An explanatory study on the implementation of a blended learning approach to teaching and learning at the Hugh Wooding Law School

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Abstract

In 2020, the COVID-19 pandemic necessitated that higher education institutions rapidly implement emergency systems, policies, procedures and technological infrastructure to transition to an online teaching and learning environment. Many institutions are contemplating which systems and infrastructure to retain post-pandemic after experiencing the benefits of online and blended learning (BL). This paper uses an explanatory sequential mixed methodology to examine the Hugh Wooding Law School's (HWLS) decision to implement a BL modality for the Academic Year 2022/2023. The study analyses secondary data from student and staff surveys, collects primary data by interviewing internal stakeholders, and assesses the findings against the Complex Adaptive Blended Learning System framework. The findings indicate that students and tutors were satisfied with the BL modality. It offers flexibility and convenience, promotes conducive learning environments, and provides a platform for learner support. The study concludes that to fully establish BL at the HWLS, more instructional, technological, and institutional support is required.

Keywords: blended learning, explanatory sequential mixed methodology, complex adaptive blended learning systems

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Introduction

In 2020, the abrupt nature of the COVID-19 pandemic necessitated that higher education institutions (HEIs), including the Hugh Wooding Law School (HWLS), rapidly implement emergency systems to transition their regular face-to-face operations towards an online environment. This transition required the development of policies and procedures for online teaching and assessment, aligning components of the courses to online delivery, acquiring new technology, retraining faculty and supporting learners.

The HWLS, administered by the Council of Legal Education, is one of three law schools responsible for practical legal training in the Commonwealth Caribbean, leading to the Legal Education Certificate (LEC), a requirement for admission to practise law. Traditionally, the HWLS delivered its programmes face-to-face, but the pandemic necessitated a two-year shift to online learning. In 2022, with the relaxation of health restrictions and the re-opening of institutions to conduct face-to-face classes, the national regulatory body advised institutions to revert to regular operations. However, having experienced the online modality, several institutions, including the HWLS, began contemplating which systems and infrastructure to retain while maintaining a high-quality standard for teaching and learning in the post-pandemic era. Therefore, to maximise infrastructure use, retain the student population and reduce infection risk, the HWLS adopted a blended rotational approach to delivering teaching and learning for the Academic Year (AY) 2022/2023, alternating between weekly online and face-to-face sessions.

This paper examines the rationale for adopting the blended learning (BL) approach and its usefulness in delivering teaching and learning at the HWLS. The research questions guiding the study are: (1) What are the levels of satisfaction with BL among students and tutors at the HWLS? (2) How do students and tutors describe their experiences with BL, with a focus on the impact on engagement and teaching effectiveness? (3) How do the qualitative insights from interviews with students and tutors explain the quantitative findings on satisfaction levels with BL at the HWLS? An explanatory sequential mixed design is used, which includes two phases. In the study's first

phase, quantitative data from students and faculty on their experience with BL will be used to identify the strengths and limitations. The second phase will follow up on the quantitative findings by conducting interviews on students' and tutors' experiences. This phase will explain the rationale for adopting the BL approach.

The literature reviewed led researchers to the Complex Adaptive Blended Learning System (CABLS) framework developed by Wang et al. (2015). The researchers selected this framework due to its adaptability, interconnectivity, and presence in several CABLS elements within the HWLS's BL system. The results of the data analysis were used to assess the existing BL system by evaluating the six sub-systems: learners, teachers, technology, content, learning support and the institution. The paper examines the rationale for the BL approach, potential benefits, lessons learned, and drawbacks.

Literature Review

This section discusses insights gathered from the literature surrounding various themes related to BL. These themes include defining blended learning, transitioning to blended learning, the benefits and challenges, and blended learning models.

Blended Learning Defined

Post-pandemic, many HEIs implemented BL to slowly transition back to face-to-face teaching (Cobo-Rendón et al., 2022). BL is quite varied in terms of definitions, with one of the most frequently cited being Garrison and Kanuka (2004), who describes it as "the thoughtful integration of classroom face-to-face learning experiences with online learning experiences" (p. 96). Graham (2006) also stated, "The BL systems combine face-to-face instruction with computer-mediated instruction" (p. 5). Therefore, for this study, the HWLS defines BL as:

> An instructional methodology that utilises technology to integrate traditional face-to-face classroom instruction with online learning components to create a flexible educational experience for students and teachers while maintaining the quality standards of traditional pedagogy.

Transitioning to Blended Learning

The COVID-19 pandemic necessitated that many HEIs adopt online learning and BL strategies, particularly in developing countries like those in the Caribbean (Cobo-Rendon, et al., 2022; Nikiforova, 2021; Bleeker & Crowder, 2022). It resulted in quite possibly the most significant reactive change in higher education, forcing institutions that had not even considered before transitioning from face-to-face teaching to fully online platforms. This abrupt shift came with many challenges, as Roach (2022) noted in a study of Caribbean students. The author identified

issues such as internet connectivity, loss of social interaction, computer vision syndrome, shortage of educational materials, and the uncertainty and inexperience of operating online education.

Online and BL teaching methods are not entirely uncharted territory in a Caribbean context. Thurab-Nkosi (2018) noted that between 2005 and 2011, the University of the West Indies, St Augustine Campus, engaged in semi-autonomous BL projects and online courses. It was further noted that early BL adoption in the Caribbean focused more on technical, pedagogical design, and faculty development (Kistow, 2011).

Nikiforova (2021) posits that the shift to BL will likely continue as an ongoing practice. Several scholars contend that BL is an applicable post-pandemic educational model incorporating lessons learned during the pandemic (Cobo-Rendon et al., 2022). Moreover, BL can be an effective strategy for HEIs in the post-pandemic era, as it allows institutions to adapt to changing circumstances while providing flexibility, access, and cost-effectiveness (Bin Dahmash, 2020).

Several studies discussing BL adoption came from pre-pandemic years. While current scholars advocate for BL as a viable post-pandemic practice, literature that explores how BL impacts the overall quality of teaching and learning is scarce, particularly in the Caribbean. This explanatory paper at the HWLS can provide insight and contribute to the broader academic pool of Caribbean BL resources.

Benefits of Blended Learning

Studies have shown several benefits to BL. For instance, Graham, Allan and Ure (2003, 2005), as cited by Graham (2006), put forward that three main benefits of choosing BL are improved pedagogy, increased access and flexibility and increased cost-effectiveness. The improvement in pedagogy has been reflected in the findings of multiple studies. For instance, Collis (2003), Graham (2006), Morgan (2002), and Smelser (2002, as cited by Acree et al., 2017) have demonstrated that BL can improve pedagogy through the use of student-centred strategies, increased active learning and the expansion of peer activities.

Next, flexibility is frequently cited across multiple papers as a benefit of BL. This learning mode allows for flexibility and interactivity in the learning process (Thurab-Nkhosi, 2018; Kistow, 2011; Bin Dahmash, 2020; Nikolopoulou & Zacharis, 2023). The flexibility can expand learning opportunities for students (Boisselle, 2014) by increasing accessibility to higher education between developed and developing countries. Further, BL provides increased convenience, improved self-regulated/directed learning, and access to a broader range of learning resources for students (Nikolopoulou & Zacharis, 2023).

Lastly, BL can result in lower overall withdrawal rates than fully online or face-to-face courses, making it more competitive as a revenue earner for institutions (Dziuban et al., 2018). BL can also

address equitable access and success challenges, offer innovative educational solutions and enhance the overall educational experience (Dziuban et al., 2018; Atef & Medhat, 2015). Moreover, BL can "potentially reduce costs to higher education institutions" (Thurab-Nkhosi, 2018, p 144). For example, institutions may experience cost reductions in printing learning material (Atef & Medhat, 2015).

Challenges of Blended Learning

BL is not without its challenges. Cobo-Rendon et al. (2022) identified four main challenges from a design perspective. The first is incorporating flexibility; while BL can increase student flexibility, consideration must be made on integrating flexibility and what amount is desired. Secondly, there is the challenge of facilitating interaction. Moore (1993), cited by Cobo-Rendon et al. (2022), discusses the correlation between transactional distances in online classes and reduced social interaction. The literature revealed that students sometimes feel social isolation and imbalanced participation in the online aspect (Bin Dahmash, 2020). A BL system should be designed to stimulate interactions in both face-to-face and online modalities.

Third, there is the challenge of facilitating students' learning processes. As a direct result of increased student flexibility and independence, self-regulation becomes an issue. The research has shown that while this environment benefits students with high self-regulation skills, it is detrimental to those who struggle (Owston et al., 2013; Tsai & Shen, 2009, as cited by Cobo-Rendon et al., 2022). It is then imperative that any BL design provides a means of facilitating students' learning processes. The final challenge arises from social isolation, leading to lower student motivation, poor engagement and increased drop-out rates (Nikolopoulou & Zacharis, 2023). The BL system should foster a climate that promotes positive emotions and attitudes toward the course and learning experience.

Many technical challenges were also raised, such as lack of or inadequate provision of technical support, device compatibility issues, instructor incompetence in using digital platforms and internet connectivity issues (Kistow, 2011; Bin Dahmash, 2020; Cobo-Rendon et al., 2022). In developing countries, there are concerns about limited or slow internet access, frequent electricity outages, and browsing difficulties (Atef & Medhat, 2015). Furthermore, with online or blended platforms, there is a need for constant support and training for faculty and students (Pannan & Legge, 2016; Medina, 2018). These technological challenges sometimes result in higher costs to support these platforms and produce specialised digital content.

Blended Learning Models

The review of the existing literature showed the importance of the BL system design. Many benefits can only be leveraged if specific considerations are made during the design phase. Institutions can be guided in their design using several existing BL models, depending on their resources, expertise and technological infrastructure. Guzer and Caner (2014) identified three BL

models, citing Osguthorpe and Graham (2003). The first allows the same students to experience both face-to-face and online components, the second blends face-to-face students with online students synchronously, and the third proposes that face-to-face students learn from external instructors via an online learning environment.

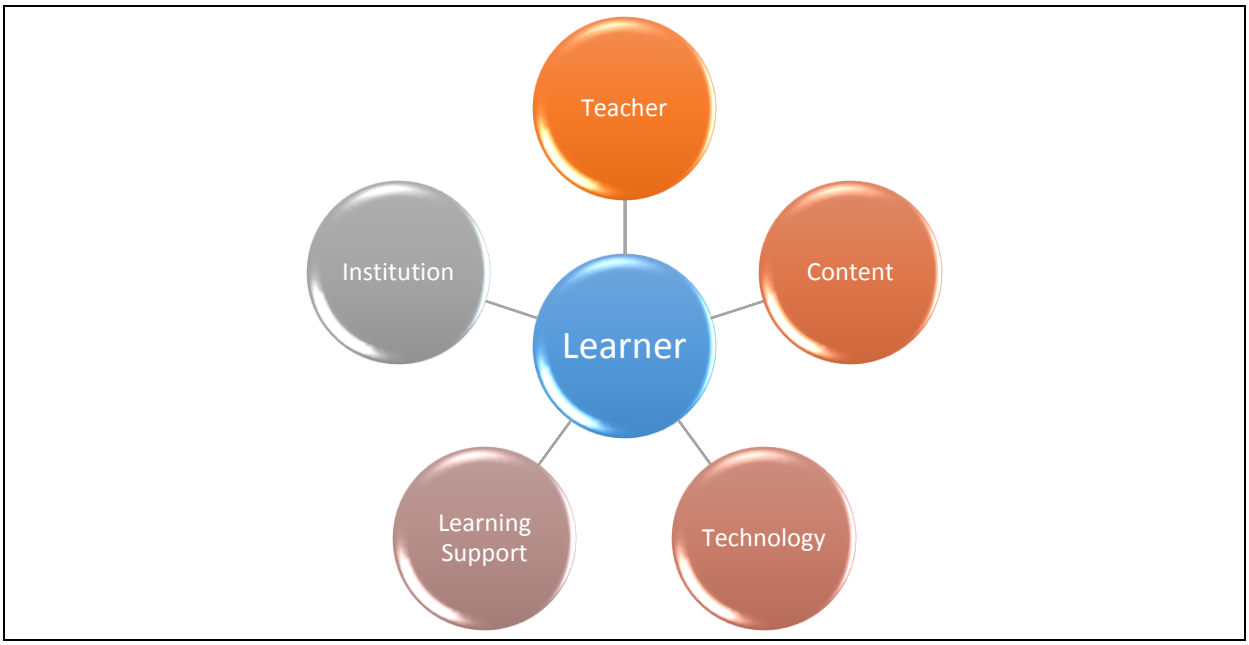
Moreover, Christensen, Horn and Staker (2013) and eDynamic Learning (2019) classified the various implementations into four primary models - Rotation, Flex, A la Carte and Enriched Virtual models. In the Rotation model, students alternate between learning modes, usually online and face-to-face, and often via a schedule. The Rotation model is then further separated into four sub-models: (a) The Station Rotation model, where students alternate between face-to-face and online. (b) The Lab Rotation model is where students have a classroom session and then go to a lab for practical work. (c) The Flipped Classroom model is where activities typically done in a physical classroom are now done online at home and vice versa. (d) The Individual Rotation model is unique because students can choose the modality, they would like their course or courses delivered.

The blended approach adopted by the HWLS is where students experienced both components, as Guzer and Caner (2004) outlined. The approach best fits the Station Rotation model, as online and face-to-face classes are scheduled to alternate weekly.

One criticism of BL models noted by Pannan and Legge (2016) was the lack of pedagogical focus within the models and definitions. They argue that an ample focus on pedagogy when designing a BL system is critical to the "quality of the learning experience" (p. 488). Their solution was to propose combining two models, a four-phase BL model and a two-layer BL model design. Together, these promote a student-centred BL design.

In a review of existing BL models and frameworks, Wang et al. (2015) found that they focused largely on specific elements of BL while lacking any emphasis on the dynamic relationships between these elements. The researchers proposed a complex adaptive systems theory for conceptualising BL, resulting in the CABLS. A complex adaptive system is any system comprised of interactive components that adapt and evolve in response to environmental stimuli, such as change and feedback. Thus, the CABLS provides a six-dimensional framework that interacts dynamically and non-linearly with each other. The six sub-systems are the learner, teacher, technology, content, learning support and institution (Figure 1). As with the Pannan and Legge (2016) model, the CABLS emphasises learning support as an essential component, with the learner at the model's centre.

Figure 1
Complex Adaptive Blended Learning Systems



According to the studies (Wang et al., 2015; Cleveland-Innes & Wilton, 2018; Ntim et al., 2021), the learner sub-system comprises not only the learners engaged in the system but also how their roles adapt and change as they interact with the elements of the system. This leads to them becoming more active participants in their learning processes. The teacher sub-system centres on instructors' roles, how they adapt pedagogies to the BL environment and how they co-evolve and grow with the other sub-systems.

The literature suggests that teachers in a BL system evolve into other roles, such as e-moderators, facilitators and mentors. The content sub-system involves creating, delivering and managing educational content and resources in the BL environment. The interaction between this sub-system and the others significantly impacts the selection and utilisation of content. The technology support sub-system is not only the technological infrastructure but also specific technology used for learner support, which means accessing and utilising content and communication tools for collaboration.

The learning support sub-system includes troubleshooting, academic and administrative support systems and access to materials and resources that enable learners to cultivate efficient learning strategies (Wang et al., 2015; Cleveland-Innes & Wilton, 2018). Finally, the institution sub-system encompasses institutional strategies, policies, support, and alignment with long-term educational objectives. This sub-system causes the institution to be "a major driving force behind the development of the sub-systems around it" (Ntim et al., 2021, p. 54).

Methodology

This explanatory sequential mixed methodology study aimed to investigate how the HWLS implemented the BL approach to teaching using existing quantitative survey data and conducting interviews with stakeholders who participated in this approach during the AY 2022-2023. The 'follow-up explanation variant' was employed in this study as it "places priority on the initial quantitative phase and uses the subsequent qualitative phase to help explain the quantitative phase" (Creswell & Plano Clark, 2018, p. 82).

The primary intent of this design was to use qualitative results to explain the initial quantitative findings (Creswell & Plano Clark, 2018). As depicted in Figure 2, the two-phase design began with analysing three institutional research surveys with students and faculty (quantitative data), followed by conducting interviews (qualitative data).

Quantitative Phase

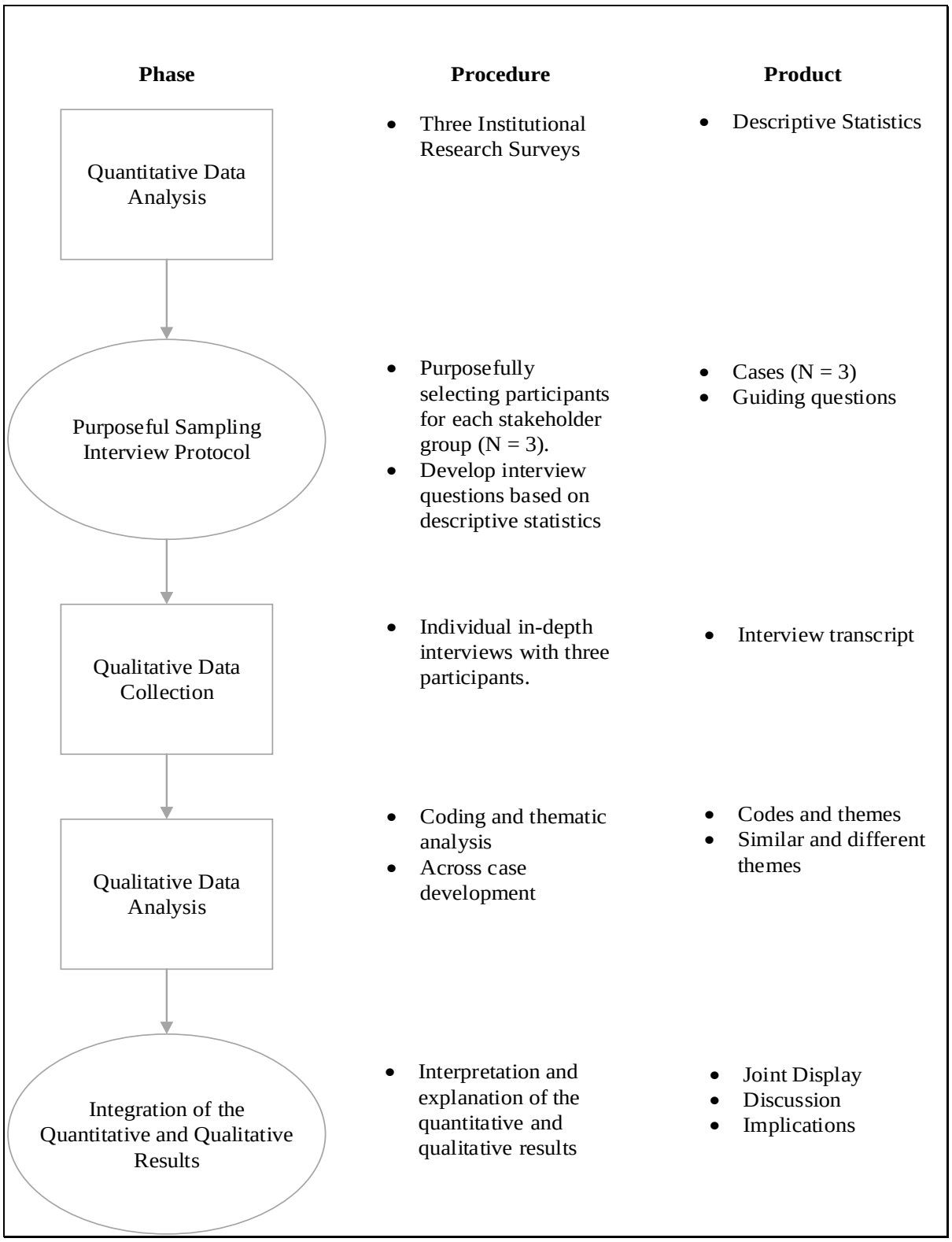
Three recent institutional research (IR) reports were analysed in the quantitative phase of this study. These reports include the Students' Experiences with BL for AY 2022-2023 (IR Report One (Hugh Wooding Law School [HWLS], 2022)), Year One Student Satisfaction Survey AY 2022-2023 (IR Report Two (Hugh Wooding Law School [HWLS], 2023a)) and Tutors' Experiences with Blended Teaching and Learning for AY 2022-2023 (IR Report Three (Hugh Wooding Law School [HWLS], 2023b)).

Firstly, the IR Report One sought to obtain feedback from first and second-year students on their satisfaction with the BL approach to teaching and learning during Term One, AY 2022-2023 (HWLS, 2022). This survey was distributed to 476 students in December 2022, and 231 participants responded, giving a response rate of 49%. For this sample size, at a 95% confidence level, the margin of error was 5%. Areas examined in this survey were students' general information, overall satisfaction, and preferred teaching and learning modes.

Secondly, IR Report Two aimed to gather feedback from first-year students on the programme's quality and services provided at the HWLS during AY 2022-2023 (HWLS, 2023a). In August 2023, the survey was distributed to 246 students, and 82 participants responded, resulting in a response rate of 33%. The margin of error was 7% at a 90% confidence level. Among other areas, the survey captured students' experiences with in-person and online (BL) teaching and learning.
Lastly, the IR Report Three sought tutors' feedback on their experiences with the BL approach used during the AY 2022-2023 (HWLS, 2023b). The survey was distributed during July and August 2023 to 81 tutors consisting of Course Directors, Associate Course Directors, Associate Tutors, and Legal Aid Tutors of the HWLS. Forty-two responses were collected, giving a response rate of 51%. This survey collected data on the following areas: general information, information

Figure 2

Visual Display of Explanatory Sequential Design Procedure



Note. Adapted from Creswell and Plano Clark (2018)

and communication technology, teaching and learning experiences, positive experiences, challenges with BL to teaching and learning, suggested training opportunities, and additional support required to improve the teaching and learning delivery.

The measurement scales were at the interval ratio scales. The categories for the interval ratio scales were: "Strongly disagree" (SD), "Disagree (D), "Agree" (A), and "Strongly agree" (SA). The Survey Monkey platform distributed and computed the frequencies and descriptive statistics for the abovementioned surveys.

Qualitative Phase

The qualitative phase of this study enabled the researchers to follow up on selected quantitative findings on tutors' and students' satisfaction and experiences. This phase allowed the researchers to investigate and explain the BL approach's rationale, benefits and limitations. Semi-structured interviews were conducted to collect the qualitative data.

Purposeful sampling was used to identify participants from the student and tutor populations. In this sampling methodology, the researchers decide on the participants' purpose and then identify persons to participate (Bernand, 2012). As such, interviews were conducted with one tutor from the doctrinal courses (Respondent DC), one tutor from the clinical programme (Respondent CP) and one student (Respondent ST). The researchers chose these specific roles because the participants represent the diverse perspectives of the HWLS's main internal stakeholders. The qualitative sample size was small due to time, convenience, and needing more detailed data. Importantly, with such a small sample size, the data may not adequately represent the diversity of viewpoints and restrict the generalisability of the findings. However, the researchers did not intend to consider the qualitative findings in isolation for this mixed methods study. The researchers used these findings to explain specific quantitative findings (Creswell & Plano Clark, 2018).

The data collection procedure followed the recommendations as set out by Creswell and Plano Clark (2018):

1. The participants in the qualitative phase would be a subset of respondents in the quantitative data collection.
2. The qualitative phase sample size is smaller than the quantitative phase.
3. Conduct the quantitative analysis first and identify areas for further qualitative investigation.

The interview protocol was based on selected quantitative findings from the three IR surveys highlighted previously. The protocol was used to prompt the three participants to explain the reasoning behind their responses to the quantitative findings and further explain their experiences with the BL approach. The first integration point in this study was using the quantitative data to guide the purposeful sampling and the development of the interview protocol (Creswell & Plano

Clark, 2018). Appendix A shows the connections between the selected quantitative findings, interview questions and rationale.

The interview protocol contained twelve questions surrounding the rationale for adopting the BL approach, the benefits and limitations of BL, and the required support. Guided by Kvale and Brinkmann's (2009) terminology of question types, the guiding questions comprised follow-up questions on the quantitative findings, probing questions to gain more explanations, specifying questions on particular areas of interest, and direct questions on BL at the HWLS. The interviews were conducted after the analysis of the quantitative data. The interview data were collected via face-to-face and virtual interviews (Zoom platform). The interviews lasted between 35 and 40 minutes, and responses were recorded using handwritten notes.

The qualitative data was analysed using a six-step thematic analysis process (Braun & Clarke, 2006). Firstly, the researchers familiarised themselves with the data by transforming the handwritten notes using a word processor, reading data and trying to gain a broad view. Secondly, the researchers generated initial codes from the interviewees' responses by aggregating interesting and descriptive phrases. Thirdly, the researchers generated potential themes by collating all relevant codes and data. Fourthly, the potential themes were reviewed against the qualitative extracts and refined where required. Fifthly, the refined themes were defined and named. Lastly, vivid and compelling extracts were used to describe the themes.

Results

In this section, the results from the quantitative phase will be reported first, followed by the results of the qualitative phase. The next section will present the interpretation of the quantitative and qualitative results using a joint display.

Quantitative Results

This section presents the quantitative findings for the first phase of this study. As mentioned in the methodology section, three secondary institutional research reports were analysed. The quantitative findings were categorised under satisfaction and experiences with the blended approach. The findings were presented using graphs and tables.

Satisfaction with Blended Learning

Data from the surveys strongly suggest tutors and students were generally satisfied with the BL adopted for AY 2022-2023. As reported in IR Report One, the overwhelming majority of Year One and Year Two students (88%) preferred the BL mode to teaching and learning instead of in-person classes (HWLS, 2022) (Figure 3). Also, 78% of students were satisfied with the BL approach for course delivery (HWLS, 2022) (Figure 4).

Figure 3
Students' Preferred Mode of Teaching and Learning

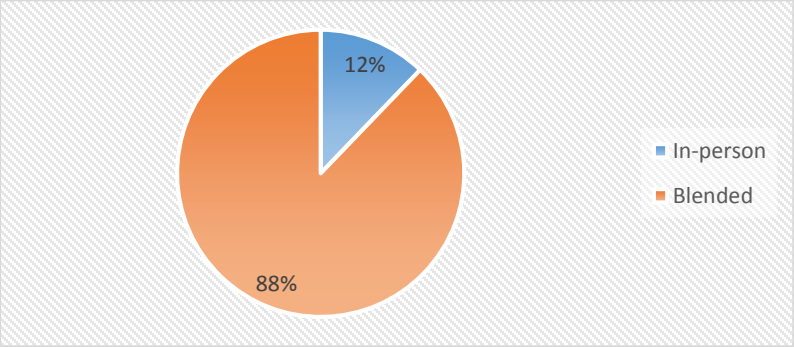
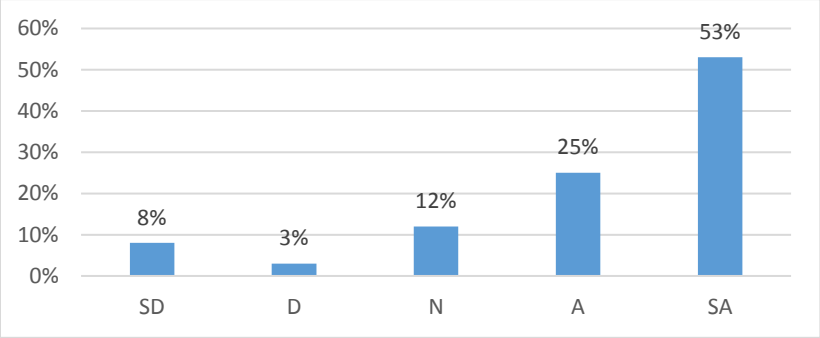
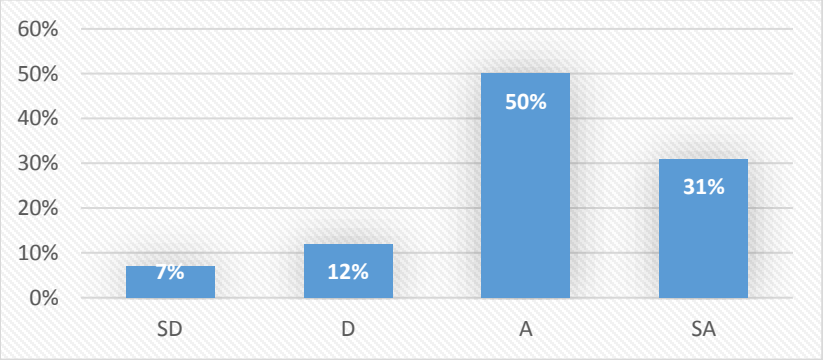


Figure 4
Students' Satisfaction with the Blended Approach



Similarly, as reported in IR Report Three, 81% of tutors were satisfied with using BL for course delivery (HWLS, 2023b) (Figure 5).

Figure 5
Tutors' Satisfaction with Blended Approach

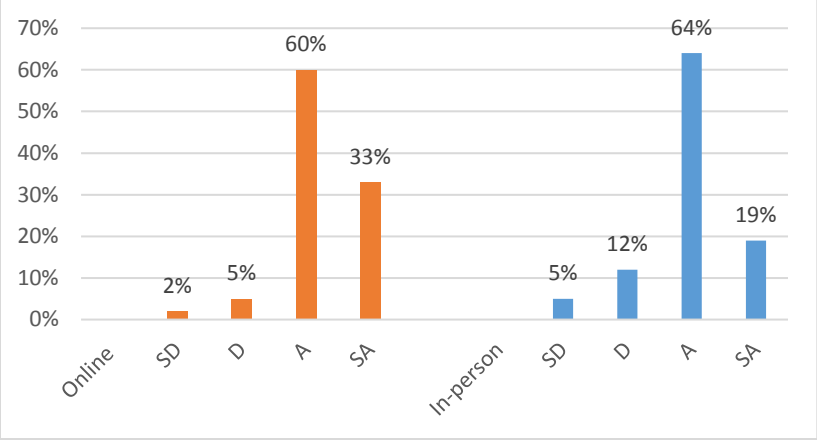


Experiences with Blended Learning

According to previous institutional research reports, most tutors and students have had favourable experiences with BL. For tutors, as reported in the IR Report Three, these experiences were with the classroom environment, student participation and ICT resources (HWLS, 2023b). Firstly, according to Figure 6, most tutors (93%) agreed/strongly agreed that the online classroom environment was conducive to teaching (HWLS, 2023b). In comparison, 83% indicated that the in-person classroom environment was conducive to teaching (HWLS, 2023b) (Figure 6).

Figure 6

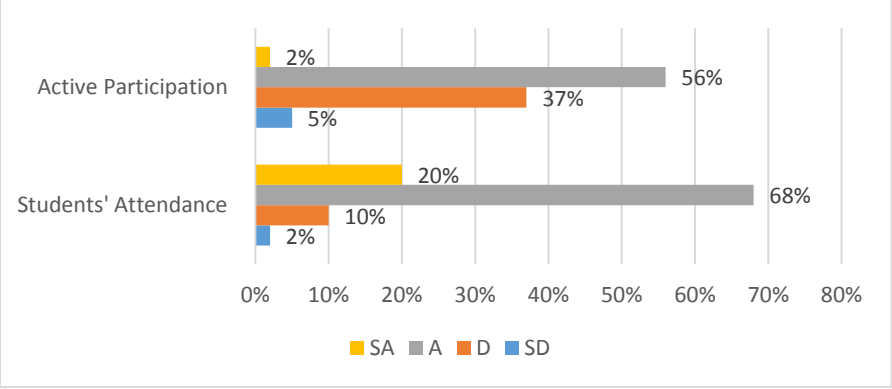
Tutors' Experience with Classroom Environment



Secondly, most tutors expressed satisfaction with students' attendance and class participation in the BL environment (HWLS, 2023b). According to Figure 7, 58% of tutors agreed/strongly agreed that students actively participated during online and in-person classes (HWLS, 2023b). In comparison, 88% conveyed their satisfaction with class attendance (HWLS, 2023b) (Figure 7).

Figure 7

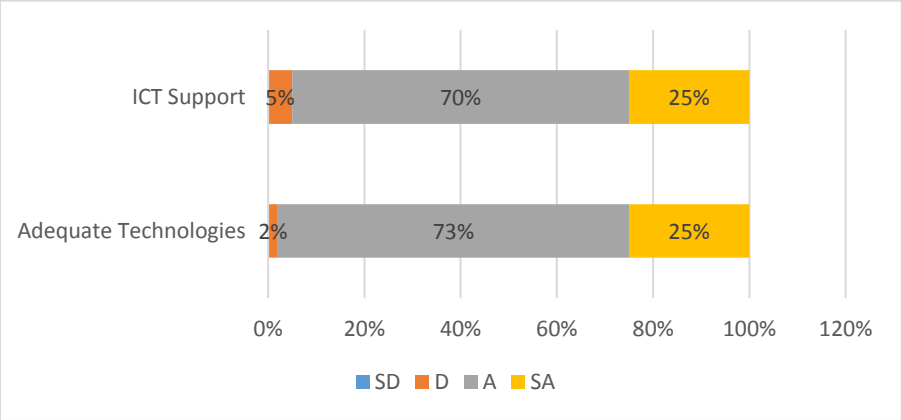
Tutors' Satisfaction with Students Participation and Attendance



Finally, tutors expressed positive experiences with the information and communication technologies (HWLS, 2023b). Namely, 95% of tutors agreed/strongly agreed that the HWLS provided adequate ICT support (HWLS, 2023b) (Figure 8). Similarly, 98% agreed/strongly agreed that the technologies provided for BL classes were sufficient (HWLS, 2023b) (Figure 8).

Figure 8

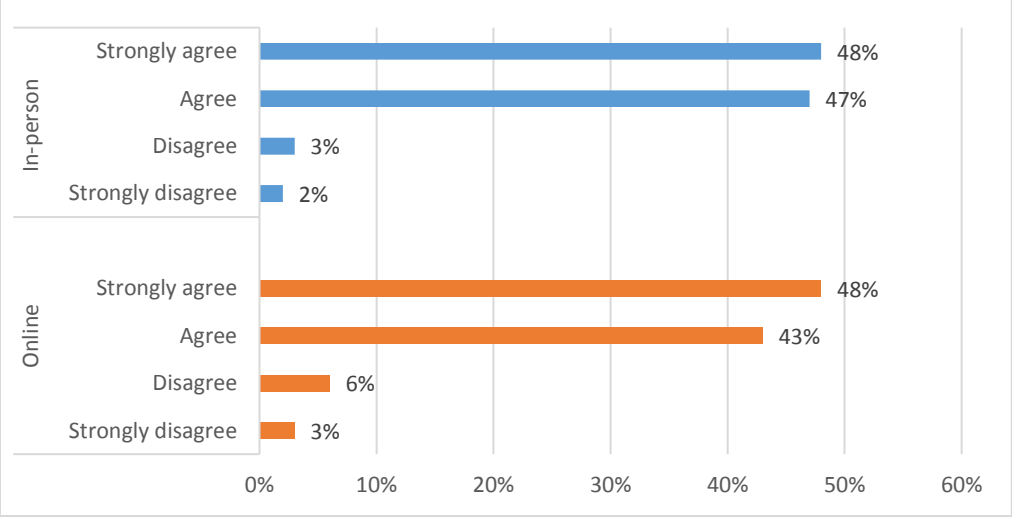
Tutors' Experiences with ICT Support and Technologies



In comparison, as reported in the IR Report Two, students' favourable experiences were centred on participation, classroom environment, organisation of the classes and teaching methods (HWLS, 2023a). Firstly, most indicated that online and in-person classes promoted active participation. According to Figure 9, 95% of students agreed/strongly agreed that in-person classes encouraged participation, while 91% agreed/strongly agreed that online classes promoted participation (HWLS, 2023a).

Figure 9

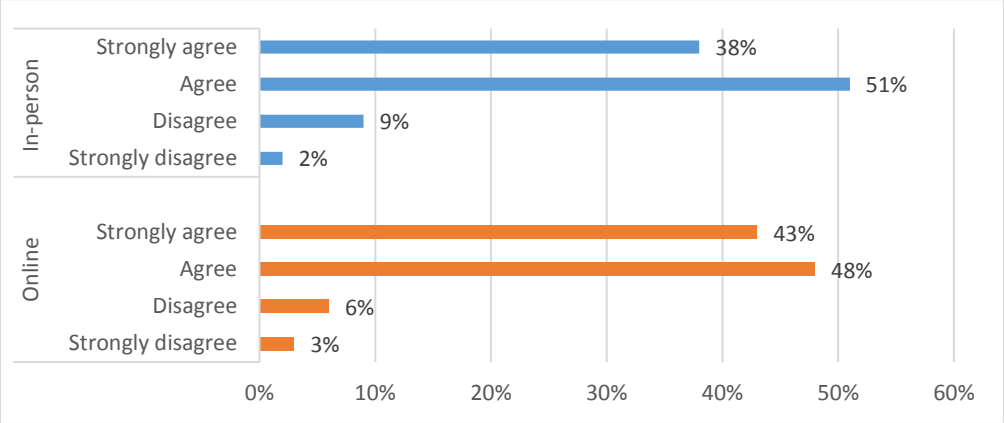
Students' Experiences with Participation



Secondly, the overwhelming majority of respondents indicated favourable experiences with blended classrooms (HWLS, 2023a). According to Figure 10, 89% of students agreed/strongly agreed that the in-person classroom promoted a conducive learning environment (HWLS, 2023a). Similarly, 91% of students agreed/strongly agreed that the online environment was conducive to learning (HWLS, 2023a).

Figure 10

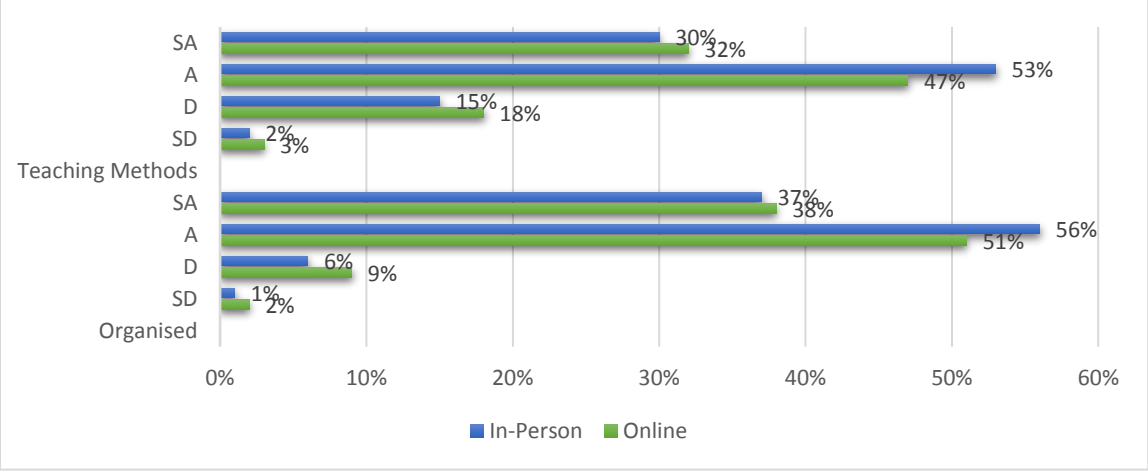
Students' Experiences with Classroom Environment



Lastly, according to Figure 11, 83% of students agreed/strongly agreed that the tutors utilised various in-person teaching strategies to match different learning styles (HWLS, 2023a). In the same way, 79% of students found that tutors used various online techniques to accommodate different learning styles. Also, 89% of students found the online classes were well organised, and 93% believed the in-person classes were organised (HWLS, 2023a) (Figure 11).

Figure 11

Students' Experiences with Teaching Methodology and Classroom Organisation



Therefore, the quantitative findings suggest that students and tutors were satisfied with BL. Both stakeholder groups had positive experiences with this approach, particularly with the classroom environment and organisation, student participation, ICT resources and teaching methodology.

Qualitative Phase

This section presents the qualitative findings for the second phase of this study. After the thematic analysis, two levels of themes were discovered – main themes and sub-themes. The main themes were rationale, benefits, limitations and support. Extracts and examples from the data would be used to support the themes and sub-themes.

Rationale for Blended Learning

Themes such as the *response to the COVID-19 pandemic* and *merits gained* emerged about the rationale for adopting BL. The findings from the three interviewees indicate that the main reason for using BL for teaching and learning for AY 2022-2023 was a direct response to mitigate the spread of the COVID-19 pandemic, as there was a return of face-to-face classes. Therefore, in response, participants further articulated that the BL approach controlled the number of persons in the physical space, allowed adherence to social distance practices, and allowed a transitory period to return to normalcy.

After one academic year, participants expressed two main merits of this approach – space management and general acceptance by users. These merits provided the rationale for continuing the BL approach in AY 2023-2024. For instance, Participant CP stated, "Inadequate (physical) space to accommodate fully in-person teaching and learning allowed for the continuation of the blended approach." Participants DC and ST further explained that general optimism among students and tutors led to the continuation of this mode.

Participants were also hopeful that this mode of delivery could continue at the HWLS since the online component provided technical competencies required for the workplace, such as a virtual courtroom, as expressed by Participant DC. Other reasons included the effectiveness of the approach, reduced cost, and improved class attendance. Participant ST stated, "The LEC programme is very demanding/rigorous, so the BL approach is effective. There was a reduced cost for transportation to commute to the HWLS. Also, class attendance was 75% due to the blended approach to teaching and learning."

From the above descriptions and extracts, the rationale for initially adopting the BL approach seemed more like a reactionary strategy to combat or minimise the risks of spreading the COVID-19 virus. However, having experienced this mode of delivery, it appears that students and tutors welcomed this approach and found it compelling with its merits. As specified by Participant CP, "The blended approach will be the way forward."

Benefits of Blended Learning

Participants praised the flexibility and convenience of the rotational BL approach. Participants highlighted the online component's ability to quickly organise students into groups and provide more opportunities for questions and clarification. Also, the Zoom break-out room, chat and raise hand features allowed for easy organisation and increased student engagement. As expressed by Participant DC, "This encourages student engagement whereas in a physical classroom, students would usually wait until class is dismissed to meet the tutor."

Meanwhile, the physical component allowed tutors to assess students' learning needs better than online, and students could work on case files, conduct research, make presentations, interact physically with staff and students and reduce screen time. Other HWLS stakeholders benefited from the BL approach. Participant CP expressed, "The needs of (Legal Aid) clients were catered for through the blended approach to teaching and learning." For instance, clients who cannot attend physical meetings can opt for a virtual one. On the other hand, clients who do not have access to technology can visit the HWLS.

In summary, BL's convenience and flexibility were ideal for teaching and learning as the online and physical components had unique but complementary characteristics. Both tutors anticipate positive outcomes and benefits for the new academic year, intending to make improvements where required.

Limitations of Blended Learning

Despite its merits and benefits, participants also mentioned several limitations. These limitations included poor student engagement, students' training needs, and technological challenges. Firstly, participants stated that not all students were fully engaged, even though they had several opportunities. As explained by Participant DC:

> Although opportunities were provided to students, it is up to the adult learner to take advantage of the opportunities afforded to them. Students had the privilege to communicate with the tutor via WhatsApp messenger, telephone calls, in-person or virtual appointments, etc., to clarify information and obtain explanations on the learning materials.

Another limitation was the need to retrain students for BL, especially after two years of fully online classes due to the pandemic. As noted by Participant CP, "Time had to be spent on training students to think outside of the digital world after spending two years in an online environment." The qualitative findings showed that some students required an adjustment period returning to the physical environment. Participant CP further stated that students had to retrain in "searching and using books in the library and developing social skills and these tasks took more energy/effort from tutors."

The last limitation highlighted was the technological challenges faced by students. Most notable were the internet connectivity on campus, extensive screen time during online classes and some tutors lacking the knowledge to use the technological tools. Participants indicated measures were taken to address these challenges by providing asynchronous material on the learning management system for students' access, inviting students to sit in the tutor's office during online classes, and establishing a laptop rental system with the student representative body.

Support Required

Three areas of support required for BL to be effective were discovered during the analysis. These areas include instructional support, technological support, and institutional support. The tutors must recognise a learning gap and provide appropriate support before providing instructional support. Participant CP stated, "Having recognised that some students were weak in research skills and the ability to think critically, I formulated activities that encouraged critical and analytic thinking and problem-solving." Furthermore, tutors indicated that they took the time to explain the learning material, provided opportunities for students to ask questions beyond the classroom, and conducted frequent formative assessments to aid students' learning.

One-half of the rotational BL relies heavily on technological resources. Therefore, all three interviewees indicated that technological support is crucial for its effectiveness. The tutors indicated that technological advancement requires an appropriate plan and budgetary allocations, stable internet connection, modern educational technology and software acquisition, and more support personnel. Participant ST stated, "There should be more accessibility of a direct liaison to repair computers or sufficient IT support."

Participants also mentioned institutional support as an essential mechanism for BL. The HWLS increased its establishment by fully staffing its IT Department for AY 2023-2024 to complement the technological support mentioned previously. However, Participant DC stated, "More resources must be allocated to building the online teaching and learning environment." Further, Participant CP added, "Having students online and in-person in the same classroom should be considered as a way forward, which will involve redesigning the course."

Another aspect of institutional-level support is continuing with the various monitoring and evaluation processes. At the HWLS, some of these processes include shared governance, regular reporting of committees and departments, institutional research activities and quality reviews. Participant ST recommended "the continued use of the current monitoring and evaluation processes, which has placed the HWLS in a favourable position, to make decisions on the overall teaching and learning process."

Discussion and Conclusions

This section presents the second integration point of this paper, which occurs when the researcher "integrates the two sets of connected results and draws integrated conclusions about how the qualitative results explain and extend specific quantitative results" (Creswell & Plano Clark, 2018, p. 80). The integration is represented in a joint display (Table 1), which presents the category and CABLS sub-system, quantitative findings, supporting qualitative themes and inferences from the two databases.

The main conclusion from this study is that although the rationale for adopting BL was a reactionary response to COVID-19, and having experienced the benefits and merits, the users are satisfied and have accepted it as a preferred approach to teaching and learning. Like many institutions affected by the pandemic, the HWLS implemented online learning as an interventional response so operations could continue. The transition to BL aimed to retain students, continue programme delivery post-pandemic as institutions returned to face-to-face classes and ensure a sustainable transition by utilising the same technological infrastructure for fully online classes.

The literature review identified the relevance of the CABLS as a framework for assessing the effectiveness of BL. Several elements of each CABLS sub-system were observed within the BL system at the HWLS. While technological upgrades were implemented and specific training was conducted with both learner and teaching staff, it is unclear if all sub-systems interact and co-evolve efficiently and if the pedagogical quality has been impacted.

Therefore, the goal is to use the CABLS framework to assess and evaluate the effectiveness of the BL system at HWLS. This discussion presents a gap analysis, which examines the underlying implications of the integrated results matrix within the CABLS framework to identify strengths, gaps and recommendations.

The Learner at the HWLS

The findings show a strong relationship between the BL system and student (learner) satisfaction, highlighting increased flexibility and convenience. Most students reported high satisfaction levels and preferred BL to traditional face-to-face learning. BL also seems to encourage student engagement and improve active participation in the learning process (Wang et al., 2015; Cleveland-Innes & Wilton, 2018; Ntim et al., 2021). The findings suggest that lower student engagement can be attributed to their disengagement rather than any inherent system limitations. Also, integrating technology and online resources provides learners with flexible access to course materials, communication tools, and interactive activities. However, the effectiveness of BL in supporting the achievement of student learning outcomes was not assessed, requiring further research and investigation.

Table 1

Joint Display

Category (CABLS Sub-System)	Quantitative Findings		Supporting Qualitative Statement (Students & Tutors)	Meta Inference
	Students	Tutors		
Preferred Blended (Learner and Teacher)	88% of students preferred BL, while 12% preferred face-to-face learning.		The rationale for the initial BL was a response to the COVID-19 pandemic. Merits of BL were space management and general acceptance.	Even though the rationale for adopting BL was a reactionary response to COVID-19, users have accepted and now prefer this approach to teaching and learning due to its merits.
Satisfaction with BL (Learner and Teacher)	78% of students were satisfied with the BL approach.	81% of tutors were satisfied with the BL.	The benefits of BL were space management, flexibility and convenience. Some limitations are poor student engagement, adjustment, and retraining of students and technology.	Participants were highly satisfied with the benefits of the BL approach, such as flexibility and convenience. However, some limitations were noted.
BL Environment (Content)	91% of students found online classes conducive to learning. 89% of students found in-person classes conducive to learning.	93% of tutors found online classes conducive. 89% of tutors found in-person classes conducive.	Benefits of BL: online components develop competencies required for the workplace. The physical classroom allowed for better assessment of students' needs.	Both components of BL seem to promote conducive classroom environments for learning.
BL was organised (Technology)	89% of students found online classes well organised. 93% of students found in-person classes well organised.		Benefits of BL: Tutors expressed that the online classes allowed for the effortless organisation of students into groups. While physical classrooms allowed students to work on	Based on Tutor observation and student data, it can be inferred that both components of the BL were organised.

			files, interact with peers	
BL Active Participation (Learner)	91% of students found online classes encouraged active participation. 95% of students found that in-person classes encourage participation.	58% of tutors thought that BL encouraged active participation.	Benefits of BL - it encourages student engagement as students have multiple opportunities to engage with the tutor. However, not all students took advantage of these opportunities.	Based on tutor observation and student data, it can be inferred that BL significantly increases student engagement and active participation in most cases. Some students were not engaged due to their lack of effort.
Teaching Strategies (Teacher)	79% of students found tutors used various online teaching strategies. 83% of students found that tutors used various in-person teaching strategies.		Tutors try to identify learners' gaps and provide instructional support, such as formulating activities for critical thinking, providing detailed explanations of material, providing learning opportunities, and conducting frequent formative assessments.	The various instructional support activities contributed to high ratings of BL teaching strategies.
ICT Resources (Technology and Institution)		98% expressed sufficient technologies.	Measures to mitigate against some ICT challenges are posting asynchronous material, sessions with tutors, and laptop rental.	Based on the tutors' quantitative and qualitative data, it can be inferred that sufficient ICT resources were provided. However, more resources were recommended to improve the BL approach.

ICT Support (Technology and Institution)		95% of tutors expressed adequate ICT support.	Participants recognised the efforts of the HWLS to increase its ICT capacity. However, more resources may be required to build the BL environment.	The technical support provided was crucial for BL effectiveness, as evidenced by the high rating.

The Teacher at the HWLS

The meta-inferences indicate a substantial relationship between the teacher sub-system and instructional support (teaching strategies). Teachers or tutors routinely try to identify learner gaps and adapt their instructional strategies accordingly. Most students find that teachers adequately vary teaching strategies to stimulate critical thinking, learning opportunities and formative assessments regardless of whether online or in-person. Furthermore, BL facilitates personalised instruction and increases student-teacher collaboration (Cobo-Rendón, 2022). Teachers appreciate this collaboration as it encourages student engagement and participation.

The Technology Sub-System at the HWLS

Based on the meta-inferences, the technology sub-system significantly impacts the overall satisfaction with the BL system, with its growth and evolution linked to the learner and teacher sub-systems (Wang et al., 2015). ICT integration offers flexibility and convenience, with online group organisation being a popular feature. Students and teachers are satisfied with the ICT system's utility and accessibility. However, there is an expressed need for increased ICT capacity and more technological resources.

The Content Sub-System at the HWLS

The content sub-system was not fully covered in the scope of this study. However, the meta-inferences suggest that both components of the BL system provide a conducive learning environment for students. This sub-system should be revisited to evaluate the efficacy of the BL course content and its alignment with the curriculum and to reveal its quality, relevance, alignment with learning objectives, and impact on learning.

The Learning Support Sub-System

The meta-inferences reveal high participant satisfaction regarding ICT support, with tutors stating that the online component provides a solid foundation for instructional support. However, the study lacks data on other aspects, such as administrative support, accommodation of diverse learning needs, and institutional policies. It necessitates further research to understand its impact.

The Institution Sub-System

The meta-analyses reveal that the HWLS provides adequate resources and processes for the BL system, including physical classes, class rotation schedules, increased ICT department size, software and platform purchases, user training, monitoring, and evaluative procedures and maintaining shared governance principles in the sub-system. However, the study's scope limits the complete examination of this sub-system, necessitating further research to gain insights into supporting institutional strategies, policy alignment with strategic goals and long-term vision. Institutional support is crucial in strategic decisions, such as continuing BL after the pandemic (Ntim et al., 2021).

Implications for HWLS

The assessment outcomes using the CABLS as a framework indicate that the learner, teacher and technology sub-systems at the HWLS are the strengths of the current BL system and are highly effective, satisfactory and integrated. There is enough evidence to suggest that these sub-systems co-evolve and support each other adequately. Some inferred gaps may exist in the content, institution and, to a lesser degree, the learning support sub-systems.

For the HWLS to move the BL system from a reactionary to a deliberate approach, further investigation is needed to determine if the gaps result from the study's constraints or are inherent in the system's design. It is necessary to conduct more research to explore the impact of the content sub-system, learning support sub-system, and institution sub-system on the overall effectiveness of the BL system.

Limitations

There were several limitations of this study. Firstly, a small qualitative sample size was interviewed due to time constraints, convenience, and the need for detailed information. Thus, the findings may not represent all students and tutors at the HWLS. Nonetheless, the quantitative and qualitative findings and their integration provided meta-inferences about their experiences within the populations.

Secondly, a key feature of the explanatory mixed methodology design is that "The researcher must decide which quantitative results need to be further explained" (Creswell & Plano Clark, 2018, p. 81). Therefore, there may exist other significant quantitative results that were not selected in this study. Future research could utilise another research design, such as a convergent design, where the intent is to obtain data (quantitative and qualitative) around the same topic(s) to understand the research problem.

Lastly, the findings of this study are specific to the HWLS, and caution should be made about generalising the claims beyond the research context. However, the recovery may have standard

dimensions since all HEIs faced similar challenges during the COVID-19 pandemic. Therefore, the findings should be used as a comparative mechanism to identify best practices.

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Appendix A
Interview Guide with Rationale for Questions

Relevant Quantitative findings	Interview Question	Rationale for the question
88% of students preferred BL.	***Ques 1.*** Please share the reasons for using the BL for teaching and learning for the last AY 2022-2023. ***Ques 2.*** Please share the reasons for continuing the blended teaching and learning approach for the new AY 2023-2024. ***Ques 5.*** With the continuation of the blended approach, what positive outcomes do you foresee in relation to students and teachers?	Explanation of students' preferred learning mode and experiences with BL.
78% of students expressed satisfaction with the course delivery.	***Ques 3.*** Do you anticipate this course delivery mode will be the way forward at the HWLS? ***Ques 4.*** What benefits did you observe last AY when using the blended approach?	To explain students' satisfaction with the BL.

81% of tutors expressed satisfaction with the blended approach for course delivery.	***Ques 3.*** Do you anticipate this course delivery mode will be the way forward at the HWLS? ***Ques 4.*** What benefits have you observed last AY from using the blended approach? ***Ques 5.*** With the continuation of the blended approach, what positive outcomes do you foresee in relation to students and teachers? ***Ques 11.*** What technological support would be required to ensure the effectiveness of the blended approach? ***Ques 12.*** At the institutional level, what support mechanisms are required to ensure the effectiveness of the blended approach?	To explain tutors' satisfaction with the course delivery mode, experiences, challenges, and suggestions for improving students' overall experiences.
58% of tutors found that students actively participated in online and in-person classes.	***Ques 6.*** What limitations have you observed with the blended approach? ***Ques 9.*** There may be some students struggling or falling behind through BL. How would you support these students? ***Ques 10.*** What instructional models do you use for teaching and learning, and how has this helped students' learning process and outcomes?	To understand students' active participation during classes, challenges, and suggestions for improving students' experiences

Online classroom environment conducive to learning (92%) of students agreed or strongly agreed. In-person classroom environment conducive to learning - (90%) of students agreed or strongly agreed.	***Ques 3.*** Do you anticipate this course delivery mode will be the way forward at the HWLS? ***Ques 7.*** How would you cater to students who do not have devices and have disrupted internet connectivity to study online? ***Ques 8.*** Although the minority (12%) preferred in-person classes, how much time do you anticipate students may need to adapt to the blended approach to teaching and learning?	To understand the reasons for the continued use of BL and how challenges would be addressed.
98% of tutors found TWEN suitable for posting learning material for asynchronous classes.	***Ques 3.*** Do you anticipate this course delivery mode will be the way forward at the HWLS? ***Ques 4.*** What benefits have you observed last AY from using the blended approach? ***Ques 7.*** How would you cater to students who do not have devices and have disrupted internet connectivity to study online?	To explain students' satisfaction with the LMS and teaching and learning activities.
91% of students found that online classes promoted active student participation. 96% of students found that in-person classes encouraged active student participation.	***Ques 4.*** What benefits have you observed last AY from using the blended approach? ***Ques 10.*** What instructional models do you use for teaching and learning, and how has this helped students' learning process and outcomes?	To explain levels of student engagement during the delivery of BL classes.