To Explore the Interaction Between Lecturers and Students in Using Blackboard for Curriculum Development: A Case Study of University of Fort Hare

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Thanks to Blackboard, a widely used learning management system (LMS), higher education can now employ blended learning strategies. It is now a crucial component of curriculum development, enabling instructors to improve their instruction and students to interact with the materials in fresh ways. This study aims to explore the interaction between lecturers and students in using blackboard system for curriculum development. This research leverages on qualitative method as the adopted methodology, using design science research framework approaches in having the opinion of lecturers and students on using blackboard technology as a tool for curriculum development. Therefore, the data collected is analyzed using thematic NVivo Software to analyze the findings of the results. The study results obtained include experience, feedback and support, and flexibility as the themes. The study's findings suggest that instructors and students have a positive connection when using Blackboard technologies to construct curricula.

INTRODUCTION

The interaction between instructors and students has been profoundly changed using Blackboard technology in curriculum building in blended learning. An educational strategy known as blended learning mixes online learning elements with conventional in-person classroom training (Braslauskiene et al, 2017). Combining the best features of online and in-person learning environments, this approach seeks to improve the educational process and provide a more individualized and adaptable learning environment (Kumar et

al 2021). Effectively implementing blended learning methodologies will be essential as higher education develops to satisfy today's students' varied demands and prepare them for challenges in an increasingly digital environment through Blackboard as LMS (Rasheed et al 2020). Leading learning management system (LMS) Blackboard is now an essential resource for instructors and students in higher education (Caga 2020). Blackboard is a platform that is widely used in educational institutions worldwide to enhance collaboration, encourage student involvement, and expedite course delivery. It offers a wide range of tools and services. Despite having the potential to dramatically change education, Blackboard's efficacy ultimately rests on how instructors and students utilize and see the platform. Therefore, with learning management systems (LMS) like Blackboard being crucial to facilitating teaching and learning activities, the use of technology in education has become increasingly common in the contemporary digital era (Iffat Rahmatullah 2021). In order to organize and support their teaching methods, educational institutions use a variety of high-tech tools and systems. In education, these state-of-the-art facilities can supplement traditional teaching methods with digital ones (Bamigboye & Olusesan 2017). This promoted creativity and innovation in the educational system, which is advantageous for increasing and meeting educational standards (khan et al., 2018). Hence, the use of technology in education has grown in popularity in the current digital era, with learning management systems (LMS) like Blackboard being essential to the facilitation of teaching and learning activities (Al-Khresheh 2021).

According to Caga (2020), who reported on some of the challenges faced by blackboard for teaching and learning which are reliability issues around glitches, bugs and outages. All these challenges can disrupt the learning process and have a negative impact on the user experience. Another challenge raised by (Mendoza et al, 2021) was that integrating blackboard with other tools can be challenging. This can create additional complexity and reduce the overall effectiveness of the blackboard platform for curriculum development. There is a growing use of online learning driven by COVID-19, resulting in emergency remote teaching (Mendoza et al., 2021) and/or increase in technology use in higher education (Alhumsi et al, 2021;). The main online platform behind this surge in online learning is Blackboard (Alhumsi et al, 2021). This platform is used across 90 countries by approximately 100 million users (Mendoza et al., 2021). We find that there aren't many studies, and the ones that do don't agree about how Blackboard is perceived as a tool for developing curricula in higher education study that concentrates on professors and/or students enrolled in extended study are similarly lacking. Considering the growing use of technology in curriculum building for teaching and learning (Bamigboye et al, 2024), this study is essential. Hence, because extended studies are different from other programs, South African universities may present different dynamics than other countries' universities.

RESEARCH AIM AND QUESTIONS

The aim of this study is to explore the interaction between lecturers and students in using Blackboard system for curriculum development. In achieving these the following research questions are to be met:

    i.   *What are your experiences in using Blackboard for curriculum development in teaching and learning?*

    ii.   *How flexible is the Blackboard technology for curriculum development in teaching and learning?*

    iii.   *To what extent is Blackboard technology providing feedback and support for curriculum development in teaching and learning?*

LITERATURE REVIEW

According to Alsuhaiban (2021), integrating online teaching tools has become important for educational institutions, with many institutions adopting Blackboard as their Learning Management System (LMS). Mohammed (2019) defines the Blackboard Learning Management System (LMS) as a software application or web-based technology crafted for planning, executing, and assessing a specific learning

journey. LMS empowers Lectures by providing tools to generate and deliver content, track student engagement, and evaluate progress.

As noted by Alhumsi & Alshaye (2021) cited in Mohammed (2019), advancements in technology have the potential to modernize teaching methods and enrich learning experiences for students. Caga (2003) argues that Blackboard LMSs offer an interactive platform that caters to diverse student needs. However, Mendoza et al (2021) presents a contrasting view, suggesting that while the system enhances learning, it can also impact the development and utilization of online resources and modify traditional teaching approaches, introducing new complexities to program management. Nevertheless, both lecturers and students can benefit from using the Blackboard Learning Management System. The advantages include increased accessibility, timely feedback, improved interactions, and the cultivation of vital skills such as organization, time management, and communication.

Appana (2008) further explores the advantages of investing in online learning, highlighting benefits such as increased access, enhanced learning quality, better preparation for a knowledge-based society, opportunities for lifelong learning, and potential profitability. However, Appana (2008) also acknowledges limitations such as the initial funding required for online learning initiatives, the readiness of organizations to adopt this mode of education, and students' preparedness for online learning environments.
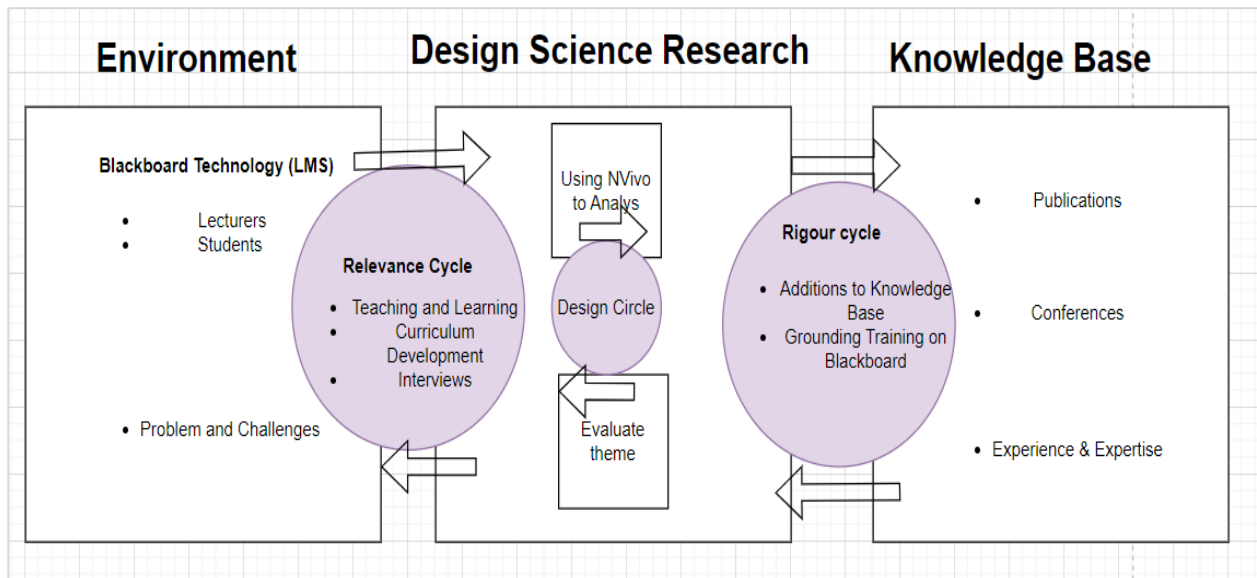
Ibrahim, Mohamed, Aldhafeeriand Alqdah (2019) argue that lecturers expect technology to be reliable and user-friendly, especially when handling complex teaching tasks. Achieving desired instructional outcomes hinges on the simplicity and effectiveness of technology tools in meeting instructors' pedagogical needs. However, the adoption of online teaching tools and the transformation of instructional practices face challenges due to varying levels of instructor acceptance. Factors such as the introduction of new technologies, the choice of instructional medium, course design, and organizational policies often pose challenges to implementing effective instructional strategies (Khan el at, 2018). LMS have become indispensable tools in teaching and training across universities worldwide, whether they are open source (like Moodle or Dokeos) or closed source (like Blackboard or Tutor). They provide pedagogical management tools for delivering online teaching and learning activities effectively.

Research by Al-Mubireek et al. (2023) used a survey to collect the perceptions of the 63 English as a foreign language EFL instructors about using Blackboard in teaching English as a foreign language (TEFL) teaching. A mixed-methods sequential explanatory design was used for collating, analyzing, and consecutively integrating data. The findings revealed that teachers' attitudes towards using Blackboard were significantly positive. Nevertheless, they disclosed that several effective Blackboard features are not explored for the benefit of teachers such as the electronic library, the evaluation system, the teachers' forum, and the group conferencing.

RESEARCH METHODOLOGY

This research leverages on qualitative method as the adopted methodology, using design science research framework approaches in having the opinion of lecturers and students on using blackboard technology as a tool for curriculum development. The qualitative approach technique is used to have the sense of feelings, experiences and opinions of a phenomenon of a situation in the real world (Mwita 2022). In this study, an investigation is carried out on the interaction between lecturers and students on Blackboard as a learning management system on curriculum development in teaching and learning. In carrying out this, we seek to have the views of lecturers and students in connection with curriculum development using a blackboard. However, data were collected using 9 lecturers and 12 students across the management and commerce faculty familiar with Blackboard as a learning management system with structured interview questions. The data was collected individually and transcribed into NVivo. The transcribed document was analyzed using NVivo to generate detailed demographic information and generate a theme for this study. The adopted framework that guided this paper is Design science research process as shown in Figure 1 below:

FIGURE 1
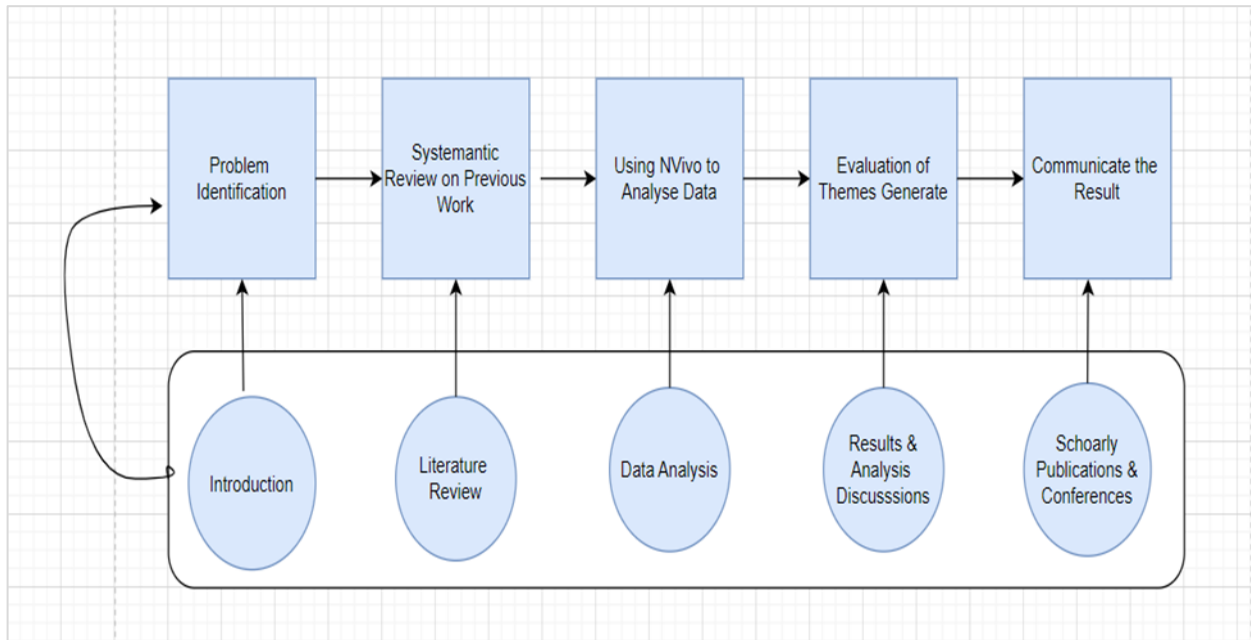**DESIGN SCIENCE RESEARCH FRAMEWORK FOR THIS STUDY**

Source: Author's Own (2024)

Figure 1 above shows the DSR framework for this study has shown 3 levels of iteration involved: the environment, design science research and knowledge base. Also, the DSR framework has 3 cycles for the study framework. The first cycle here is the relevance cycle which focuses on the contextual environment of Blackboard technology users for teaching and learning. The environment consists of lecturers, students and problem opportunities as highlighted above. The second phase is the design circle bridges between the Using NVivo to analysis and theme evaluation is simply the heart of the design science research lifecycles. While the rigour cycle connects to the design cycle with publications, conferences and expertise experiences. In this study these three processes are clearly defined and identified as the framework that guides the blackboard technology as a learning management system for curriculum development.

RESEARCH DESIGN

Design Science Research (DSR) contributes to research by systematically evaluating the planning and development processes to demonstrate the results to the readers (Winter el at, 2020). Design science research is distinct from but complementary to other research paradigms like natural and social science. DSR is also focusing on paradigms focused on descriptive and explanatory knowledge. By integrating DSR with other resource approaches, researchers can leverage the strengths of each to produce more comprehensive and impactful research outcomes (Thuan 2023). Qualitative research design is used in this study's case study to conduct an in-depth investigation on blackboard for curriculum and development for teaching and learning in higher institutions.

FIGURE 2
DESIGN SCIENCE RESEARCH ITERATION PROCESS FOR THIS STUDY

Source: Author's Own (2024)

Figure 2 shows the design science iteration process that guided this study. From the diagram above, the study's introduction is the first process that brings about the problem identification as the challenges and problems. The second process iteration is the systematic reviews on previous work done which forms the literature review. The third process is the Using NVivo to analyze data collection and data analysis linked to this. The fourth process is evaluating the themes generated through results and analysis linked to the evaluation of themes. The last iteration process is communication of the results through scholarly publications and conferences.

PARTICIPANTS AND SAMPLING PROCEDURE

The Participants for this study are (9) lecturers and (12) students from 3 different department from Information system, Economics and Business management in the faculty of management and commerce at the university of Fort Hare in Eastern Cape province, South Africa. The lecturers are from different departments and the students are black South Africa students from different disadvantaged groups. The data were collected from Information system, The study makes use of purposive sampling through structure interviews from the faculty of management and commerce for both lecturers and students across different departments as listed above. The interview guide below are the questions asked from the lecturers (Q1) and students (Q2) on using Blackboard technology for curriculum development.

1. Q1: What are your experiences in using Blackboard to create and organize different types of course content (lecture slides, documents, videos, discussion) within Blackboard as a tool for curriculum development in teaching and learning?
2. Q2: What are your experiences in using Blackboard as a tool for curriculum development in learning?
3. Q1: To what extent does Blackboard provide support feedback functionality within the blackboard's assessment tools to instructors?
4. Q2: To what extent does Blackboard provide feedback and support functionality within the blackboard's assessment tools to students?

5. Q1: How flexible is Blackboard to enable instructors to create personalized learning paths for students based on their individuals' needs and goals.
6. Q2: How flexible is Blackboard to enable students to create personalized learning paths for students based on their individuals' needs and goals.

ETHICAL CONSIDERATION

Ethical clearance was obtained from University of Fort Hare Inter-Faculty Human Research Ethics Committee (IFHREC) with ethics clearance reference number FUN002-24 (Project). A written informed consent form was obtained. The participants lecturers and students gave their consent after being informed about the study. Participants were well informed that their involvement in the study was non-compulsory.

RESULTS AND ANALYSIS

Three thematic themes are generated as the result for this study in exploring the interaction between lecturers and students on the use of Blackboard in curriculum development. The themes were identified based on the data collected, transcribed and imported to NVivo for file classification, creation of code as the generated themes analysis using NVivo. The three generated themes are: Experience, Feedback and Support, and Flexibility.

Theme 1: Experiences
According to (Uziak et al, 2018) who described Blackboard technology learning management system experience as the most proactive, personalized and intuitive for Lecturers and students providing a navigating and activity system. Therefore, effective integration and utilization requires careful consideration of both technical and pedagogical factors (Baburajan et al). All these give us a better experience on the Blackboard for curriculum development. This theme is deduced from the responses received from the participants of lecturers and students on their views on Blackboard use for curriculum development. The responses feedback is in line with the submission of (Uziak at al, 2018) and Baburajan et al, 2019). See the lecturers and student's responses after coding and analyzing the data collected. The question below were asked from the lecturers on the Blackboard usage:

Q1: What are your experiences in using Blackboard to create and organize different types of course content (lecture slides, documents, videos, discussion) within Blackboard as a tool for curriculum development in teaching and learning?

Lecturers Participants Responses:
<Files\\Lecturers> - § 18 references coded [28.87% Coverage]

"Blackboard sufficiently integrates well with other tools and platforms; it is diverse and offers several options. Just the lack of execution and making it easier for users to navigate around the resources in layman terms."

"None that I am aware of."

"Blackboard allows videos, audio clips, and other multimedia content. Blackboard supports various media types and integrates with platforms like YouTube. (you can paste a YouTube link for you students to watch)"

"It blends well with other platforms because lecturers can copy and paste links from YouTube when they want to demonstrate some concepts for their students."

"Blackboard is a very good tool that allows instructors to easily communicate with students. It also allows students to access course material anytime and also allows collaborations between lecturers and students."

"Yes, it allows you to embed links to different software for content creation."

"Yes, with the know-how, one can do so."

"Yes, blackboard allows for lecturers to navigate through bb to help assist students with their needs. It also enables the lecturer to improve on her own practice as well."

"Yes, Blackboard allows the instructor to modify or adjust content and allows the creation of course templates that can be reused and adapted for different semesters."

"Yes, blackboard does allow instructors modify content to allow the current period. For example, lecturers can use previous questions for multiple choice and pick those ones that are needed and modify them to suit the current period, and it helps to store information in case you lose your gadgets you can still have access to information."

"I think yes, but I have not tried it on my own."

"There are different learning types and blackboards have tools to cater for these different learning types, therefore you can personalize the learning path to cater for your different students."

"There are various tools that instructors can use as availed by Blackboard, such as allowing for group work online interactions for those students who may struggle with expressing themselves in a whole class setup. It allows them to contribute to smaller units and allow the instructor to navigate among the different groups during class. This also fosters independent learning, allowing students to be actively engaged in their learning in a virtual setup. It helps overcome the challenges of."

"There are course rooms, discussion rooms, and platforms for grouping students. These help the lecturer to group and focus only on those students with difficulties without making them feel little."

"Instructors can use these tools such as peer to peer interaction, messages to foster engagement and deeper understanding for the students."

"You are able to create different platforms to engage students based on their needs and what needs to be achieved and allow students to discuss."

"Blackboard enhances the teaching and learning by not only allowing the instructor to conduct lectures, post module material and assessing students online without having to travel. It also allows instructors to have individual consultations with students and also permits instructors to post questions and see students' discussion."

"There are discussion boards that can allow students to put their views on a particular topic. Which means those who cannot speak in class, get to also write their views. Students are different, some prefer writing to talking, blackboard allows that. It caters for visual learners; those learners that learn better by seeing. There is a need for continuous training

for all lecturers because technology may be new to other people, and it changes constantly."

Q2: *What are your experiences in using Blackboard as a tool for curriculum development in learning?*

Students Participants Responses:
   <Files\\Students> - § 12 references coded [16.59% Coverage]

   "Gamification features provided immediate feedback, helping us as students to understand our performance and make necessary adjustments. Also allows collaborative work and submission of activities as a group."

   "The slides come in colors which make It easy for me to give my full attention."

   "Gamification allows you to supercharge your e-learning experiences, it boosts engagement."

   "Blackboard allows instructors to award badges and points to students for completing various course activities, such as completing assignments, participating in discussions, or achieving specific learning objectives. These badges and points can be displayed on a leaderboard, encouraging friendly competition and fostering a sense of accomplishment among students."

   "The features are stimulating and evoke an excitement/engaging attitude towards Blackboard."

   "The grade`s background color is black, which does not align with my preferences. I loved it more, when the background colors were different, representing one`s achievement level. I am satisfied with the App`s gamification features. For example, the App identifies or reflects one`s network stability next to their names, it detects network issues in one`s space, allowing one to see when there is a need to change places."

   "I haven't seen any "gamified" features that would make learning more interesting."

   "Students can customize their dashboard by adding, removing, or rearranging modules to prioritize the information and tools they use most frequently. Also, Students can personalize their notification settings to control how and when they receive updates about course activities, due dates, grades, and other important information."

   "Student just have to know how to use blackboard otherwise the rest is done by lecturers"

   "Based on my knowledge, students can only mark modules as their favorite on the blackboard."

   "In any extent or whenever they want, students can customize or personalize the way they view and interact with the course content on Blackboard."

   "Students can select their favorite modules for easy access or to prioritize the module."
   "None. Blackboard is exactly the same for everyone."

"I think it is the organization that is able to customize not only course contents but all the Blackboard gamification features. I have not seen any student modifying the course content and making it appear in a way that suits him/herself. Blackboard does not have a doorway to that, for students."

Theme 2: Feedback & Support

As reported by (Mendoza at al. 2021) who stated that getting a successful implementation of Blackboard requires addressing both technical and pedagogical considerations. In the same vein, as reported it provides adequate support and feedback mechanisms for all stakeholders for Blackboard to provide valuable features and benefits. In support of the above views by (Mendoza et al, 2021) lectures and students were engaged and interviewed to have their opinion on Blackboard use for curriculum development which is in line with the scholar submission. Therefore, the participants responses bring about the theme of this study on Feedback and support as highlighted below for lecturers and students. The question below were asked from the lecturer's perspective on the Blackboard usage:

Q1: To what extent does Blackboard provide support feedback functionality within the blackboard's assessment tools to instructors?

Lecturers Participants Responses:
    <Files\\Lecturers> - § 12 references coded [12.41% Coverage]

"Not very flexible. I find it a bit limiting where provision of feedback on some submissions is concerned."

"Blackboard should assist us with templates of feedback comments to make life easy. This will help lecturers that teach around 300 plus students by commenting."

"It is very flexible as it allows you to download the assessment marks you need and also choose if you prefer them in one excel spreadsheet or more."

"Myself I find blackboard as a useful tool for grading and providing feedback and it is easy to access the assessment and comments at a later stage in case the lecturer needs it again."

"The grading and feedback functions are flexible because the system does give instructors an option to mark and provide feedback to students without having to download and manually mark the assignments and the test. However, in terms of economics, the system does limit instructors in terms of posting graphs and asking questions based on the graphs."

"It is flexible because you can edit your marking, grade and feedback at any time when you see a need as a lecturer."

"The Teaching and Learning center do offer guidance with how to use blackboard. There are also workshops to help lecturers and students with any upgrades that BB has."

"Yes, there are resource and communities."

"I think so but myself I still need to attend more training with TLC to familiarize myself with blackboard."

"Yes, they are there but mostly for permanent staff. However, establishing a community of practice to learn from each other would assist. E.g., Webinar on learning tools."

Q2: To what extent does Blackboard provide feedback and support functionality within the blackboard's assessment tools to students?

Students Participants responses:
    <Files\\Students> - § 16 references coded [20.25% Coverage]

"I think it allows them to push notifications to alert students to new announcements, upcoming deadlines, new grades, and other important updates, ensuring they stay informed even when they're not logged into their desktops."

"Allow students to check their grades on the go. Gives students access when attempting to write a test via blackboard mobile."

"It is a well responsive design in allowing students to access course materials as we know that Blackboard gives students the information they want and the personalization they demand."

"Blackboard offers a dedicated mobile application that allows students to access course materials, participate in online discussions, and complete assignments directly from their smartphones or tablets."

"The mobile application is available for both iOS and Android devices and provides a seamless and intuitive user experience."

"Exceptionally well. Learners are constantly using mobile phones, and this makes it an advantage to have the Blackboard app as the information posted on BB is received and viewed almost instantly."

"Extremely well, because as soon as you are signed in, the app displays registered courses, and when you click on them, the material shows up."

"I would say it's effective and convenient since it makes accessing learning material as easy as opening an app."

"Students can initiate and engage in several discussions on Blackboard. The platform offers a variety of communication and collaboration capabilities, including discussion boards, blogs, and group forums. These features enable students to create new threads, respond to current postings, and actively participate in course-related discussions. The lecturers or facilitators can oversee and monitor these talks, allowing them to provide quick feedback. They can respond to posts, provide guidance, and evaluate contributions directly in the discussion forums."

"Students can participate in discussions or tests via blackboard and receive feedback within a short period of time."

"When students try to answer or try to explain, instructors can see the extent of their understanding."

"Lectures make a regular time to discuss feedback with learners on an individual or small group basis."

"Blackboard provides a highly effective platform for students to initiate or participate in discussions and receive timely feedback from instructors. By supporting real-time feedback, collaboration tools, and timely notifications, Blackboard helps to create a dynamic and engaging learning environment that fosters critical thinking, teamwork, and active participation."

"The timely responsiveness depends on the facilitator/instructor, and this impacts the students hugely."

"I think it falls on the instructors or discussion initiators to allow a certain number of posts and replies, and when will the discussion be no longer valid."

"Students can participate in discussions through chat or by talking through their mics and how soon you receive feedback differs from professors to professor."

Theme 3: Flexibility

Flexibility on Blackboard refers to the ability of users to access and interact with course materials, tools and features in a way that suits needs and schedules (Hamill 2020). This flexibility is achieved through various features and tools on Blackboard to access course materials, mobile applications accessibility tools, and interactive tools and customization. Flexibility on Blackboard enhances the learning experience by providing lecturers interact with students anytime, anywhere. In contrast, the students learn at their own pace, interact with the peers ubiquitously (Mendoza at al. 2021). In line with the submission of (Hamill 2020) and (Mendoza et al, 2021) this theme talks to the scholarly work reported, from the responses received from the lecturers and students on their views on the Blackboard as a tool for curriculum development. See the responses from the participants for this generated theme. The below interview questions were asked to the lecturers on Blackboard usage.

Q1: How flexible is Blackboard to enable instructors to create personalized learning paths for students based on their individuals' needs and goals?

Lecturers Participants Responses:
<Files\\Lecturers> - § 17 references coded [23.44% Coverage]

"It is manageable, but a step-by-step manual for navigating as the system is updated should always be provided. One has to do trial and error until you figure out which is which, and this consumes time."

"Creating and organizing course content has been easy because with bb you are able to create folders for each topic. Then one can collect and add all those materials within those folders. I have been able to do so with no problems."

"Creating and uploading course content on blackboard is straightforward, however it can be time consuming depending on the type of test/ assessment you are creating. For example, when creating a MCQ test it take time."

"Myself I have not created discussions on blackboard but for videos and documents it's well organized."

"Yes, it is easy to create any course content on Blackboard, as long as they have stable internet connectivity."

"Very easy especially if you went through the training. The university needs to ensure that training is for both full and part time lecturers."

"The layout and structure are fine, but it lacks detail again. With each option, a clear step by step guide should be provided, as one gets to explore different areas with each module or depending on assessment."

"I would appreciate bringing back the previous bb site that was more conducive to navigate. With this one it took some time, and some options do get forgotten."

"Instructors can customize the layout and structure of their Blackboard course to meet their specific teaching needs."

"Blackboard allows lecturers to customize layout to suit the needs of the lecturers, so this is a tool that also allows lecturers creativity."

"Blackboard permits instructors to organize their course material in a way that will be easily understood by students."

"Blackboard does give that flexibility of putting or changing the layout as you wish."

"Yes, lecturers have the ability to create those platforms in order to manage their teaching and learning processes."

"Yes, the instructor can create and manage peer review and other collaborative assignment, however, I believe you need to notify the groups before creating group work."

"For the period I have joined teaching we have not done collaborative assessments, all our assessments are individual, so I have not been exposed to this."

"Yes, blackboard allows instructors to create assignment groups, where students will be allocated to certain groups and submit the assignments. However, it would be great if the system can provide an option where only one student per group can be allowed to submit the assignment."

"Yes, I can. Creating groups is very easy. When I break them into groups during the class to do a small task, I can visit most of the groups to see how they are working. However, this is not easy for big classes."

"Peer Review works quite well with smaller classes and can easily be done on the blackboard. This is all easy but for bigger classes, they need time and more resources to manage it."

Q2: How flexible is Blackboard to enable students to create personalized learning paths for students based on their individuals' needs and goals.

Students Participants Responses:
  <Files\\Students> - § 31 references coded [35.58% Coverage]

"Blackboard allowed us (students) to express our ideas, gather feedback, and refine our opinions and plans. For instance, we can post ideas for projects, share initial thoughts about a topic, or brainstorm ideas for collaborative projects."

"It is a good medium for communication and exchanging of information."

"It is supper well in collaborative learning activities among students in a way that you can access your courses materials and able to actives."

"Blackboard offers built-in discussion boards that allow students to engage in online discussions with their peers and instructors. This feature encourages critical thinking, fosters teamwork, and promotes active participation in class discussions."

"Blackboard is an effective tool for learning when it is used efficiently by both the lecturer and the learner. Blackboard is a great platform where information can be shared and received effectively. Online classes, however, are only effective and truly helpful to a certain degree, online classes should be a smaller percentage than contact classes."

"The App has had the most extraordinary act of improving my communication skills. By boosting communication skills, it also allows the students to converse clearly and promote a welcoming digital learning space. During the presentations the App works effectively, it displays slides clearly, provides high quality audibility, and camera. It is uncommon to cut-off or be lagging when you speak. For this, the App offers-up effective collaboration."

"It provides a platform for students to be able to participate without having to worry about being discriminated."

"In terms of grading and feedback, the blackboard allowed us to see the status of each assessment, the number of attempts, and any feedback provided. In some instances, if our lecturer left us with feedback, I was able to select the speech bubble button to view it."

"Early view the status of your grading task and provide inline, multimedia feedback directly to students."

"It is flexible, since you can be able to see or get notified whenever there is feedback on that assessment."

"It is quite flexible as it is easy to access marks as soon as they are made available."

"Marks are allocated immediately after the assessment has been submitted."

"The App is most fair and reliable only when grading a quiz, reduces the chances that students could feel concerned about how their work was graded. It provides feedback the moment your answers are submitted, which is absolutely satisfying. It needs human assistance when students have to describe, define, and explain in their answer, especially

on assignments, and case-studies. The App has SafeAssign that is accurate in tracking and providing similarity reports. If you are on medium risk or high risk, it tells you to re-examine your work and replace the authors` ideas with your own."

"I would say it's fine"

"It is easy if the lecturer or facilitator organizes their course content logically, using folders and clear labeling, we as students can more easily find documents, videos, discussion forums, and other resources. Moreover, blackboard includes search features that help us to find specific documents or topics within a course."

"Very easy"

"Lessons, slides, reading, videos and other key course material are typically stored within the course document link."

"It is easy to access and navigate those various types in Blackboard because we're being educated about how to use blackboard in all areas of it."

"Blackboard provides a course menu that lists all the course materials and activities available to students. This menu allows students to easily navigate to different sections of their course and access the materials they need."

"The material within Blackboard is easily accessible and is not difficult to navigate."

"Access is not by any chance challenging, you just click on the module name, and everything associated or uploaded within that module appears, go to the folder that is relevant to your need at that particular time and get download, watch, and view the discussion, video, or document of your choice. I have done videos on IPS516, the uploading process was so easy and less worrying though the video had huge size, and my instructor could not struggle downloading the video, and entirely listening to it on her side."

"It's very simple."

"Yes, students can seamlessly transition between accessing Blackboard on desktop and mobile devices without disruption. The platform is designed to be responsive and user-friendly across different devices, ensuring that all features and functionalities are available whether you're on a computer, tablet, or smartphone."

"Yes, they can do that without disruption."

"Blackboard's mobile application and responsive design provide a seamless and intuitive user experience that allows students to access course materials and participate in online discussions on the go. By supporting offline access and push notifications, Blackboard helps to ensure that students can continue learning and staying engaged with their coursework, even when they are not in a traditional classroom setting."

"Fairly yes."

"Yes. I can even access Blackboard on multiple devices at the same time, with the same account."

DISCUSSIONS OF THE FINDINGS

NVivo software was used to analyze the data gathered for this investigation for this study to explore the use of Blackboard technology for curriculum development in teaching and learning. the results were generally discussed. Therefore, questions about Blackboard experiences, feedback support, and curriculum development flexibility serve as the discussion's compass. A variety of advantages and features that improve the educational experience in blended learning environments are revealed by experiences using Blackboard technology, especially its learning management system (LMS) (Chen et al 2020). In other words, questions about general experiences for lecturers and students were asked and analyzed. The lecturers and student's participants were of the opinion that Blackboard as LMS tool has benefits like enhanced engagement through virtual classrooms, flexibility and accessibility, course management and analytics for informed decision-making. The significance of Blackboard technology experiences highlighted its efficiency as a full-featured learning management system (LMS) that facilitates blended learning with strong course administration, improved engagement capabilities, and insightful analytics. The platform's qualities in enabling flexible and dynamic learning environments make it an asset for educational institutions looking to increase their blended learning offerings, despite user experience and integration problems. Feedback and support as the second theme for this study, highlighted its role in enhancing the learning experience for both lecturers and students (Bakogiannis 2021). The highlighted feedback and support from the findings stated the timely feedback, students' assignment feedback and peer review tools, while the support aspect bring about interactive rubrics students grading, it helps the instructors to have a control of the grading on when the students will receive the feedback on assessment, and it also helps students to monitor their progress. The significance of Blackboard technology for feedback and support underscores its importance in creating a supportive learning environment. The platform provides various feedback options and monitoring features to enable teachers to interact with students efficiently while encouraging academic achievement. To ensure that all users can fully utilize Blackboard's advantages in their teaching methods, however, usability and integration issues must be resolved through continual training and user assistance. Flexibility on Blackboard enhances the learning experience by providing lecturers interact with students anytime, anywhere while they learn at their own pace and interact with their peers ubiquitously (Mendoza et al 2021). Therefore, questions around flexibility on the use of Blackboard by both lecturers and students for teaching and learning were poised, and the feedback received was analyzed. The participants on lecturers are of the opinion that Blackboard has been helpful as learning management system (LMS) for instructors to plan and upload course contents, grading/ feedback and management of students group work. At the same time, the students were also of the opinion that Blackboard is flexible with assessment, supporting interactive learning, and flexibility on either desktop or mobile devices without disruption. The ability to design interesting, responsive, and customized learning environments that cater to students' various requirements is what makes flexibility in curriculum development so important. To prepare students for success in a constantly changing world, flexible curriculum is essential because they promote autonomy, accommodate different backgrounds, increase engagement, adjust to change, and encourage teacher creativity.

LIMITATIONS AND IMPLICATIONS OF THIS STUDY

In carrying out this research work on the using Blackboard technology for curriculum development in teaching and learning presents both limitation and implications that educators and institutions must consider. Limitation for this study on Blackboard technology usage are:
1. Technical Challenges: Numerous users complain about serious technical problems with Blackboard, including sluggish internet connections during periods of high demand and trouble using the many tools available on the site. These technological obstacles may make it difficult for teachers and students to properly utilize the system, impeding effective teaching and learning.

2. Resistance to change: Some instructors believe that traditional teaching methods are more effective than technology-based approaches like Blackboard. This opposition, which further restricts the platform's inclusion into curriculum creation, may result from a lack of confidence in using it or discontent with its capabilities.

3. Insufficient Training: Even with the availability of training sessions, many teachers still find it difficult to fully utilize Blackboard's features. Underutilization of the platform's capabilities is frequently the result of inadequate training catered to their individual needs.

The implications for this study on the use of Blackboard technology in curriculum building for teaching and learning have important ramifications because it can both improve educational outcomes and pose certain difficulties. Using Blackboard technology offers better course management, increased accessibility, support for student-centered learning, data-driven insights, design flexibility, and encouragement of lifelong learning are just a few benefits of using Blackboard technology for curriculum development in teaching and learning.

CONCLUSION, RECOMMENDATIONS AND FUTURE WORK

Based on the theme's findings, it can be deduced that the interaction between lecturers and students generated 3 themes for this study: experience, feedback & support, and flexibility. However, the aim of the study is to explore the interaction between lecturers and students in utilizing Blackboard system in curriculum development for teaching and learning. From the findings, the flexibility of Blackboard for curriculum development has the highest reference from both lecturers and students with 48 responses gathered and code with NVivo. Followed by feedback and support as the second theme with the 28-reference gathered and code with NVivo while the last theme is experience with 27 references gathered and code. Significantly, the results of this study showed that instructors and students communicate when using Blackboard to create curricula for instruction and learning. In particular, it facilitates flexibility in both teaching and learning for both instructors and students. More importantly, it enables both parties to study at their own pace when using Blackboard to design curricula.

Additionally, the design science research framework is crucial in directing this study through the iteration process stages of the environment phase, design science phase, and knowledge base phase. Stated differently, the relationship between instructors and students provides us with a comprehensive understanding of how Blackboard is perceived regarding curriculum development. In other words, the interaction between the lecturers and students gives us an in-depth view on the perception of using Blackboard for curriculum development. In addition, this study indicates a generally positive interaction between lecturers and students in the use of Blackboard technology for curriculum development. Hence, it is important to highlight the continued evolution and integration of Blackboard within the curriculum development process. Therefore, it has become a valuable tool in shaping the future of higher education. Overall, the result of the study indicates that Blackboard has become a valuable component in curriculum development, with lecturers and students working together to leverage its capabilities and enhance the learning experience. However, the following recommendations are suggested as follows:

1. There is a need for more training from the teaching and learning center for both lecturers and students on how to navigate around Blackboard.

2. There is a need to incorporate some features into Blackboard like Artificial intelligence tools (AI) gamification game elements for students to increase engagement through the use of competition, creativity, students-led learning and immediate feedback.

Recommended future work is to incorporate and accept the use of Artificial Intelligence tools into Blackboard with some AI ethical considerations for both lecturers and students.

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