Blended Learning Adoption in Higher Education: Presenting the Lived Experiences of Students in a Public University from a Developing Country

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ABSTRACT
The concept of Blended Learning (BL) is gaining widespread attention in Ghana as many public universities' switches into this delivery format. The paper investigates the BL experiences of students from a public university and among other things presents their views relative to the determinants of BL adoption and the barriers encountered out of the experience. The paper adopts a qualitative case study methodology and purposively interviews 15 students from a BL class of 57 students. The analysis was done using Thematic analysis techniques. The findings presented in this paper indicate that the students in the BL class hold a positive perception of BL. Insights into the perspective of the respondents show that students view BL as an approach that is convenient, flexible and among other things facilitate learning beyond the limitations imposed by the classrooms. Also, BL is viewed as an effective pedagogic tool that allows learning to take place in a socially constructive manner through the utility of Learning Management Systems. The contra-indications, however, are that inadequate infrastructure, internet connectivity in terms of cost and bandwidth as well as social distractions that affect students focus are viewed as challenges mitigating against students' successful adoption. The indications are that blended courses offer more convenience and flexibility than face to face delivery. These findings provide insights into the lived experiences of students that administrators and faculty members can tap into and when addressed will lead to successful BL implementations that ultimately lead to proving unique learning experiences and outcomes that students deserve and BL promises.

Keywords: Blended Learning, Thematic analysis, technology adoption, higher education institutions, Ghana.

INTRODUCTION
Higher Education Institutions (HEIs) are adopting Blended Learning (BL) as the teaching approach with increasing frequency (Bokolo et al., 2020). The literature abounds with several definitions for BL to the extent that congruence and agreement on a universally accepted definition of what BL is remains elusive. BL, in its simplest definition is the "integration of face to face and online teaching delivery" in combinations that ensure that the learner gets a unique learning experience (Medina, 2018; Taylor, Vaughan, Ghani, Atas, & Fairbrother, 2018; Wong, Tatnall, and Burgess, 2014). BL improves students learning satisfaction and outcomes (Owston, York, & Malhotra, 2019), reduces dropout rates (López-Pérez, Pérez-López, and Rodríguez-Ariza, 2011), stimulates critical thinking (Lin, 2018; Korkmaz and Karakuş, 2009), and promotes learner autonomy to study (Teo, Doleck, Bazelais, & Lemay, 2019; de Fátima Wardenski, de Espíndola, Struchiner, and Giannella, 2012). Not only that, but HEIs are also adopting and integrating BL into the teaching and learning curriculum because of its utility as an approach to address enrolment and competition challenges (Narh, Afful-dadzie, and Boateng, 2019). In addition, BL provides the opportunity for the academy to integrate academic workflow processes in a seamless manner that benefits all stakeholders in the institution. Stakeholders within the university include students, faculty, management, and external constituency actors that relate with the university herein termed as the industry (Bozkurt, 2012; Ansong, Boateng, Boateng, & Anderson, 2017).

Sloan Survey of Online Learning (2009) suggests an increasing number of institutions in the United States of America are integrating online and blended courses into their curriculum. However not the same can be said in developing countries even though BL has the potential to be a transformative delivery approach (Mtebe and Raisamo, 2016). Similar studies by (Awidi, 2008; Awidi & Cooper, 2015; Buabeng-Andoh, 2015) have recounted that universities in developing countries such as Ghana are transitioning gradually from traditional face-to-face to BL deliveries. Graham, Woodfield, & Harrison (2013) categorise universities integrating BL into their teaching and learning curriculum into three stages: (1) awareness/exploration, (2) adoption/early implementation, and (3) mature implementation/growth. Going by Graham's et al. (2013) tripartite stage model, universities in Ghana can be said to fall within the "adoption and early implementation stages" given that management of these universities have demonstrated that they are conscious of the potential of BL and have taken decisions to implement BL.

Ghanaian universities implementing BL face challenges such as poor Internet connectivity, inadequate infrastructure, poor facilitation conditions and lack of technical support, among others (Tawiah, Lamptey, Okyere, Oduro, and Thompson, 2019; Adam, Effah, and Boateng, 2019) and faculty and students resistance towards BL (Ansong et al., 2017). There is ample research focused on BL at the institutional level seeking to understand facilitating conditions and barriers towards the adoption of and integration of BL (Rasheed, Kamsin, & Abdullah, 2020). It will appear that implementing BL will require an understanding of students' perceptions and adoption determinants as this will provide a feedback mechanism to faculty who teach in the BL mode to design courses that stimulate and engage students. Whereas there is literature on students perceptions and adoption determinants (Owston et al., 2019; López-Pérez et al., 2011) very little from these exist that provide scholarship from a developing country's perspective (Asunka, 2017; Asunka and Freeman, 2019). Adekola, Dale, & Gardiner (2017) aver that while students' view of BL as an approach is found to trigger critical inquiry and stimulates exploration, the lack of homogeneity within the students' cohort create different expectations and experiences that need to be understood to satisfy students.

The success or otherwise of BL courses are evaluated based on students perceptions, expectations, attitudes, satisfaction as well as challenges (Joel S. Mtebe and Raphael, 2018; Tang, 2013; Chen & Tat Yao, 2016). BL programmes requires feedback from students to ensure a successful implementation of teaching-learning methodology (Shantakumari, 2015). This paper, therefore, explores the perceptions of students by asking of their experiences in a BL course. A series of qualitative interviews with students in a BL class from Ghana Technology University is used as a basis for understanding students' perceptions on BL relative to the benefits and challenges encountered in a BL program.

The paper is organized into the following sections: section two introduces the literature on student BL adoption while the methodology is presented in section three. The findings, discussions, and conclusions are presented in section four, five and six, respectively.

LITERATURE REVIEW
BL is viewed and understood differently, and it is often reported that the lack of congruence in definitions leads to misunderstanding and varied applications of the concept of BL. What constitutes a blend to institution A can be institution B normal delivery. Viewed as the "new normal" (Norberg, Dziuban, & Moskal, 2011) in higher education, the pre-eminence of BL as a preferred teaching approach has gained considerable research attention. BL is defined as a mixture of two archetypical teaching environments that is face-to-face and online delivery to harness the benefits of the two worlds in order to stimulate active learning and improve student learning outcomes (Allen, Seaman, and Garrett, 2007; Shand and Farrelly, 2018; Smith & Hill, 2019).

There have been positive reviews about perceptions of students doing courses in the BL mode. López-Pérez et al. (2011) studied the perceptions of students in a BL program in Granada during the 2009-2010 academic year. The students' perception in this study was positive. Teaching in the BL mode improved learning outcomes and reduced dropout rate in the class. Additionally, the study found that teaching students in BL mode increased their examination pass rates. Mtebe and Raphael (2018) assessed factors that lead to learner satisfaction and found that the quality of the instructors in the delivery program, the quality of the delivery system and the support service provided to students were responsible for learning satisfaction in students in a BL program.

Other studies have looked at the challenges students face while taking courses in the BL mode (Wu, Tennyson, & Hsia, 2010). Students in BL programs have been found to experience a sense of isolation which is associated with the frustration encountered where there is a lack of immediate feedback from instructors (Adekola, Dale, & Powell, 2017). Adekola et al (2017) find that students face the challenge of managing time during BL courses. Not only that, but they also find that faculty members using BL approach assume students have prior knowledge of courses which frustrates students. Technical issues related to system use and lack of support for students have been raised (Ssekakubo, Suleman, & Marsden, 2011). Additionally, self-efficacy relating to students computer usage has been found to impact on students' adoption of BL (Wu et al., 2010).

METHODOLOGY
The study is carried out in as a case study using a public university in Ghana that was established in 2005. The university has a student population of about 8000 students and runs degree and postgraduate programs. As part of its strategic vision to be a world-class university, the university in recent times (2013) adopted a BL policy and hopes that by 2021 BL would have been fully implemented campus wide.

Research design
Students in a BL course at the Faculty of Computing and Information Systems were used for the study. The course

was designed and structured to be delivered both online and face-to-face. The course was originally designed as a 40-hour modular course to be taken during the weekends for a month. After the re-design, two weekends were converted into a BL class thus reducing the face-to-face contact to 20 hours over two weekends. The course outline, lecture materials and videos were uploaded in advance into the university's (Moodle) LMS. Prior to the start of the course, notifications were sent to the students informing them of the format in which the course was going to be run. Learning materials and course outlines were also sent to the students. The lecturer facilitated the course by first holding face-to-face classes for the first two weekends and alternated with the blended format the subsequent weekends. During the BL format, the lecturer introduced the course online, posted assignments, questions on discussion forums, posted videos and shared links to further reading. Assignments were submitted through the LMS after running plagiarism check through Turnitin that was incorporated into the system.

Data collection
In all, fifty-seven students at the case study university registered for the course on the Moodle Learning Management System. With the assistance of the course instructor, 15 students were purposively selected and interviewed for the study. A semi-structured interview approach was adopted to allow for exploration and clarification of the respondents' views. The interviews were conducted face-to-face in the classroom during the period of the course (October to November 2017). The researcher was guided by Brinkmann and Kvale (2018) on the approach to do interviews. Each interview session lasted between forty-five minutes to an hour and was conducted between October – December 2017. With the prior permission of all the 15 respondents, the interviews were audio-recorded.

Data analysis
The audio recordings were replayed and transcribed into written text. The transcripts were emailed to the respondents to correct, clarify, and validate text as a true account of what was captured during the interviews. Thematic analysis (Plano Clark and Creswell, 2015) was used to analyze the data. This involved reading all the transcripts all over with the objective of getting immersed into the data to understand the lived experiences of the respondents. While reading the transcripts the text was broken down into chunks and assigned unique identifying tags called codes. The coding process was applied throughout the transcripts. In the process, several codes were generated. These codes were analyzed, compared, and grouped when they bore similar meanings or relationships with each other. They were subsequently abstracted for themes and grouped into tentative categories. To ensure rigor, reliability, trustworthiness, and credibility (Vaismoradi, Jones, Turunen, & Snelgrove, 2016) an external coder was employed to code five of the transcripts. The external coder was a faculty member with significant qualitative research experience who additionally was familiar with the content of the research. A coding framework was agreed on to ensure that the codes stayed in line with the research objectives. The findings were presented to the respondents to comment on as a way of enhancing research credibility. In the end, the participants confirmed the findings as representing the true account of their lived experiences.

FINDINGS
This section presents the results of the analysis involving interviews with the 15 students. The students were asked about what their perceptions are about being taught in BL mode. They were also asked about the challenges they face when taught in BL mode. The results yielded interesting insights into the determinants and barriers militating against the BL experience of students.

Overall, students expressed satisfaction with the BL experience albeit with some challenges. Most importantly, the respondents mentioned that the unique feature of the BL process lay in its utility to organize teaching and learning in a flexible manner and at the same time moving the boundaries of the teaching environment from the classroom to virtual spaces where a community of learners engage in knowledge-sharing and learning. According to an interviewee: "*there is more communication between all of us because everything is online, everyone is on social media, so it makes getting information much easier and getting access to lecture notes*".

Speaking very enthusiastically about BL as enhancing students learning experiences, the respondents indicated that BL platforms used in the delivery make learning easy while at the same time providing several possibilities that are not available in the traditional classroom environment. Speaking specifically to this, the respondents indicated that the learning management system platforms provide opportunities for storing lecture content, recall and retrieving of learning materials. In a sense, the respondents see the BL experience as complimentary to the face-to-face teaching as expressed by a respondent who opined that "*well as we've been saying the blended learning is a further enhancement to the regular classroom learning, suffice to say that if the classroom learning should have been a 100%, it's been added a 150% because I see it as an addition to what you've gotten from the classroom*".

Similarly, the respondents viewed BL as an effective pedagogic tool. The shared insights into these views are discussed in the following paragraphs.

Sharing their views on why they viewed BL as an effective pedagogic tool, the respondents were quick to always contrast the approach with the face-to-face delivery. In doing this, they indicated that learning through BL broadened the scope of avenues for accessing information. A respondent expressed the following sentiments "*Learning resources for courses can be sourced from multiple sources mainly through online, discussions with peers or colleagues on LMS discussion platforms and wikis etc*". Another respondent said, "*when it's online you can also get information from so many sources because it's online not only the teacher teaching you in the class but from wide sources*".

Some other respondents also viewed it from the faculty member perspective in terms of how they (faculty) use BL as a pedagogic tool. They make the point that teaching in BL mode advances learning by means of the opportunity that LMS platforms provide to faculty in aggregating or connecting students on a single platform without time or space limitations. This provision enables faculty members to adopt social constructivist teaching methodologies to facilitate teaching and help students to socially construct knowledge. To buttress this point, one respondent argued that "*my lecturer can create a post or forum group and engage us online so we can learn and exchange ideas there*".

Students also viewed BL as a better delivery approach relative to the timeliness in getting clarifications and feedback from lecturers when they needed one. For some of the respondents, getting lecturers to clarify or explain topics that have been treated in class was possible only when the course was due on the timetables or schedules. However, BL gave them unfettered access to their lecturers and opportunities to engage them on issues. Similarly, teaching in BL using LMS platforms facilitated quick and easy assignment submissions and prompt feedback from faculty members. In making this point, one interviewee said, "*we have an online platform for students sometimes the assignment is loaded up there and our tutors use it, lecturers use it to get feedback. I am reading through and if I am not getting something right I could message my lecturer from that platform and ask him with regards to a particular subject or topic that I don't understand, and he can also respond back at the same time, so my experience has actually been wonderful*".

The ultimate positive take-away for the students in terms of their perceptions and determinants of BL in their view was the extension of the teaching experience beyond the borders and confines of the classroom. Students held the view that BL was a teaching approach that transcended classroom boundaries and by this changed their orientation about learning. Hitherto, according to the respondents learning started and ended in the classroom. However, with the introduction of BL, it afforded them the opportunity to learn in unstructured learning environments enabled and facilitated through the medium of technology, "*the Moodle platform, it affords you the opportunity to learn outside the classroom because lecturers will be able to upload your lecture notes even ahead of time so you can go on the platform and download your lecture notes and you can read ahead*".

In terms of the challenges that students face in BL teaching environments, the results indicate that these are mainly related to inadequate infrastructure, perceived system design and security concerns, LMS platform challenges and its attendant lack of technical support from the University to address issues arising. The details are presented below:

The results indicate that Internet connectivity both on and off-campus presented a very difficult challenge for students. This, for many students, was a limiting factor that impacted their decision to use BL. Accessing LMS required internet connectivity. So, accessing the internet on campus was a challenge, it made it extremely difficult to access course materials and engage in discussions and follow lectures. More so, when students face internet challenges, they are unable to meet assignment submission deadlines. According to a respondent, "*There are times I am unable to submit my assignments because I run out of data or the internet is very slow, and I have to miss submission deadlines*".

The study also found that notwithstanding the positive reviews of the BL approach, students view BL as challenging relative to how to stay focused and learn giving all the environmental distractions available. Students reflected on the BL process and indicated that, it encourages self-studies and requires environments that were free from social distractions. For many of the respondents, focusing and paying attention on everything that goes around is very difficult. Respondents expressed thus, "*so focusing online or maybe it's a video call is difficult, you might get distracted by things around you maybe if you're in your room or something you have a roommate that might be playing music or something and really take your mind off what you're studying but it doesn't happen when you're in the classroom*".

Additionally, the lack of adequate user support was expressed by the students. In their view, giving that being taught in the BL mode was a relatively new experience, there was the need for orientation from the onset of their programs to guide students. The study found that the absence of such orientation thrust students into a pool of confusion and not knowing what to do. Registering for the course and using LMS functionality was challenging. A respondent remarked that "*I think with that coupled with the day to day interaction of the service by the students it's possible to find a way through but if you just enrol me and say I have uploaded an assignment: go and download the assignment how do I get along?" So, the students need to be orientated on how to use the system*".

Systems prompt and notification issues were also mentioned as a corollary to the lack of adequate support challenges. Students get lost navigating LMS, in some instance, they reported they were unable to get notifications or do not know how to access the platforms to access lecture materials or content that were uploaded by their lecturers. Respondents expressed this view as thus; "*Currently I feel if we would be getting notification alerts on the platform because normally not everyone has been checking in on the platform all the time but if it is so getting a notification that lets say maybe there is an assignment given or maybe there is something to do there should be sort of notification to remind you*".

The Table 1 below describes the results of the themes abstracted from the analysis of the data. A detailed discussion of the findings is presented in the subsequent section. The findings of this study indicate that teaching in BL mode is a novelty for the respondents interviewed. It was narrated that, prior to signing into the course, the notifications were sent for them to enrol onto the Moodle LMS. As a teaching approach, many of the students expressed the view that there was no prior information or orientation to prepare them towards the BL teaching approach. The feeling of being lost and helpless according to the respondents creates a great deal of anxiety for them. Especially, students with low computer and technology usage level require external support to help them navigate through the process. Thus, prior to signing up for courses, faculty or departments ought to gauge the students level technology so as orient them towards this approach. Again, a major disincentive that stands out from the table is the unreliable internet connectivity both on and off campus that disrupts online classes and affects student's performance especially if they have to use breakout room for group for discussions. Finally, about technological requirements, students indicated that face challenges on how they work together in the online environment. Faculty demands on students presents challenges. For example, as narrated by a respondent thus "*certain course demands that students have to have a working camera and microphone and should use a headset to reduce audio feedback*". Another respondent expressed that "*We use the chat function very selectively so you cannot rely on this*". In all these a stable internet connection and a quiet space for the duration of the class is required. However, these requirements may pose some challenges especially for BL course where participation in real-time is central to the process.

On the positive side, the students expressed the view that studying in BL mode makes teaching and learning much easier and fun them. Specifically, the LMS functionalities such as group chats on discussion boards, breakout rooms facilitate and enhances teaching. The students indicated that unlike in the face to face sessions, teaching in BL allows them to be more interactive with their peer during group work. However, while this was mentioned, respondents also expressed the feeling of isolation especially during discussion boards when faculty members do not respond to their questions. Also, the themes from the findings in the table indicate that students construct BL as an approach that utilizes LMS delivery medium which provides the platform to connect remotely to access educational resources, attend lectures and as a repository for the storage and retrieval of lecture material. Generally, the study found that the respondents viewed the BL approach as an effective pedagogic approach as it provided them with the unique opportunity to schedule their studies at their own pace, engage other students on virtual space by engaging the learning community that is created when LMS are used for the BL delivery.

Table 1 Themes and Sub-themes representing students' perspective of BL.

Sub-categories	Categories		ABSTRACTED THEMES
The slow pace of the internet	Campus connectivity	Platform remote accessibility	Platform accessibility
internet connectivity for students			
internet and basic introduction challenges			
accessibility	Student connectivity		
Remote location			

Retrievability recall opportunity	Ease of access to teaching materials	Platform ease of access	
reading in advance	Ease of learning	Platform learning possibilities	Effective pedagogic tool
Comfort			
room for correction of mistakes			
utility for correction that paper submitted			
extended classroom opportunity			
enhancement of student learning			
facilitates student's engagement and contribution to the discourse			
improving learning and teaching			
enhancement and complimentary			
Community of learning	Communal learning		creates communal learning opportunities
communal learning			
Presence of community of learners			
Collaborative learning			
Building a community of leaners			
convenience to use for students	Platform ease of use	Platform ease of use	Personalized utility for student learning
convenience to use			
comfortable to use			
ease of use by students			
Ease of work			

Field work, (Antwi-Boampong, 2020

DISCUSSIONS

The study investigated students' perceptions of a BL course. The inquiry was gauged against how the students' perceived the delivery approach as compared to a purely face to face course. It also sought to gain insights into the

challenges they faced during the BL experience. With respect to the perception of students who took the BL courses, this study confirms findings in the literature that indicate that students hold positive views of BL and prefer BL to purely face to face or online courses (Asunka, 2017). Five themes that emerged from the perspective of the respondents include a personalized utility for students' learning, community learning opportunities, effective pedagogic tool, platform accessibility and platform challenges. The themes are discussed in seriatim below.

With the course designed and structured to be delivered both online and face to face, the results suggest the students found it as an approach that allowed for the personalization of learning. In order words, the students in this case study were unanimously enthused with the delivery approach and expressed so much satisfaction with it. As a weekend class, the students found the delivery approach to be flexible and convenient. The results confirmed studies by (Owston, York, and Murtha, 2013; Owston et al., 2019) that suggest BL courses or programs create a more unique learning experience for students. For example, the students did indicate even though there was no face to face teaching in the two weekends after the first delivery they were actually very engaged with the course online through the social interactions that went on online on the discussion forums.

Also, the students indicated that irrespective of this, there was a shift from the classroom to a virtual environment whereby a community of learners was created to socially construct knowledge. Studies by (Arbaugh, 2019; Napier, Dekhane, & Smith, 2011) (Napier, Dekhane, & Smith, n.d.) have confirmed an enhancement of students learning outcomes due to the communal learning environment that allows students to discuss, engage and share ideas. Also, students learning is enhanced through the anonymity that learning in BL mode provides. BL delivery especially using LMS provides anonymity to students who hitherto would not talk or contribute to the class. Thus, it helps less outspoken and frontal students who are timid to speak publicly in class. The students mentioned that they are able to contribute to discussions on the forums and do not feel intimidated as would have been the case if they were to respond to questions or ask same in a face to face classroom environment.

Similarly, the students viewed the BL approach as an effective pedagogic tool. In the students' view, teaching in the BL mode made planning, design of courses, sending notifications and stimulating interaction among students as well as allows easier feedback from lecturers. "Good teaching practices need to be governed by pedagogical tools or principles as such, the success of BL is not a function of technology alone. Misunderstanding the underlying learning theories implicit in teaching with technology coupled with poor course designs according to (Moore & Benson, 2012) will inordinately lead to failure in harnessing the utility and affordances of teaching and learning in BL mode for both students and lecturers. Therefore, viewed as an effective pedagogic tool, BL extends the classroom environment, avails the students the opportunities to correct assignments and to produce quality work.

Overall, the study confirms studies in the literature that suggest that students find BL to be flexible and much more convenient. Thus, with this being the case the Ghana Technology University stands in a very good position to implement BL. However, the University needs to address challenges relating to inadequate infrastructure, increase campus internet bandwidth, provide student support services for students and address learning management platform challenges that students face. Similar recurrent issues of inadequate infrastructure, technological challenges in universities have been reported (Mirata, Hirt, Bergamin, & van der Westhuizen, 2020). Barriers like these affect students negatively of their BL experiences.

CONCLUSIONS
This study investigated the perceptions of students taking a BL course at a public university in Ghana. In a course redesigned to reduce face to face time, the study finds that students have a positive perception of BL. This confirms earlier studies indicating students prefer BL as compared to a face to face or online course. The themes generated from the responses indicate that students view BL as an effective pedagogic approach that is enabled by LMS, providing access to students to engage in a flexible and convenient learning environment with students in online learning communities. The findings of this study should be considered by institutional managers as they embark on BL transitions. This study contributes to the understanding of how students perceive BL especially from a developing country perspective. Giving the challenges of infrastructure and faculty resistance to adopting new technology, this study has found that students hold a positive predisposition to adopting BL. Thus, managers of universities should address the infrastructural bottlenecks that impact against student BL adoption to enhance the students learning experience. The limitation of the study is that it involved a small sample of students who were taking a course in BL.

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