer Attention**

Most participants expressed concern that lecturers often prioritized students in their face-to-face classes over those in online classes. PST2 (Female, Third Class) said that, "Hybrid seemed flexible, yet it was annoying, and we felt cheated when our co-students got more attention in the face-to-face classroom than we did." This unequal attention contributed to our sense of disengagement, which in turn affected our ability to follow the lessons effectively.

RQ3: What are preservice teachers' opinions on the challenges encountered and the coping strategies adopted in the hybrid learning approach?

### **4.3. Theme 3: Challenges and Barriers in Hybrid Learning**

The sub-themes that emerged under this theme include campus network issues, distractions stemming from inadequate supervision, and environmental factors affecting connectivity. Participants were asked to discuss the difficulties they experienced during the hybrid learning classes.

#### **4.3.1. Network Issues on Campus**

Almost all participants reported that network challenges were caused by the campus location and weather, especially during the rainy season; other urban campuses typically do not experience this issue. PST9 (Male, Third Class) stated, "Network problems during rain made it hard to follow

lessons online; in fact, so many students do not attend classes during this period because it looks like a waste of time." PST1 (Male, Upper Credit) echoed, " Yeah, I made good grades; however, poor internet connectivity and lecturer attention issues sometimes slowed my learning speed."

#### **4.3.2. Distraction and Lack of Supervision**

Participants mentioned that the lack of a standby lecturer or a monitoring officer for those attending online lectures often led to distraction. PST6 (Female, Upper Credit) shared, "Because lecturers are not always present during the online lecture, many students got distracted by phones or disturbed others." This lack of supervision was cited as a significant factor that could adversely affect students' academic performance, particularly among slow learners.

#### **4.3.3. Environmental Factors**

Poor weather conditions during the rainy season were also highlighted. PST4 (Male, Third Class) explained, "When it rains, the network is always worse, which disrupts learning. Imagine having one of the semesters every session during the rainy season. You know the implication, right?" This external factor, combined with other internal challenges like concentration, obstacles, affects effective learning with the hybrid learning approach.

### **4.4. Theme 4: Adaptation and Coping Strategies**

This theme was divided into peer support, self-managed schedules, and partial effectiveness of coping strategies. Participants described strategies they used to adapt to hybrid learning.

#### **4.4.1. Peer Support**

Some participants said they relied on peers to bridge learning gaps through group discussions and student tutorials. PST10 (Female, Lower Credit) reported, "I relied on friends to follow up on lessons I missed online or those I did not understand during the online classes. Similarly, PST4 (Male, Lower credit) shared that "Whenever I had difficulty with any of the lectures due to poor network connections, I usually related with my brilliant colleagues to assist me. " This indicates that peer support and collaboration helped mitigate some challenges, but cannot be considered a complete solution.

#### **4.4.2. Self-Managed Schedules**

Participants attempted to organize their time to manage online and face-to-face sessions because classes sometimes clash, with a lecturer deciding to hold another in-person class. At the same time, we are already scheduled for an online class. This usually happens when having a general course with others. PST7 (Female, Upper Credit) stated, " Sometimes I attended the class, I think, I find the course difficult, or I know the lecturer may give a test or assessment" PST4 (Male, Third Class) added, "I tried to focus more on the face-to-face class because online lecturers usually send their slides but most times, it is always difficult to understand

#### **4.4.3. Partial Effectiveness**

While these strategies provided some assistance, participants agreed that hybrid learning still posed significant challenges, particularly when network issues, distractions, and unequal lecturer attention were present. Overall, coping mechanisms were unevenly successful across all grade levels.

## **5. Discussion**

The study's findings delve deeply, employing a qualitative approach to explore preservice teachers' experiences and perceptions of transitioning to hybrid learning at a Nigerian university, with a focus on its implications for their academic performance, effectiveness, and efficiency, as well as

the challenges associated with the strategy. These findings are discussed in relation to the research themes.

The first research theme examined preservice teachers' perceptions of the academic achievement associated with hybrid learning, which was divided into improved understanding and increased flexibility in learning. It was revealed that most preservice teachers acknowledged some advantages of hybrid learning, particularly in improving their understanding and flexibility in learning modes; however, these benefits were not consistent across their performance levels. For instance, participants PST1 and PST7, who had higher credit scores, stated that they usually revisit slides and online materials sent by the course lecturers to enhance their comprehension. In contrast, participants with lower credit (PST3) and a third-class grade (PST8) showed inconsistent learning gains.

These findings align with existing results, emphasizing that the use of hybrid learning helps support students' understanding by facilitating independent study, collaborative, and interactive activities, which in turn increase students' academic success (Roomy & Althewini, 2019; Al-Qatawneh et al., 2020; Kadirhan & Korkmaz, 2020). However, these studies also indicate that students with weaker academic backgrounds may struggle with self-learning or self-directed components of hybrid learning (Halverson & Graham, 2019; Heilporn et al., 2021), which may explain why lower-performing students in this study sometimes became distracted or even lost during online sessions.

Another significant benefit highlighted by the preservice teachers was the flexibility in accessing course materials at any time. For instance, PST2 noted that online sessions save more time compared to face-to-face classes. This aligns with previous studies that emphasize how hybrid learning promotes autonomy and convenience for learners (Müller & Mildemberger, 2021; Owston et al., 2019). Similarly, Graham (2018) reported that flexibility and convenience reduce travel time, while Harry (2025) confirmed that students feel more engaged in hybrid learning because its self-paced structure allows them to interact with content at their own convenience. Nonetheless, flexibility alone does not guarantee improved comprehension or academic performance; structured guidance and the effective use of digital resources remain essential (Dziuban et al., 2018).

Regarding the second theme, participants shared mixed views about the effectiveness and efficiency of hybrid learning. One of the key components of online learning is that it offers time savings and convenience, especially when a university has multiple campuses and students need to attend more than one campus due to their course of study. According to PST7, those who have face-to-face classes found hybrid learning more convenient than some of us who learn online, which is undermined by unequal lecturer attention. The reports from PST5 and PST2 supported the view that lecturers often pay more attention to face-to-face students, leaving online learners feeling neglected and disengaged most of the time.

These findings align with the results of Wang et al. (2021), who observed that teachers often devote more attention to the design phase than to the actual teaching phase, which, in turn, influences students' learning outcomes. Similarly, Law et al. (2019) reported that teaching presence directly shapes both cognitive and social presence and indirectly affects students' academic performance. This is further supported by Wang and Antonenko (2017), who found that the instructor's presence in class positively affects students' satisfaction with learning, particularly when dealing with complex topics.

The third theme for the study explores the challenges participants experienced. The participants identified several challenges, including network/connectivity issues, distractions, a lack of supervision, and environmental factors. The main cause of network instability was the campus location and weather conditions, particularly during the rainy season. PST9 and PST1 highlighted that an unstable network disrupts online connectivity and students' participation. This is supported by the

findings of Ali et al. (2023) and Hamid et al. (2020), which indicate that an unstable internet connection is among the digital connectivity challenges in online learning. Other studies have reported cases of poor internet connections, slow and frequent internet problems, and Wi-Fi speed issues (Ali et al., 2023; Ggokonqana et al., 2022; Lapitan et al., 2021; Nassr et al., 2020). Another challenge reported by PST6 was distractions. This was acknowledged due to a lack of supervision by lecturers. Many students were distracted by their phones, hindering their concentration. This aligns with previous research findings, which show that online learning relies heavily on self-discipline and that inadequate monitoring can negatively affect students' performance (Broadbent & Poon, 2015).

Despite all these highlighted challenges, participants still employed various coping strategies in the last theme. Based on the findings, PST10 suggested peer support, while PST4 and PST7 mentioned that self-managed schedules helped them mitigate the learning gaps. However, these coping strategies were only partially effective because they could not resolve persistent network issues, distractions, or unequal attention from lecturers. This reflects the findings of Fabula (2023) and Lee and Choi (2017), who noted that while students try to adapt to hybrid learning through self-directed strategies, collaborative, and interactive activities, operational and environmental barriers often limit their effectiveness.

The general findings of this study align with the principles of social constructivism (Vygotsky, 1978) and Self-Directed Learning Theory (Knowles, 1975). These principles supported how preservice teachers navigated hybrid learning challenges through collaboration and personal learning. In line with social constructivist theory, participants relied on collaboration with peers and group discussions to explore complex concepts, overcoming learning barriers and reinforcing their individual understandings. Also, some elements of self-learning were evident in the responsibility they took to manage their learning outcomes. These findings underscore that the effectiveness of hybrid learning in teacher education depends on striking a balance between collaborative engagement and autonomy, with both social interaction and self-regulated learning making significant contributions to the learning experience and academic growth.

### **Implications for Learning Outcomes**

The mixed experiences and challenges identified by the preservice teachers in this study allow the researchers to explain disparities in academic performance. Students who earned upper credit were able to adapt more effectively and leverage hybrid learning efficiently. In contrast, students with lower credit grades and third-class grades faced deeper challenges due to network instability, lack of supervision, and unequal lecturer attention. This research finding highlights the importance of universities adopting hybrid models to provide consistent lecturer attention to online learners, robust internet connectivity, and structured support, thereby ensuring equitable learning outcomes (Borup et al., 2019). Additionally, insights from the phenomenological study can enhance the understanding of university management, educators, and lecturers regarding students' life experiences and the challenges they encounter in hybrid instructional modes, enabling them to adopt appropriate strategies.

Effectively adopting hybrid learning in education requires a skilled workforce capable of blending face-to-face and online instructional strategies to support teaching and learning. One of the implications of this research is to enhance professional development skills and initiative aimed at strengthening students' and lecturers' capacity on the effective implementation of hybrid learning models. This initiative will train lecturers on the effective use of digital technologies, blended pedagogical strategies, and instructional design skills, thereby enabling them to deliver quality learning experiences across physical and virtual environments. Furthermore, exploring hybrid learning models in higher education institutions helps improve the quality of education in Nigeria, especially in the development of technology-enhanced learning. The findings from this study can

inspire deeper investigation into the role of the hybrid instructional model in addressing contemporary educational challenges while informing innovation and context-specific practices. Furthermore, the research findings may have implications beyond and can inform global efforts to leverage hybrid learning for quality teaching and learning in higher institutions. Researchers, policymakers, and educators worldwide can collaborate to develop contextually relevant hybrid learning solutions that can be adopted to ensure the continuity of the teaching-learning process, both in times of crisis and under normal circumstances.

## 6. Conclusion

This study examined the hybrid learning experiences among the preservice teachers. This study is grounded in a phenomenological inquiry that focuses on preservice teachers' learning experiences with the hybrid learning mode and how instruction influences their academic performance. Participants reported a range of experiences, highlighted in the following areas: perceived academic benefits of hybrid learning, effectiveness and efficiency of hybrid instruction, challenges and barriers to hybrid learning, and adaptation and coping strategies. The study findings highlighted that a hybrid mode of instruction allows students to revisit online lessons, which helps them better understand certain concepts and provides logistical convenience through time savings and reduced risk of traveling to attend lectures. However, some participants reported challenges in maintaining consistent motivation and balancing the dual demands of in-class and online learning. Therefore, this study concluded that the effectiveness of hybrid learning in higher institutions extends beyond its mere implementation.

## 7. Recommendations

After the data collected has been thoroughly analyzed, the following recommendations are made. Firstly, universities should invest in robust, reliable facilities and provide a backup connectivity system to reduce disruptions during hybrid classes, particularly in rural areas or on weather-affected campuses during rainy seasons. Secondly, lecturers, teaching assistants, or moderators should adopt teaching practices that balance their attention during hybrid classes to reduce distractions and ensure active participation, especially for learners who lack self-discipline. Thirdly, universities should provide continuous training and workshops to enhance lecturers' capacity in digital pedagogy and hybrid classroom management, ensuring the effective integration of technology with the physical classroom. Fourthly, university policymakers should develop guidelines for quality-assurance monitoring and a mechanism to regularly evaluate the effectiveness of hybrid learning, using student feedback to inform the restructuring of instructional design and delivery. Lastly, further studies should be conducted at other universities and in other contexts to examine preservice teachers' experiences across disciplines, programs, and course levels, and to investigate the long-term impacts on student achievement, motivation, and professional readiness.

## 8. Limitations of the Study

One of the main limitations of this study is the caution against generalizing the findings, which reflects a relatively small sample size. Another potential limitation of the study is the reliance on qualitative data, which may not have fully captured the impact and scope of hybrid learning in improving preservice academic performance. Future research should broaden the scope of the study and likely increase the sample size as well. The use of short interviews may also have hindered participants from providing an in-depth perspective in their discussions. Therefore, further study may employ a combination of qualitative and quantitative methods to collect more robust data from the participants. Moreover, refining the scope and methodology of this study can provide a clearer understanding of how the hybrid learning instructional model enhances students' academic performance.

## Declarations

**Author Contributions.** Odekeye Ola Tokunbo: Conceptualization, Literature review, data collection, data analysis, and result interpretation. Prof. Thuthudike Jita: Writing the original draft, methodology, manuscript review, and validation.

**Conflict of interest.** The authors declare no conflict of interest in this manuscript.

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**Data Availability.** The data will be provided by the corresponding author upon request.

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