FROM IN-PERSON TO VIRTUAL TO BLENDED LEARNING: EXPLORING UNIVERSITY STUDENTS' EXPERIENCES

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ABSTRACT

The aim of the study was to understand university students' learning experiences in the in-person (before COVID-19), virtual (during COVID-19), and blended (after COVID-19) modes, the challenges they faced, how they coped with the challenges, and which of the three modes of learning they preferred. Using Colaizzi's descriptive phenomenology, 30 undergraduate students were interviewed to understand their learning experiences in the three modes. Findings indicate that students preferred blended learning to in-person and virtual learning. Students' in-person learning challenges were walking to lectures, large classes, lateness, and stress; their virtual learning challenges were poor internet connectivity and noise; and their blended learning challenges were clashes on the timetable, miscommunication, stress, noise, and lateness. Students coped with in-person learning challenges by being punctual, relying on lecture notes, and getting help from friends. They coped with virtual learning challenges by relocating, using personal internet, relying on friends and relatives, and recorded lessons. They coped with blended learning challenges by relying on lecture notes and recorded lessons, using headphones, and focusing on one mode of learning. Implications for practice and policy are discussed.

Keywords: COVID-19 pandemic, in-person learning, virtual learning, blended learning, descriptive phenomenology, university students.

INTRODUCTION

The coronavirus (COVID-19) pandemic caused disruptions to the education of an estimated 220 million higher education (HE) students across the globe (UNESCO, 2021). The pandemic forced traditional institutions of higher learning (IHLs) to move teaching and learning activities into the virtual environment (Ferri et al., 2020; Hodges et al., 2020; Mohmmed et al., 2020). The shift to virtual learning brought several challenges to many students in IHLs, especially those from poorer backgrounds and those with disabilities (Batty & Hall, 2020). Already, poor internet access/connectivity, high internet data cost, and weak technical support for online learning, among other challenges, have been reported in Africa and other developing nations (Ampadu & Sedofia, 2021; Nhando, 2015). With the announcement by the World Health Organisation that the end of the virus was in sight (Mishra, 2022), some IHLs reverted to the traditional face-to-face mode of teaching and learning while other IHLs are employing the blended mode where some of the teaching and learning activities are done virtually and others in-person. In this study, in-person or face-to-face learning refers to learning which takes place in a traditional brick-and-mortar classroom when teachers and students are physically present, while virtual or online learning refers to learning with digital technologies. Blended learning has been used to refer to learning that takes place partly in a physical classroom and partly in a virtual environment.

A review of the literature revealed that there is a plethora of research on COVID-19 and how it affected teaching and learning in IHLs in general (Ampadu & Sedofia, 2021; Ferri et al., 2020; Hodges et al., 2020; Mohmmed et al., 2020; Sedofia & Ampadu, 2022). However, how university students experienced learning in the in-person mode (before the COVID-19 pandemic), virtual mode (during the pandemic), and blended mode (after the pandemic), the challenges they faced, how they coped with the challenges, and which of the three modes of learning they prefer is yet to be explored in-depth using a qualitative phenomenology approach. Such a study is necessary to inform practice and policy in IHLs.

In a mixed methods study, Atwa et al. (2022) explored the experiences of 33 lecturers and 194 students of the College of Medicine and Medical Sciences at the Arabian Gulf University (CMMS-AGU) regarding online and face-to-face learning in order to determine their preferred mode of learning. The results indicated that 53.1% of the students preferred the face-to-face mode of learning while 60.6% of the faculty members preferred the blended mode. It was also discovered that at least 30% of the curriculum could be taught online post-COVID-19. Nikolopoulou (2022) also interviewed 24 Greek university students to determine their preferences regarding face-to-face, online, and hybrid modes of education. The findings indicated that face-to-face education has benefits such as immediacy with teachers, socialisation, interactions, and students' active participation, while its major challenge was with workload. It was also found that though online education was flexible and the participants were familiar with digital technology, there were technical problems and loss of practical classes. Finally, the study revealed that the students preferred face-to-face and hybrid education. Though the scope of Atwa et al.'s (2022) and Nikolopoulou's (2022) studies is similar to that of the present study, they did not utilise phenomenology. Also, the populations studied did not involve three-year groups of students. An in-depth understanding of HE students' experiences in learning in

the in-person, virtual and blended modes is thus missing. It is, therefore, important to find out how students experienced learning in the three modes and use the findings to inform policy and practice in IHLs in the post-pandemic era. Consequently, the present study aimed to explore university students' learning experiences in the in-person, virtual, and blended modes. In addition, we investigated the challenges associated with each mode of learning, and explored how students coped with the challenges, and ascertained which of the three modes of learning students prefer. To achieve these objectives, the study used Colaizzi's (1978) descriptive phenomenology. This robust qualitative data analysis method allows researchers to explore the fundamental structure of an experience and reveal emergent themes and their interwoven relationships (Wirihana et al., 2018).

LITERATURE REVIEW

Students' in-person, virtual, and blended learning experiences

The literature discusses students' experiences in the in-person, virtual, and blended learning environments. In-person learning provides a higher level of socialisation and acceptance, fostering student camaraderie. It is valued for its sense of community and the ability to facilitate idea-sharing and interaction (Petillion & McNeil, 2020; Shin & Hickey, 2021). On the other hand, the switch to virtual due to COVID-19 has been generally well-received by both professors and students, offering convenience, comfort, and flexibility in terms of location and timing ((Biel & Brame, 2016; Seaman et al., 2018). Virtual learning also has the potential to improve academic performance and reach students with special needs (Wang et al., 2021). However, it can also detract from the student experience, hinder faculty-student connections, and reduce instructional effectiveness (Seaman et al., 2018). Students often express dissatisfaction with limited contact with professors and a lack of engagement and focus in virtual environments (Murphy et al., 2020). Blended learning, which combines in-person and virtual components, is valued for its flexibility and has been shown to enhance active learning, self-regulation, and accommodate different learning styles (Chowdhury & Behak, 2022; Shim & Lee, 2020). However, it may discourage innovation and increase teachers' workload, negatively affecting both teachers' efficiency and students' learning experiences (Dung, 2020; Vaillancourt et al., 2019).

Students' virtual, blended and in-person learning challenges

Students face various challenges in each learning mode. In virtual and blended learning, challenges include technological proficiency, expensive internet costs, limited access to educational technologies, social exclusion, negative home learning environments, scheduling issues, distractions, pessimistic emotions, longer durations, concentration difficulties, and health challenges associated with screen time (Adarkwah, 2021; Kapasia et al., 2020; Suryaman et al., 2020). In in-person learning, challenges include instructional delivery issues, dominance of certain students in discussions, time management difficulties for working students, overload of reading materials and assignments, and lack of communication and collaboration in group activities (Bakir et al., 2020; Fook et al., 2015; Kemp & Grieve, 2014).

How students cope with the challenges of virtual, blended, and in-person learning

Students employ different coping strategies to manage these challenges. They seek good space, borrow learning resources, seek support from peers and teachers, practice time management, work ahead, participate in fun and socialising activities, and rely on their religious beliefs (Osafo, 2016; Rotas & Cahapay, 2021. According to Gore (2014), students who encounter loneliness from a distance learning programme frequently turn to their friends for social assistance. Baloran (2020) also discovered that students form strong ties to help them overcome their sense of loneliness in face-to-face classroom interactions. Another strategy students use to handle the majority of the instructional activities associated with virtual learning is to communicate with their teachers via telephone or an online network of support designed to allow students to connect with their lecturers about various issues (Talbot, 2007). In order to complete online programmes, students also develop time management plans, effective ways of learning tasks in advance and prolong their training to learn tasks. These three coping methods are linked since time management frees up flexibility regarding responsibilities (Aldabbus, 2018; Adams & Blair, 2019). Again, students manage the challenges of remote learning by focusing on fun and socialising activities (Shamsuddin et al., 2013). In contrast to sociological or physiological strategies, some students are inclined to employ leisure skills to deal with stressful experiences (Esia-Donkoh, 2014). Another coping strategy students employ to manage online and blended learning challenges is taking on more work to acquire the necessary gadgets for their studies (Baloran, 2020; Matswetu et al., 2020). Some students also resort to prayer and their religion to cope with the challenges in their studies (Baloran, 2020). In an attempt to be active in face-to-face interactions, working students rush to class and rush back to the house or the office to be able to manage both work and school (Fook et al., 2015).

Students' preferred mode of learning

Regarding students' preferred learning mode, face-to-face lessons are generally preferred to digital lessons (Giray, 2021). However, students expressed satisfaction with blended learning as it offers a more enjoyable learning experience. Blended learning is beneficial to self-growth, and learners are enthusiastic and comfortable in such programmes (Johnson et al., 2016; Zhang et al., 2016). Some students prefer online learning for its flexibility and convenience, while others appreciate aspects of digital learning, such as friendly learning environments and innovative learning scenarios. Working students tend to prefer virtual learning ((Ghazi-Saidi et al., & 2020).

A descriptive phenomenological examination of university students' experiences in the in-person, virtual and blended learning modes is necessary to contribute to practice and policy in IHLs. Practically, the study highlights the mode of learning that university students prefer. This equips academic faculty in IHLs with knowledge of the mode of learning that is most beneficial to students. When teaching and learning activities are done in students' preferred modes of learning, then all other things being equal, teaching and learning in IHLs should be more effective. Policy-wise, findings from the study highlight the need for authorities in IHLs to formulate forward-looking policies that address the specific learning needs of their students.

MATERIAL AND METHODS

Overview of the research site

The present study was undertaken in a large public university situated in Ghana's capital city, Accra. Established in 1948, the university has a student population of approximately 61,000 students enrolled in regular, sandwich and weekend programmes as well as distance education and students from affiliate institutions. Of this number, 44,474 are undergraduates. The University has, over the years, built an image as one of the continent's reputable universities, making it the first choice for academics, researchers and students. The institution boasts of a relatively robust physical as well as technological infrastructure. The university's learning management system (LMS) is Sakai. Before COVID-19, the primary mode of teaching and learning in the university was face-to-face. During the COVID-19 closure of schools however, the typically traditional university implemented an emergency remote teaching policy which mandated all teaching and learning interactions to be conducted virtually. The university's assessment policy, which prior to COVID-19 was 30% formative and 70% summative, was modified in line with the pandemic-induced changes to 50% or 60% formative and 40% or 50% summative. Management of the university provided 5 GB of internet data to all students and faculty members on a monthly basis to enable them to be engaged virtually during the COVID-19 period. At the beginning of the 2021-2022 academic year, when social distancing rules were relaxed, the university management directed all teaching and learning activities to be conducted in a blended mode. It is therefore important to explore how students of this university experienced learning in the in-person, virtual, and blended modes.

3.2 *Research design*

To be able to describe the common meaning of university students' lived experiences of learning in the in-person (before COVID-19), virtual (during COVID-19), and blended (after COVID-19) modes (Creswell & Poth, 2016) and to reduce the individual experiences of students regarding learning in the three modes to a description of the universal essence (van Manen, 2017), the researchers used Colaizzi's (1978) descriptive phenomenology. Descriptive phenomenology is a qualitative research approach concerned with revealing the "essence" or "essential structure" of any phenomenon under investigation (Morrow et al., 2015). Colaizzi's descriptive phenomenology is a seven-step method of data analysis used to discover the fundamental structures of experience and is useful in understanding people's experiences (Wirihana et al., 2018). It offers a clearer and more systematic approach because of its thematic nature (Morrow et al., 2015).

3.3 *Participant selection and characteristics*

There were 1,042 undergraduates comprising 480 males and 562 females in the department where the study was conducted. Based on Creswell & Poth's (2016) advice, the researchers selected 30 undergraduate students, ten each in the second, third, and fourth (final) years, from a large public university in Ghana. The first-year students were deliberately left out because they had not gone through the three modes of learning (in-person, virtual and blended) at the time data were being gathered. The respondents were selected conveniently. Table 1

shows the distribution of respondents by academic level, age and sex. The data in Table 1 shows that there were ten participants in each academic level. The participants aged between 20 and 37 years, with the majority being 24 years. Half of the participants were female.

Table 1: Academic Level, Age, and Sex Distribution of Respondents

S/No.	Participant code:	Sex	Age	Academic level
1	RP-1	Male	24	200
2	RP- 2	Male	34	200
3	RP -3	Female	21	200
4	RP-4	Male	24	200
5	RP-5	Male	24	200
6	RP-6	Female	20	200
7	RP-7	Female	22	200
8	RP-8	Male	21	200
9	RP-9	Male	24	200
10	RP-10	Female	20	200
11	RP -11	Female	22	300
12	RP -12	Male	24	300
13	RP -13	Female	22	300
14	RP -14	Female	28	300
15	RP-15	Male	28	300
16	RP -16	Male	24	300
17	RP -17	Female	27	300
18	RP-18	Male	37	300
19	RP-19	Male	28	300
20	RP-20	Female	23	300
21	RP-21	Female	23	400
22	RP-22	Male	24	400
23	RP-23	Male	25	400
24	RP-24	Female	23	400
25	RP-25	Female	22	400
26	RP-26	Female	23	400
27	RP-27	Male	23	400
28	RP-28	Male	25	400
29	RP-29	Female	25	400
30	RP-30	Female	23	400

Source: Authors

3.4 *Research instrument*

A semi-structured interview guide was used to collect data for the study. The main interview questions were: "What differences do you experience in the teaching and learning process comparing the in-person, virtual, and blended modes?" "What challenges did you encounter in each of the three learning modes?" "How did you cope with the challenges you encountered in learning in the three modes?" and "Comparing your experiences in learning in the three modes, which one do you prefer? Each question had prompts that sought to explore the questions in greater depth.

3.5 *Procedure*

After obtaining approval to conduct the study, information about it and its purpose were put on the students' class Telegram and WhatsApp platforms. Persons willing to participate were to indicate their availability and consent by

sending their contact details to the lead author. The volunteers were assured of confidentiality, and the interviews were conducted with each of them. Telephone interviews were done with participants who were not readily available on campus owing to the blended learning policy being implemented by the university at the time. The rest of the participants were interviewed one-on-one. Each participant was interviewed once. The interviews were recorded using written notes. Each telephone interview lasted about 20 minutes, while the face-to-face interviews lasted an average of 30 minutes. One graduate student was trained to serve as a research assistant to assist in data collection. The data collection started on 1st August and ended on 3rd September 2022.

Establishing trustworthiness in the study

Methodological rigour in qualitative research relates to credibility, transferability, dependability, and confirmability (Guba & Lincoln, 1989). There are several ways of achieving qualitative rigour. In the present study, the researchers used the processes of member checking, a "thick description" of the research context, detailed description of the research processes, and a detailed audit trail (Maher et al., 2018) to achieve methodological rigour.

Data analysis

Data analysis followed Colaizzi's (1978) seven-step process, namely familiarisation, identification of significant statements, formulation of meanings, clustering of themes, development of an exhaustive description, production of the fundamental structure, and seeking verification of the fundamental structure (Morrow et al., 2015). The researchers started by reading through all the participant accounts several times in order to become familiar with the data. That led to the identification of all statements in the accounts that were of direct relevance to the phenomenon under investigation. After a careful consideration of the significant statements, the researchers identified meanings relevant to the phenomenon of experiencing learning in the three different modes before, during and after the COVID-19 pandemic. The researchers went on to cluster the identified meanings into themes that were common across all accounts and used those themes to write a comprehensive description of the phenomenon. The researchers then condensed the exhaustive description into a short, dense statement that captures just those aspects deemed to be essential to the structure of the phenomenon under study. To lend credence to the data, verbatim or direct quotes by some participants were used, in some instances, and integrated into the discussion. The process was concluded by engaging five of the research participants (two each in the second and third years and one in the final year) in respondent validation to be sure the final report captured their true experiences as narrated (Varpio et al., 2017). All five participants affirmed the data as a true reflection of their experiences. There were no instances of negative cases.

Researcher's Reflexivity

This reflexivity section aims to critically reflect on our positionality, biases, and assumptions in conducting this study which explores the common meaning of university students' lived experiences of learning in the in-person (before COVID-19), virtual (during COVID-19), and blended (after COVID-19) modes. By

critically reflecting on these factors, we aimed to enhance the rigor and validity of the study.

As researchers with prior experience in the field of education, we brought a certain level of knowledge and expertise to the study. Therefore, we strove to approach the research with an open mind, recognising the potential for our personal biases and preconceived notions to impact the interpretation of data. We acknowledge that our personal biases and assumptions could influence the research process. One such bias is our own experiences as university faculty who taught in the three modes (in-person, virtual and blended). Such experiences could potentially shape our understanding of our participants' experiences. To mitigate this bias, we adopted a reflexive stance and maintained a critical distance from our own experiences, ensuring that they did not overshadow or dominate the narratives of our participants. Also, we held the assumption that the COVID-19 pandemic significantly impacted the experiences of university students. While this assumption is widely accepted, we acknowledged the need to critically engage with this assumption and interrogate its complexities. We did this to avoid generalisations and oversimplifications, recognising that the experiences of university students during the pandemic may vary based on numerous contextual and individual factors. Again, we as faculty members acknowledge the power dynamics inherent in the researcher-participant relationship. The participants' willingness to share their experiences may have been influenced by our positions as authority figures in the research process. We made efforts to establish a supportive and respectful environment, ensuring that participants felt comfortable sharing their experiences and that their voices were heard. We also maintained transparency about the research goals and potential implications, ensuring informed consent and voluntary participation. During the data analysis process, we engaged in constant reflection and reflexivity. We included direct quotes by some participants to ensure that we present and discuss participants' lived experiences instead of our prejudices. We continuously questioned our interpretations and engaged in discussions with our colleagues to challenge our own biases and assumptions. We adopted an iterative approach, which allowed for ongoing adjustments and refinements to the analysis, ensuring that the findings were grounded in the participants' lived experiences rather than our preconceived notions.

Transparency and Openness

The data and research materials used in this study are available and can be obtained from the corresponding author on request.

RESULTS AND DISCUSSION

After analysing the data, several major themes emerged, highlighting the different ways in which the students experienced learning in the in-person (before COVID-19), virtual (during COVID-19), and blended (after COVID-19) modes. The themes have been organised under the following sub-headings: students' learning experiences in the in-person, virtual, and blended modes; students' challenges in learning the in-person, virtual, and blended modes; how students coped with the challenges of learning in the three modes; and students' preferred mode of learning. The discussion is fused with the results.

A comparison of students' learning experiences in the in-person, virtual, and blended modes

The participants described their learning experience in the in-person mode as good because it enabled them to understand calculation courses better. One 22-year-old level 300 female participant said: *Because I do physics and biology, it is clear that I prefer those courses face-to-face to be able to understand better…* Some of them also said in-person learning gave them an opportunity to interact with their peers and lecturers. Nine participants echoed this view. A 21-year-old female level 200 participant said: *With the in-person, I get the chance to meet lecturers and friends and have personal interaction with them*. Another female level 200 participant, 20 years, revealed: *Because I was a non-resident, the virtual was more comfortable but when I moved to campus the in-person became the best because of the personal interaction with the lecturer*. Gonzales et al. (2020) asserted that engaging students physically had a substantial favourable impact on their academic performance. It creates the opportunity for students to feel accepted (Petillion & McNeil, 2020; Shin & Hickey, 2021), fosters a sense of companionship (Kauppi et al*.*, 2020; Dung, 2020), and helps them to develop personal relationships (Felson & Adamczyk, 2021; Shahzad et al*.*, 2021). Dung (2020) however cautioned that students simply believing that they would perform better if they attended school in-person may create a self-fulfilling prophesy for them. That is, they would perform well in an in-person environment but decline in a virtual environment to prove their case.

The majority of the students described their virtual learning experience as bad. For example, a 23-year-old female level 300 participant stated: *I don't like the online because I had to defer my course due to that.* She explained that she lost her device during the pandemic. This prevented her from participating meaningfully in virtual learning. Other challenges associated with virtual learning made students' learning experience unpleasant. The challenges of virtual learning (Adarkwah, 2021; Fawaz et al., 2021; Franchi, 2020; Hebebci et al., 2020; Suryaman et al., 2020) have the potential of preventing students from enjoying learning in that mode. A few students, however, found virtual learning convenient. For students who were combining studies with work, doing their lessons virtually was a great relief. Research suggests that virtual learning does have a number of benefits (Seaman et al., 2018; Biel & Brame, 2016). The students described blended learning as flexible, convenient and less stressful. According to a 23-year-old male level 400 participant, blended learning combined the advantages of in-person and virtual learning to make their learning experience great. Indeed, previous research has established that blended learning offers some advantages that none of the two other modes (in-person and virtual) can offer alone (Zhang et al., 2016; Johnson et al., 2016; Wah et al., 2013). Comparing their in-person, virtual and blended learning experiences, the participants were of the view that the blended mode was more effective and therefore preferred. This is not surprising because the pandemic-induced switch to virtual learning was abrupt and chaotic in some instances, and caught most traditional universities unprepared. Therefore, during the pandemic when in-person learning was suspended and virtual learning was chaotic, blended learning could be seen as the obvious alternative.

Challenges associated with learning in the in-person, virtual and blended modes

In-person learning

The issue of having to walk to lectures for in-person lessons was a concern for some of the student participants. One 24-year-old male level 200 participant stated: *The main challenge I encounter is the walking from my hall to the lecture halls.* Some of them complained about the cost of commuting from home to school. Other students, especially the non-resident ones, said that the distance they covered in moving through vehicular traffic to attend lectures made them late sometimes and completely absent at other times. They said that some of their lecturers were even affected by the same issue of lateness and absenteeism. Due to inadequate residential facilities, work, and in some cases lack of funds, some students live in communities that are far from campus. For such students, walking to class daily, paying for transport or combining work with studies can be challenging. As found by Kemp and Grieve (2014), combining both classroom learning and work was a major challenge for working students.

It appears the major challenge the students had with in-person learning was the issue of large class sizes or inadequate space in the lecture rooms. More than half of the participants expressed worry over this issue. The increase in student population deprived students of adequate classroom space. Large class sizes disorganise classes, make classroom management difficult, and render teaching and learning less effective (Fook et al., 2015). As reported by the students, the size of their classes prevented them from benefiting fully from in-person lessons. Some of the students also complained about the stressful nature of in-person lessons. As concluded by Fook et al. (2015), students in face-to-face classrooms were concerned about reading materials and assignment overload. Any student who is overloaded with academic work can feel stressed which if not managed well, can escalate. It is, however, important to note that learning in the virtual and blended modes have the potential of producing some levels of stress (Alshammari et al., 2022; Azmi et al., 2022; Gijón Puerta et al., 2022). Therefore, the perceived stress associated with in-person learning may not be peculiar to that mode alone.

Some of the students were shy, and that made in-person learning a challenge to them. For instance, a 21-year-old male level 200 participant said: *Because I am the shy type, I am unable to enter the class when I am 5 minutes late.* This narrative was confirmed by a 20-year-old female level 200 participant who said: *Sometimes I find it difficult to ask or answer questions when it is in-person.* For students like these, the facelessness that virtual learning provides may be a safe haven for them to learn. But then, such students would miss out on developing appropriate interpersonal skills necessary for work and life outside the school environment. Interestingly, two 23-year-old level 400 participants, one male and the other female, reported that they did not have any challenge with the in-person mode of learning. They explained that they were simply comfortable with in-person learning and would have wished that it never changed.

Virtual learning

Poor internet connectivity is by far the biggest challenge faced by the students in virtual learning. As many as 26 out of the 30 students across the three-year groups reported having unstable internet connections, logouts, and sometimes being unable to log in to lessons at all. This may be due to the fact that although the university has internet facilities, it did not have the capacity to support teaching, learning, and other administrative work on the scale that was witnessed during the COVID-19 induced remote learning period. The internet infrastructure of the university was therefore stretched when the university had to rely on it for these activities. This may have led to most of the challenges that were encountered with internet connectivity. This is not surprising because 80% of the countries with the lowest levels of internet availability in the world are within the sub-Saharan region (Nhando, 2015). Even in advanced countries, the abrupt shift from face to face to remote learning environments brought issues with policies and logistics, among other things (Donitsa-Schmidt & Ramot, 2020; Khalil et al., 2020). It is, however, instructive to note that while the virtual learning challenges in developed countries are mainly emotional and behavioural in nature, those in sub-Saharan Africa are competency, technical, policy and resource related (Ampadu & Sedofia, 2021). The finding in the present study that internet connectivity challenges dominate the concerns that students had in virtual learning is supported in the literature (Kapasia et al, 2020; Matswetu et al., 2020; Sedofia & Ampadu 2022). Interestingly, some of the students attributed their connectivity challenges to some related factors such as costly internet data; problems with digital learning devices like smartphones, tablets, and computers; and challenges with videoconferencing channels like Zoom, Microsoft Teams and Google Meet. These reports confirm research findings that expensive internet costs (Suryaman et al., 2020) and lack of ICT tools (Adarkwah, 2021) were some of the challenges faced by students in learning online.

Some of the students expressed concerns about interruptions that came from noisy environments. According to them, some of their colleagues failed to mute their microphones during virtual lessons, leading to excessive background noise. Noise is an enemy to effective teaching and learning, no matter the environment. Teachers and educational authorities implementing virtual learning should therefore take cognisance of this concern by students and reduce its impact on learning. As it is, virtual teaching and learning have come to stay. It is therefore important that teachers and students who embrace this mode of teaching and learning have a noise-free environment to operate in.

Blended learning

Many students reported that there were clashes with their blended lessons. They explained that: *Sometimes the time interval between the in-person and virtual is minimal to walk to the next class* and other times, *…the in-person sometimes clashes with my working hours which makes me miss some of the classes.* This may be due to the way in which the blended learning mode was implemented in the institution. In the 2021/2022 academic year when social distancing rules were relaxed, the university where this study was conducted rolled out a blended learning policy. There was a teaching timetable. However, to allow some flexibility, lecturers were to decide which of their lessons were to be held virtually and which ones were to be held face-to-face. This, though well-

intended, was a little bit chaotic as students were at the mercy of their lecturers' schedules. For instance, if two lecturers in different departments fixed their lessons for the same time but in different modes, students had difficulty attending both lectures.

Some of the students complained about the confusion that came with the blended learning schedules. For such students, the schedules were not properly communicated to them. Clearly, these instances confused students and caused some of them to be late for some lessons. The non-resident students were mostly affected by this. One issue of concern to the students is the stress associated with blended learning. The students bemoaned the stress of having to switch from one learning mode to another. A number of students confirmed this report, saying that they sometimes lost contact hours as a result. Some of them said it caused them to be absent from some lectures. Another issue the students complained about was noise. The participants said that some of their colleagues did not mute their microphones during blended lessons. The noise from their environments caused distractions during lessons. It was also reported that some students intentionally or unintentionally muted their lecturers, disrupting the lessons and ending some of them abruptly. These reported challenges of blended learning lend credence to the observation that issues such as policies, philosophy, logistics, economic considerations, innovation, and psychosocial interventions hampered the smooth implementation of blended learning (Donitsa-Schmidt & Ramot, 2020; Khalil et al., 2020) and that blended learning did not influence student success positively (Horn & Staker, 2017). These challenges reported by students about blended learning in the present study are novel because the bulk of research has highlighted the advantages of blended learning with little focus on its challenges (Abdelmalak, 2014; Chowdhury & Behak 2022; Johnson et al., 2016; Wah et al., 2013; Zhang et al., 2020). There is no doubt that when it is managed well, blended learning can offset the weaknesses inherent in online learning or face-to-face learning alone. The concerns raised by the participants in the present study should therefore be addressed in order to derive the full benefits from this mode of learning.

How Students coped with the challenges of learning in the three modes

In-person mode

Close to half of the 30 participants reported that they attended in-person lectures much earlier than normal. They explained that this helped them to secure seats in crowded lecture halls. A narration that echoed this position was that of a 22-year-old male level 200 student: *I most often come to class early sometimes 30 minutes or an hour before the lectures and I walk as fast as I can to get a place to sit for the other lectures.* This report confirms Fook et al.'s (2015) study which indicates that some students prepare two to three hours before going to class and working students rush to class and rush back to the house or the office to be able to manage both work and school. Before COVID-19, some of the classrooms in the study locale were overcrowded. Students who were late for lectures had to stand outside lecture rooms throughout lectures. Those who could not bear the ordeal abandoned the lectures. Some of the students said they relied on their lecture notes and those of their friends and colleagues in coping with their in-person learning challenges. A 24-year-old female level 300 student stated: *Personally, if I miss a class or come late, I go to my colleagues for explanation or take the slides and go back to read further.*

In case there are no slides I take pictures of my friends' notes to learn. Some of them said they did group studies with their colleagues. They said that doing this helped them not to miss out completely. As observed by Gonzales et al. (2020), in-person lessons provided students the opportunity to exchange ideas, and it has positive impacts on students' academic performance.

Virtual mode

Over a third of the participants said that in order to cope with their connectivity challenges, they had to move to areas on campus where the internet connectivity was stronger. Some students relied on the internet used by relatives who work at the university and some of them moved to the university's main library. The following excerpt gives credence to this assertion. *Because I know of this internet problem, I always make sure I am at a place where the internet will be stable. There was this time that I wanted to do presentation so I had to move to the office where my mum works in order to get good internet connection* (23-year-old male level 200 participant)*.* Some of the students also relied on their personal mobile Wi-Fi to stay connected, though they complained about high internet data cost. Since virtual learning became the norm during the pandemic, the students had little choice. Matswetu et al. (2020) found that students will look for every possible option to stay connected to the internet in their online learning pursuits.

The recording feature in most virtual learning systems made it possible for synchronous lectures to be recorded and made available asynchronously to students. Nearly a quarter of the participants reported that they relied on recorded lectures and lecture notes. Some of them took such recorded lessons from their friends or colleagues. In the absence of recorded lessons, the students also relied on their own lecture notes or those of their friends and colleagues. Baloran (2020) discovered that forming strong ties was one way in which students coped with their virtual learning challenges. Those ties helped them to share notes and also shed some of the loneliness they faced in the virtual environment. Aside these, some of the students used other coping strategies that could not be categorised. For example, in times when students could not join virtual lessons at all or they joined but were logged out and had to re-join, one student said: *Most often when I am not allowed into the group, I text on our WhatsApp page to alert the lecturers to let me in.* On occasions when some students left the microphones of their devices on and noise from the environment disturbed the lessons, this is how some students said they coped: *We most often alert lecturers to mute all students so that the class can be quiet for all of us to concentrate.* One 22-year-old female level 300 participant said: *I mostly complain to the course rep to inform the lecturer about the network issues. Sometimes I get tutorials from colleagues.* These are some of the ways in which students coped with their remote learning challenges, which means that students employed a variety of strategies to cope with their remote learning challenges.

Blended mode

Since blended learning is a combination of both virtual and in-person learning, some of the strategies students used in coping with the challenges they encountered are similar to those they adopted with virtual learning. The majority of students said one way they coped with the blended learning challenges was to

rely on recorded lessons and lecture notes. The following excerpt from a 25-year-old male level 400 participant sums it up: *I mostly go back to listen to the recordings when I am not able to join the class and read my slides when I am not able to join the in-person class.* What this means is that in the event that lessons were not recorded and the lecture notes were not made available to them for whatever reason, students would be in what can be described as a complete academic blackout.

Some of the students who experienced clashes during blended learning said they simply chose one of the modes. One 24-year-old female level 300 participant said: *For now, I just choose which class I want to attend and make personal studies for the rest. For instance, I have a lecture at 1:30-3:30 and another class at 2:30pm, but I have just made* [up] *my mind* [that] *I have a class at 2:30pm. Meaning I have to do personal studies for the 1:30 class which is online.* Again, for students whose virtual and in-person lessons clashed, the use of headphones became a sure way of coping with the challenges. One of them said: *Sometimes I use earpiece for virtual classes whilst I am in the in-person class.* Although this can be seen as a smart coping strategy, the obvious thing is that such students would not be able to concentrate on two different lectures at the same time. In the event that the virtual lessons were recorded or lecture notes were available, that can mitigate the adverse effect on students. Otherwise, they would end up not concentrating on one or both of the lessons. No doubt some of the students said that anytime there was a clash, they had to forgo one of the lectures.

Some of the students sought help from their colleagues and Teaching Assistants (TAs). One of them said: *I always make sure I consult my colleagues and TAs for better understanding when issues like these happen.* This coping strategy points to the relevance of social ties and buttresses Baloran's (2020) finding on the issue. Although social distancing was one of the major protocols to curb the spread of the coronavirus, maintaining close ties with one's colleagues and relying on them for discussions and tutorials became an effective coping strategy for students who for obvious reasons could not benefit fully from blended learning. Other strategies employed by some other students include setting the alarm for reminders, buying backup internet data, and going to class early. These narrations show the different ways in which different students navigated their blended learning challenges.

Students' preferred mode of learning

The overwhelming majority of the participants preferred the blended learning approach and they have various reasons for their choice. For some of them, the blended approach offsets the challenges with the in-person and virtual modes. Other participants prefer the blended mode because it is convenient for both lecturers and students. This finding is interesting because, despite the numerous challenges the participants faced with blended learning, they still consider it the best mode of learning. The present study's findings on blended learning, supported by the literature, point to the fact that blended learning can be greatly beneficial in the post-pandemic era of higher education despite its challenges.

The second most preferred mode of learning is in-person. The main reason for their preference is that in-person learning enables them to socialise and makes them understand their lessons better. Some of them said they prefer the in-

person mode mainly because it affords them the opportunity to socialise with their colleagues and lecturers. For instance, a 23-year-old female level 400 participant said that her preferred mode of learning is: *Definitely in-person*. Asked to explain her answer, she said: *Because I learn better with the face-to-face, when I learn through my friends and lecturers, I am able to socialise*. In-person lessons have been found to promote socialisation more than online learning and students develop personal relationships in the classroom (Felson & Adamczyk, 2021; Shahzad et al., 2021: Kauppi et al., 2020). Some of the participants said they understand in-person lessons better than virtual lessons. For a 20-year-old level 200 male participant, in-person learning is better because: *I am able to understand compared to the online. Students are active in class and might ask questions that answers your doubt* [sic]. [It makes it] *easy for lectures to control the class.* This finding falls in line with the conclusion that in-person learning affords students the opportunity to learn practical subjects (Shin & Hickey, 2021; Petillion & McNeil, 2020). One thing, however, that should not be ignored is for us to ask how we can leverage on the pandemic to prepare ourselves for the future. This is necessary because COVID-19 has taught us to be ready and willing to accept change when it becomes necessary. Therefore, students in traditional universities should embrace the change in teaching and learning that the COVID-19 pandemic has brought.

The least preferred mode of learning for the participants is virtual. Only three students indicated that they preferred this mode of learning. The fact that most traditional universities were unprepared for virtual learning at the time COVID-19 struck, coupled with the challenges students faced with the virtual mode of learning (Adarkwah, 2021; Ampadu & Sedofia, 2021; Kapasia et al., 2020; Suryaman et al., 2020) may be responsible for the low preference virtual learning. As with the other modes of learning, the students were asked to give reasons for their preference. One of the students stated that she preferred virtual learning because it … *saves me from the challenges of the in-person….* The second student said that virtual learning is preferred *Because some of the classes can be recorded for me to play over and over again for better understanding.* The third student said: … *as a non-resident I will go in for the virtual. It gives more convenience. I wouldn't have to incur the cost of coming to campus.* The students' preference for the virtual mode of learning, though in the minority, supports existing research which established that remote learning gives convenience and comfort to both learners and instructors (Biel & Brame, 2016; Seaman et al., 2018), and that faculty and students are happy with the transition to virtual learning that was occasioned by the COVID-19 epidemic (Wang et al., 2021).

Implications

Theoretical implications

This study demonstrates how Colaizzi's (1978) descriptive phenomenology can be utilised to explore, describe and document HE students' experiences of learning in the in-person (before the COVID-19 pandemic), virtual (during the COVID-19 pandemic) and blended (after the COVID-19 pandemic) modes. This departs from its use in nursing research (Wirihana et al., 2018). Wirihana and colleagues contend that Colaizzi's approach is a useful methodological approach in qualitative nursing research and that it is beneficial in the development of therapeutic policy and the provision of patient-centred care. In the present study

however, we have demonstrated that aside its use or usefulness in nursing research, Colaizzi's phenomenology can also be applied in educational research. Through Colaizzi's method, this study reveals that having experienced learning in the three modes, the majority of HE students prefer learning in the blended mode because of its ability to leverage the strengths of both the in-person and the virtual modes. This is significant and contributes meaningfully to the literature because data is required by IHLs to decide how teaching and learning should proceed in the post-pandemic era of HE.

Policy implications

The changes brought about jointly by the COVID-19 pandemic and technological advancement imply that teaching and learning in IHLs can no longer be done solely in the face-to-face mode. The fact that HE students said they were able to study more effectively during the implementation of blended learning implies that policy is needed in this regard in the post pandemic era. Such a policy should be backed by a very robust IT infrastructure and support staff. Equally important is the periodic review of the policy so that any implementation bottlenecks can be identified and addressed.

Practical implications

Firstly, the study documents how HE students experienced learning in the in-person, virtual and blended modes, highlights the challenges they faced and how they coped with them, and reveals the mode of learning the students prefer. With this, faculty in IHLs are better positioned to teach in the mode that meets the needs of the majority of students. Secondly, the fact that HE students say they prefer the blended mode of learning implies that traditional IHLs may consider blended learning in the post-pandemic era of HE. The insights gained in the study would help IHLs to put in place strategies to mitigate the challenges that are associated with blended learning so that students can reap its full benefits. At the outset, students and faculty in IHLs need to be given training and technical support in the use of blended learning. This will help reduce the challenges that students experienced during the pandemic. Also, there is the need for traditional universities in particular to put in place the necessary infrastructure to support blended learning.

Conclusions

This study set out to explore and compare how undergraduate students experienced learning in the in-person (before COVID-19), virtual (during COVID-19) and blended (after COVID-19) modes in order to document the challenges they faced learning in each of the three modes, how they coped with the challenges, and establish which of the three modes of learning they preferred. After comparing students' experiences of learning in the three modes, it can be concluded that despite the advantages associated with learning in the face-to-face and virtual modes, the participants found blended learning to be more effective and therefore preferable. It was also revealed that the major challenges that the students faced with the in-person learning include walking to lectures, large class size, lateness and absenteeism, shyness, and stress; their virtual learning challenges are poor network or internet connectivity and noise; and their blended learning challenges are clashes on the time table, miscommunication, stress, noise, and lateness/absenteeism. This is an indication

that students faced challenges in learning in the in-person mode much like the virtual and blended modes. What this means is that in the post-pandemic era, IHLs should formulate policies that address the challenges that students face in learning irrespective of the mode. Doing so will go a long way to improve learning outcomes and enhance educational delivery in IHLs. It was also discovered that students coped with the in-person learning challenges by being punctual, relying on friends for help, and relying on lecture notes; they coped with the virtual learning challenges by relocating, relying on their personal internet, relying on friends and relatives, and recorded lessons; and they coped with the blended learning challenges by relying on lecture notes and recorded lessons, using headphones, getting help, and focusing on one mode of learning. Finally, the study revealed that students preferred the blended mode of learning mostly due to its ability to counterbalance the challenges in the modes that constitute blended learning—face-to-face and virtual. The analysis reveals that the most preferred mode of learning for the students is blended, followed by in-person learning. The results of this qualitative study, based on the perceptions of 30 undergraduate students, contribute to our understanding of how students experienced learning in three different modes in a typical traditional public university in Ghana.

Limitations and future directions

This study has some limitations which should guide users of the findings. The study's major limitation is that despite the in-depth understanding gained, the findings are based on the experiences of 30 undergraduate students in a public university in Ghana, due to the research approach used. Different insights may have been gained if a different approach and a larger sample had been used. Future research should therefore consider using a mixed methods approach to offset the weaknesses of qualitative and quantitative approaches. This limitation notwithstanding, the application of Colaizzi's (1978) descriptive phenomenology in this study has yielded valuable insights that are beneficial to faculty and students in IHLs.

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