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Faculty perceptions of Blackboard Learn as the main platform for teaching and learning

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Abstract
During the past decade, higher education in the United Arab Emirates has seen increased integration of the newest educational technologies to facilitate the learning process. This can be a costly endeavor, often-substantial training is required to use the technologies, and improvements to educational quality because of their implementation are not easily measured. Research has found higher education faculty lack technological knowledge and skills, but less is known about how faculty perceive specific technologies. Learning management systems, such as Blackboard Learn, have previously been used to support the teaching and learning process, but during the COVID-19 pandemic and subsequent move to online learning, such systems often became the platform for all teaching and learning activities. This study aimed to investigate how BlackBoard Learn was being utilised and the perceptions held by faculty during this time in a higher education institute in the United Arab Emirates. Faculty were asked to assess items on a five-point scale and to write detailed answers to open-ended questions via an online survey. The results were generally positive; faculty were able to continue many of their teaching and learning activities. Faculty also reported on obstacles faced, however these challenges often referred to the online learning mode, rather than specifically to BBL. Implications and recommendations are discussed.

Keywords: Blackboard Learn, learning management systems, faculty perceptions, online learning

1. Introduction
Educational technology in higher education has become increasingly important, and although it is generally agreed that the application of such technology improves educational quality, this cannot be easily proven (Cabaleiro-Cervino and Vera 2020). Many faculty are digital immigrants (Prensky, 2005), and therefore perceptions of technology may not always be positive, nor can we assume faculty are confident in using it. If faculty do not have the proper preparation or creativity to use ICTs, the quality of teaching could be substandard (Cabaleiro-Cervino and Vera 2020).

This study aimed to investigate faculty perceptions of a learning management system after a large, institution-wide investment. The guiding research question was: How is BlackBoard Learn used to realize the technology integration in a higher educational institution in the UAE?

Background and context

The contemporary world has observed a rapid growth in the digital learning space where information and communication technology (ICT) has become an indispensable driver for the success of the education industry. The same is true in the United Arab Emirates (UAE), where the importance of providing an ICT-rich learning environment is emphasized (Assar 2019).

During the past decade, both public and private universities in the UAE have been under a lot of pressure to meet higher standards when it comes to the quality of teaching and learning. Consequently, the higher education environment has seen increased integration of the newest educational technologies to facilitate the learning process (Jabeen, Khan & Ahmad, 2018).

The context for this study was the largest higher education institution in the UAE, with 14 campuses across the country. The targeted participants of the research are the faculty of this institution from each campus. The participating faculty are from Business Studies, Health Sciences, Education, Emirati and Arabic Studies, Engineering, Foundation Studies, and General Studies programs. Faculty are from diverse nationalities and backgrounds, have different years of experience, and varied professional practices.

In reaction to the Coronavirus disease (COVID-19) pandemic, the UAE declared that schools and universities be closed from the 22nd of March, 2020 until further notice. This lasted until September, 2020, when limited students were able to return to campus. The shift to online teaching and learning placed even more emphasis on educational technology.

2. Research Method

This study utilised an online survey instrument to investigate higher education faculty's perceptions of the usability and suitability of Blackboard Learn (BBL). The sample with which they were used, and these instruments, are described in this section.

Participants

The targeted population of this study was faculty members of a multi-campus higher education institute in the UAE. The faculty members received the survey invitation along with the online survey link via email. Of a total pool of 1,200 faculty members, 329 responded, giving a response rate of 27.4 percent. Faculty are both male and female, from varied nationalities, and have different years of experience, and varied professional backgrounds and practices.

Design
This study utilized present quantitative study is conducted using a developed survey inspired by a technology integration survey created by Mundy et al. (2012). This survey was originally developed for K-12 school teachers, however as it focuses on technology integration, it was deemed suitable for use with the sample population of the current study. To make the original survey suitable for the present study, varied modifications were made so items referred directly to BBL.

Materials
The survey consisted of 33 items organised into five sections (see Table 1). The items of the survey were responded to using a five-point agreement or extent scales for the first four sections. The final section required a yes/no response for the first item, and allowed participants to write detailed answers to three open-ended questions.

Procedure
The survey started with a brief introductory information about the research, as well as an explanation of participants' rights in this study, was also provided. As the language medium of the institution is English, the survey was presented in English. The modified survey was assessed by research experts to ascertain the feasibility of the instrument prior to the study. Adjustments were made to the survey based on feedback, pertaining to rewording for clarity, eliminating similar questions, and the survey presentation structure.

3. Results

Quantitative results
The first four sections of the survey garnered quantitative data regarding faculty's views towards the use of BBL in the classroom, the process of integrating BBL, the conditions that may impact the potential utilization of BBL, and faculty's views on those conditions. Five-point scales were used to respond to the items, with '5' representing 'strongly agree' or to a 'large extent'. Table 1 presents the mean score for each item.

Table 1 - Mean Scores for the Faculty Survey on BlackBoard Learn

Section 1: Professional views towards the use of BlackBoard Learn in the classroom **1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree**	
Item	**Mean**
1. Supports faculty in meeting their teaching objectives.	4.15
2. Cannot facilitate faculty collaboration with other faculty.	2.69
3. Enhances faculty interaction with students.	3.76

4. Develops faculty communication skills (e.g., writing feedback, presentation skills).	3.66
5. Allows faculty to be a learning facilitator instead of an information provider.	3.81
6. Limits the faculty's choice of instructional materials (e.g., E-text books).	3.07
7. Provides the faculty with an easy and quick access to instructional materials (e.g., E-text books).	3.75
8. Eases the pressure of preparing teaching materials on the faculty (e.g., Reusable learning content).	3.37
9. Cannot accommodate faculty's personal teaching styles.	3.04
10. Motivates faculty to create more engaging student-centred learning activities.	3.63
11. Enhances the amount of Wi-Fi connection stress.	3.56
12. Makes classroom management more difficult.	2.92
Section 2: Process of integration **1 = not at all, 2 = to a small extent, 3 = to some extent, 4 = to a moderate extent, 5 = to a large exte*nt***	
Item **BlackBoard Learn enhances teaching practices:**	**Mean**
13. Digital learning content (e.g., E-text books, tutorials, practices, lesson-plans, slides, course-outline).	3.96
14. Communication tools (e.g., Discussion boards, announcements, blogs, virtual classroom).	3.81
15. Organizational tools (e.g., Weekly learning modules, calendar, record keeping, lesson plan).	3.71
16. Analytical tools (e.g., Grade book, student retention centre)	3.85
17. Recreational tools (e.g., games)	2.93
18. Audio/visual (e.g., YouTube videos, voice recording tools, filming tools)	3.69
19. Assessments (e.g., Brainstorming, test polls, surveys, save-and-sign).	3.79

20. Expressive tools (e.g., word processing, on-line journal)	3.37
21. Evaluation tools (e.g., assignments, e-portfolio, testing)	3.93
22. Informative tools (e.g., Web-links)	3.79
Section 3: Present conditions that may impact the potential utilization of BlackBoard 1 = not at all, 2 = to a small extent, 3 = to some extent, 4 = to a moderate extent, 5 = to a large extent	
Item	**Mean**
23. Internet connection issues hinder the use of Blackboard Learn	3.44
24. Availability of Blackboard Learn support staff.	3.35
Section 4: Your views on the present conditions 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree	
Item	**Mean**
25. Using Blackboard Learn more would create a disconnect between the students and the faculty	3.29
26. Using Blackboard Learn takes up too much time.	2.87
27. Blackboard Learn can help faculty develop and adopt new teaching techniques and methodologies.	3.84
28. Blackboard Learn intimidates and threatens faculty.	2.52
29. Using Blackboard Learn allows the faculty to act more as a guide pointing the students in the right direction.	3.52

The fifth and final section of the survey, 'Obstacles to best practices in BlackBoard Learn' consisted of four items. Table 2 displays the results for the first item.

Table 2 - Percentages for Obstacles to best practices in Blackboard Learn

Section 5: Obstacles to best practices in BlackBoard Learn		
Item	**Yes**	**No**
30. Did you face any obstacles while using Blackboard Learn?	35.3%	64.7%

Qualitative Results

For the remaining items, participants were asked to write about their experiences and opinions regarding BBL. Item 31 asked participants who chose 'yes' on the previous question to describe any obstacles they faced. Four main themes emerged from the responses to this item, related to the functionality of BBL, the appropriateness of a learning management system as a substitute for face-to-face learning, faculty member's own learning of the system, and practical issues.

Functionality

Several participants described difficulties with using BBL, finding it complicated:

It has an unnecessarily complex interface which can confuse students and faculty. It is time consuming in comparison to other online systems. The long list of tools which are not all necessarily useful and some are not straightforward.

Sometimes it is not always intuitive.

BBL as a Substitute for Face-to-face Learning

Several respondents also found using BBL for teaching and learning challenging, with comments often relating to what they are unable to do through the system:

I can't see all student screens at once like the classroom so I can't provide individualized support when students have digital literacy issues signing up or logging in to different programs. I can't support special needs students who cannot follow verbal instructions.

The student cohort we teach is not sufficiently able to learn in isolation - even in the classroom when a teacher is present, they are inclined to lose interest. At home, it is impossible to keep them on task. Essentially it robs the teacher of many fundamental skills in terms of language teaching; instant personalization, drilling, accurate reading of understanding etc.

Class face to face much faster and more efficient.

Own Learning

Survey respondents also referred to their own knowledge, or lack thereof, of the BBL system as an obstacle they faced. Participants referred to the learning curve involved, getting support with professional development for using BBL, and needing to use more advanced functioning (with the move to online learning during the pandemic) as challenging.

Practical Issues

Practical issues were also a concern for participants using BBL. These largely related to the requirement to have sufficient internet connectivity to use BBL without issues.

For example:

Internet connectivity issues

Connection fails - I get booted out of sessions.

Too many tech problems eating into our lesson. I have to re-enter the session. Imagine if I'm thrown out of my physical class and talking to myself in the corridor.

Item 32 asked participants to describe how they overcame obstacles faced using BBL. While there were a few comments relating to practical issues, such as upgrading

internet plans at home (during the pandemic), and needing more time to develop quality online activities through BBL, most comments referred to how faculty learned to advance their use of BBL, or that the obstacles simply could not be overcome.

Learning BBL

Most of the responses pertaining to overcoming obstacles were related to learning more about the system and how to use it more efficiently. Some participants referred to seeking professional development provided by the institution, while others preferred to teach themselves or ask friends and colleagues:

Some of my own personal issues I overcame with my own self learning and training by asking questions of others. To learn more advanced functions, I set goals and integrate one or two of these over a semester.

Asked a more experienced colleague.

Focused on the most useful ones and asked for further PD and sometimes colleagues.

Insurmountable obstacles

Many participants felt that the obstacles they faced with BBL could not be overcome.

Often, I do not overcome these obstacles, but rather use a different approach completely.

Cannot overcome these issues.

I do not think these can be overcome - I think it is intrinsic to a two-dimensional, impersonal screen experience. Teacher talk is much harder to avoid onscreen, and explanations are much less efficient.

Item 33 asked participants to reflect on the teaching and learning practices they felt BBL was best suited for. Overall, participants believed BBL worked well for teaching at the remembering and comprehension level, but discussed other advantages to themselves and perceived advantages to students as well, for example:

The practices best suited are obviously those dealing with knowledge and comprehension rather than application.

Sharing teaching material. Create assignments and tests efficiently.

Non-traditional teaching models like - blending, online and flipped classroom models. IT can help with students be more responsible for their own learning.

Enhanced students' self-esteem to be more independent and seeking for maximizing their understanding of the lesson.

Discussion

The purpose of this study was to investigate faculty perceptions of the BBL learning management system engaged by the largest higher learning institution in the UAE during a period when a sudden shift to online learning was required. While BBL had been used by the institution for almost 20 years at the time of the study, never had a greater emphasis been placed on it than during the 'lockdown' caused by the COVID-19 pandemic. Overall, the results were positive, with most mean results above the midpoint (3), except where the item was negatively worded. The only exception to this was item 17 which asked participants if they believed BBL enhanced their teaching and learning in relation to recreational tools, where the mean was 2.93. This finding could signify that more professional development training is required on this topic.

Although the highest mean score was recorded for item 1, 'supports faculty in meeting their teaching objectives', 35.3% of faculty did report facing obstacles while using BBL. These largely related to the functionality of BBL, the appropriateness of the learning management system, faculty's own learning of the system, and practical issues. Aside from the functionality issues which are specific to BBL, the other obstacles may be more generic. In many comments relating to obstacles to using BBL for teaching and learning during the pandemic, participants seemed to be comparing online teaching to face-to-face lessons, finding BBL lacking. This is likely to be more of a reflection of online learning itself, rather than specific to the BBL system, but reflects a view that face-to-face learning is more efficient, more valuable, and favoured by faculty.

However, when asked about the teaching and learning practices they felt BBL was best suited for, participants also had much to say, and responses reflected a positive optimism:
I believe that all teaching and learning practices can be incorporated into BBLearn or any online learning environment although some with a great deal more difficulty and creativity than others. For example, Teaching Practicum or hands on practical assignments would require extensive use of video technology and carefully constructed step by step video clip creations preferably with inserted question forms. But nothing is impossible.

These findings are in contrast to the findings of other studies where new learning management systems were implemented, in which faculty more commonly expressed feelings of threat and vulnerability (e.g. Geertshuis and Liu, 2020). The teaching practices and example activities participants shared appeared to be at the 'substitution' and 'augmentation' levels of the SAMR model (Puentedura, 2013). But this may well be due to the timing of the survey, that is, during the pandemic after a quick shift to a fully online mode, and that the 'modification' and 'redefinition' steps need more time and space to be developed. Alternatively, the practices and activities shared could simply be those first thought of, or easiest to explain, when faculty were completing the survey. Either way, further investigation into this area, and the role BBL can play, is recommended.

Further research is also recommended regarding how institutes can best support their faculty in the quality use of learning management systems, such as BBL. Professional development support was available to all faculty at the institute when this study took place, and some participants discussed utilising this. But many others turned to friends and colleagues for support. Again, this could be due to the time constraints created by the pandemic lockdown, but it is something for institutes to consider moving forward. Research in the past has referred to the lack of technological knowledge and skills of higher education faculty (Cabaleiro-Cerviño and Vera, 2020), and given the investment in the technology, it only makes sense that faculty are able to utilise it to its fullest potential.

4. Conclusions

This study involved faculty from a higher education institute in the UAE. Whilst this institute is the largest in the country, generalising these results to other institutions in

the UAE and beyond, should be done with caution. It is recommended, therefore, that future studies involve different samples including faculty of institutions using BBL located in other countries. This study is based on self-reported data, which cannot be independently verified, and therefore must be considered at face-value. Every attempt was made to minimize this risk by providing clear information and ensuring confidentiality. A further limitation of the study was that it involved the collection of data at a point in time, a characteristic of the cross-sectional research design. This point in time (during a global pandemic) was significant, and it is likely that faculty responses were influenced by this. This study is of significance to higher education institutes specifically, but may have wider appeal to other stakeholders and policy makers. The application of ICTs in higher education has been increasing exponentially since 1990 (Hamidi *et al*., 2011), but there has never been such a wide-spread emphasis on educational technologies than during the COVID-19 pandemic. Faculty must be equipped with appropriate and sufficient tools, and the skills to use them, regardless of the context.

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