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GRADUATE STUDENTS' KNOWLEDGE LEVEL OF THE LEARNING MANAGEMENT SYSTEM IN THE UNIVERSITY OF GHANA COLLEGE OF HUMANITIES

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ABSTRACT

University students' readiness to incorporate digital technology into their academic lives may have an impact on how they use the Learning Management System (LMS). Previous studies conducted have centred their attention on university students' perceptions, attitudes, motivations and challenges when using the LMS. However, the knowledge level of the LMS appears to have been given less attention, leaving a gap in the online learning literature. The study sought to explore graduate students' knowledge level of the LMS using the Technology Acceptance Model. A cross-sectional survey design and the simple random sampling technique was used in selecting 180 graduate students in the University of Ghana's College of Humanities (UGCH) for the study. Standardized questionnaires were used in measuring the level of knowledge. Descriptive statistics, Chi-square and independent t-test were used in analysing the data. The findings revealed that there was a limited knowledge as far as the LMS was concerned. In addition, graduate males had sufficient knowledge of the features of the e-learning platform than graduate females. Also, the findings revealed that age had no significant impact on the knowledge of the LMS among graduate students. The study concluded that graduate students in the University of Ghana's College of Humanities (UGCH) had inadequate knowledge of the Learning Management System and as a result may hardly use it. The study recommends that graduate students be taught how to effectively use the features of the LMS for their academic and research activities. Again, to encourage lifelong learning and human resource development, the incorporation of e-learning resources into tertiary education could be made mandatory.

Keywords: Knowledge; Graduate Student; University of Ghana; LMS

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INTRODUCTION

Teaching and learning in higher educational institutions appear to have gradually evolved into a new learning environment globally. This shift could be due to the impact of the internet and other digital technologies such as laptops, computers, and cell phones, among others (Akti Aslam & Duruhan, 2020; Yunus, 2021). It may be claimed that technology-based teaching and learning has established a new educational ground for university students, removing time and place constraints and providing them with more fascinating and demanding educational options (Endres & Chowdhury, 2019; Gurcan & Ozyurt, 2020).

As a result of the paradigm shift, most universities have enthusiastically incorporated various forms of educational technologies in their teaching and learning delivery (Rahman et al., 2019; Dong et al., 2019). It may be argued that majority of academic institutions have taken advantage of e-learning resources by incorporating them into their educational and instructional academic environment to provide quality education to their students who may be located all over the world (Belay et al., 2020; Pinheiro et al., 2018). The Learning Management System (LMS) as a computer software tool, is used in student registration, records, admissions, academic transcripts, timetables, communication, teaching, and learning (Chand et al., 2020; Rivera et al., 2019). From this description, the LMS may appear to be the cutting edge of online technology-mediated instruction in higher education. Gurcan and Ozyurt (2020) and Dougiamas and Taylor (2019) contend that university lecturers, tutors, and instructors can strategize, enforce and evaluate distinct learning procedures using e-learning resources.

Regardless of the various characteristics that e-learning systems may have, some of the most typical LMS features include a Gradebook tool, Assignment tool, Email tool, Lesson tool, Forum tool, Quizzes and Test tool, Syllabus tool, Chat room tool, Resources tool, Announcement tool, Calendar tool, Dropbox tool and Turnitin tool. However, Kuru Gonen (2019) claims that the LMS may not only be confined to a digital academic environment but could also be utilised effectively in a blended educational context.

In Ghana, universities such as the Kwame Nkrumah University of Science and Technology, the Ghana Technology University College (GTUC), and the University of Education, Winneba, have integrated the LMS to supplement their face-to-face delivery mode, enabling mature and working students to move on with their education while pursuing their professional and personal developmental goals.

The University of Ghana (UG) adopted the LMS as part of its strategic vision to become a world-class research-oriented university. In furtherance of this, the University of Ghana has come far in successfully integrating electronic learning into its academic programs to ensure effective instructional delivery of its educational programmes (University of Ghana, 2014).

Although higher education institutions are making conscious efforts to incorporate electronic learning resources as an add-on to their already existing face-to-face learning and teaching approach, studies have revealed that students and lecturers may be underutilising these e-learning tools as a result of the challenges they encounter (Darko-Adjei, 2018; Scherer et al.,2019; Spiteri & Rundgren, 2020). For example, Darko-Adjei (2018) highlighted that due to certain challenges, such as inadequate training on how to use the LMS, system

errors, inability to access the LMS platform when needed, difficulty in getting internet access, slow internet connectivity affected the use of the LMS by students. Additionally, the findings of Bansah and Agyei (2022) suggested that perceived convenience was an antecedent factor that influenced LMS user use.

In Ghana, previous studies have almost exclusively focused on the perceptions and attitudes of students toward the LMS (Naah, 2020; Demuyakor, 2020; Deho & Agangiba, 2019; Mensah & Osman, 2022; Hayford et al., 2022). For instance, Hayford et al. (2022) reported that students' willingness to embrace the LMS for online learning was influenced by their attitudes and perceived usefulness of the LMS for online learning, perceived lecturer readiness to utilise LMS, and students' learning autonomy. In addition, Raza et al. (2021) discovered that both ease of use and usefulness have a substantial impact on university students' attitudes toward the LMS. Students may be more likely to use such resources in their learning process if they consider it easy and beneficial.

What appears to be missing in earlier studies carried out in Ghana was the level of knowledge about the LMS by university graduate students. Earlier studies had paid less attention to this phenomenon and hence remain unexplored in the literature. In the context of the gap in scholarship, this study examined the level of knowledge about the LMS by graduate students. In addition, from personal interactions with a few graduate students at the University of Ghana College of Humanities (UGCH) the majority seemed not to know the features of the LMS. Others only used the system occasionally when they had to submit an assignment to their lecturers/instructors online. The study was conducted against this premise to determine whether graduate students at the UGCH had enough knowledge of the e-learning platform. The findings of the study will bring new and fresh perspectives on online teaching and learning in Ghanaian higher education institutions and beyond.

OBJECTIVES OF THE STUDY

1. To ascertain sex differences in the level of knowledge of the features of the LMS among graduates at the UGCH.
2. To investigate if age would have an impact on the level of knowledge of the features of the LMS among graduates at UGCH.

HYPOTHESIS FOR THE STUDY

In relation to the objectives of the study and statement of the problem, the following hypotheses was formulated and tested.

H1: There is no association between graduate student level of knowledge on the features of the LMS and sex.

H2: There is no association between graduate student level of knowledge of the features of the LMS and Age.

LITERATURE REVIEW

Theoretical Framework

The theory upon which the study was based is the Technology Acceptance Model (TAM). The Technology Acceptance Model was developed by Davis et al. (1989). According to the TAM, when individuals come into contact with new technology,

various factors influence their decision about how and when they will utilise it. In line with this assertion, graduate students' decision to use the LMS may be dependent on the knowledge they have of its significant features. The TAM explains the determinants of computer adoption in a way that is both parsimonious and theoretically justified and is capable of describing graduate students' behaviour toward using the LMS at the UGCH.

According to Davis (as described in Suorsa & Eskilsson, 2014) system traits and attributes serve as variables to determine whether a system will be accepted or rejected. Perceived Usefulness (PU) and Perceived Ease of Use (PEU), according to Davis (1993), are the two key characteristics that define how a person perceives a system and how it will be used with less effort. Based on the TAM, a graduate student's knowledge of the features of the LMS at the UGCH may go a long way to influence their continuous use of it.

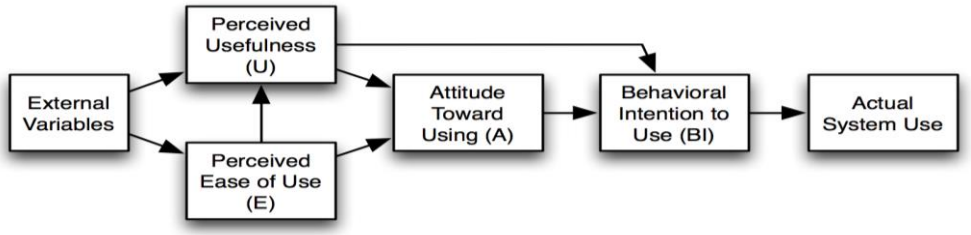

Figure 1. Technology Acceptance Model (TAM) (Davis et al. (1989))

Level of Knowledge about the LMS

"The more knowledgeable a person is, the more powerful he or she may become," as the adage says. According to this saying, a university student's knowledge of modern educational technologies, such as the LMS, may be essential. This is because the use of these technologies has the potential to benefit their academic and professional lives. For example, Choga (2015), in a study at the National University of Science and Technology's Faculty of Communication and Information Science, found that university students using the LMS had sufficient knowledge about the system and were actively using the features for their academic work. The findings support the assertion made by Turnbull et al. (2019) and Mtebe (2015) that university students' knowledge of the LMS may affect its continuous use.

Arhinful (2016) discovered that university students were not using the LMS mainly because they were unaware of its features while researching the experiences of Canadian and international students regarding the use of the LMS. Based on these findings, it can be concluded that a graduate student at the University of Ghana who is unaware of the features of the LMS will not fully profit from the system in their academic studies.

In a recent study by Darko-Adjei (2018) examining the views of 230 level 300 distance education students on the use of the LMS at the University of Ghana, it was found that the majority of the students had a low level of knowledge, particularly on the features of the platform. Similarly, Issifu (2018), in a study conducted at the University of Ghana using 715 distance education nursing students, found a low level of awareness about the e-learning platform. Based on this revelation, it may be necessary for a graduate student to have a thorough understanding of the LMS's features to be effective in using it.

In another study by Bhalalusesa et al. (2018) on the challenges faced by university students at Tanzania's Open University in using the LMS, they found that the lack of knowledge affected the effective use of the features of the LMS. The findings from their study suggest that educational institutions may play an important role in ensuring that students have adequate knowledge of using of e-learning platforms. The regular use of the LMS's features will save time for graduate students while making their learning content more accessible at any time and from any location.

Furthermore, in finding out the level of awareness among 37 graduate students learning at a distance, Soon and Fraser (2011) in a study found that the level of awareness of the features of the LMS was very limited. They found out that the students were aware of certain features, such as the assignment and lesson tools. However, they did not know other features such as email and calendar tools.

Similarly, Sahoo et al. (2020) in a study to investigate the use of the Moodle LMS at Kings University College found that a lot of students hardly used the features of the LMS as a result of the low level of knowledge they had. The findings from earlier studies suggest that university students have limited knowledge about the LMS. As a result, the study would investigate further into this phenomenon to examine the overall level of knowledge of the LMS by graduate students at UGCH.

Sex and Level of Knowledge about the LMS

Sex (for instance, Rizvi, 2019; Yu, 2021) and educational levels (e.g., Aruleba et al., 2022) have been studied concerning online learning. Females demonstrated better self-control than males, which contributed to their much better online learning outcomes (Alghamdi et al., 2020).

Sex inequalities in the knowledge of electronic resources have been a source of concern in the education industry, according to previous research. Cavus and Kanbul (2020) suggest sex disparities in LMS knowledge and acceptance. So far, the overall picture of sex and information and communication technology (ICT) has been that males dominate, and women left behind. Graduate students' pleasure in the LMS benefits may be influenced by their overall knowledge. As contended by Selim (2021), female university students who are knowledgeable about current technology develop more positive attitudes about it than males.

In finding differences in sex and grade achievement across online and face-to-face classes, Amparo et al. (2018) indicated that in face-to-face classes, females outperformed males, while online, males and females performed similarly. This consistent finding of reduced student accomplishment in online classrooms across universities is cause for concern since it contradicts smaller size research that claims no substantial difference between online and face-to-face learning. In a similar study, Al-Azawei (2019) investigated the effect of sex differences on the acceptance of the LMS and found that sex differences, had only a little impact on the relationship between e-learning self-efficacy and LMS acceptability. Males exhibited a higher level of self-efficacy than females when it came to their desire to use the LMSs. In comparing online and face-to-face discussions, Tsai et al. (2015) discovered that while male and female discussion techniques were equal in face-to-face scenarios, females exhibited stronger elaboration skills than males in online discussions.

Azeta et al. (2018), in a related study on sex differences and technology use among Christian University postgraduate students highlighted no major variations in the utilisation of hardware and software by males and females. Yamani and Elsigini (2021) in the examination of the e-learning systems, found no statistically significant difference between the average scores of males and females (Blackboard LMS & D2L). However, in the D2L system evaluation, there was a statistically significant difference between male and female mean scores in favour of females. A recent study by Oguguo et al. (2021) to determine the effect of the LMS on students' performance in educational measurement and evaluation courses discovered that female students outperformed male students in both ways, even though male students had higher scores. Using a multifactor approach, Antwi-Boampong (2020) looked at the structural differences in LMS use patterns between male and female college students and found that male students used the LMS more than female students as a result of the knowledge they had acquired on its use. Lim et al. (2020) discovered that females have more trouble integrating technology into their teaching than males. According to the findings, a lack of knowledge and technical support were significant barriers to female technology adoption. On the other hand, Yoo et al. (2021) discovered that males had more information and knowledge regarding technology innovation than females. From the above studies, one of the major factors possibly influencing the effective use of the LMS among university students is the level of knowledge they have about it.

Age and Level of Knowledge about the LMS

Mayanja (2020) asserts that an individual's age influences their level of knowledge of the LMS. Younger people, he claims, use e-learning materials more than older people. As a result, the use of the LMS is more evident among the younger generation than the older generation.

Putro, et al. (2021) believes that because the LMS is a new technology, the younger people would benefit from exposure to it in their schools before enrolling in university education. Previous studies have indicated that older adults (40-60) are thought to have more negative attitudes regarding online learning than younger adults (20-39). However, younger students may be more motivated to utilise technology than older students.

In a study of Spanish higher education students, Guillén-Gámez et al. (2020) discovered that age was an influential variable and a predictor of the general attitude toward the use of the LMS among the students.

Similarly, Bhat and Bashir (2018) found that age has a substantial impact on undergraduate students' perceptions of the LMS. In comparison to their older counterparts, younger students (aged up to 40 years) were more convinced that LMS made their academic work easier and enhanced their performance. Lin et al. (2014) found similar results in another study and found that younger students investigated were more confident in incorporating the LMS into their learning activities.

Several studies observed no age-related differences in the use of the LMS among university students, contrary to the findings of previous research. For example, Jegede (2019) found that age had no bearing on the use of the LMS by university students in Nigeria. Similarly, Nasir et al. (2020) found no significant differences between younger and older university students' perceptions of the use of the LMS. Also, Suárez-Rodrguez et al. (2018) found no age-related disparities in LMS use among university undergraduate students. Despite the

findings of previous studies, empirical research on the relationship between age and the level of knowledge about the LMS in higher education remains limited. The objective of this study is to help close this gap in the literature.

MATERIALS AND METHODS

Research Paradigm and Research setting

The study was conducted using the quantitative research approach and was based on the positivist research paradigm. The use of this paradigm enabled the researcher to conduct the study in a robust manner ensuring that the data collected from the respondents were free of all forms of biases. The study was carried out at the University of Ghana's main campus. The selection of the University of Ghana, Legon was based on the premise of being one of the tertiary institutions in Ghana using the LMS for teaching and learning.

Research Design

The cross-sectional survey design was used in selecting participants for the study. This design was used because data were collected from a large number of people (graduate students) at one time.

Population and Participants

The total population of graduate students at the UGCH at the time of the study was 472. These were graduate students duly registered with the School of Graduate students at the University of Ghana.

Sampling Technique

In all, 180 participants (graduate students) were selected using the simple random sampling technique. This technique ensured that each graduate student within the UGCH had an equal and fair chance of selection. A participant was randomly selected and was fit to take part in the study if there (1) were a graduate student at the UGCH and (2) were using the LMS for academic and research-related activities. The sampling of participants was limited to the College of Humanities.

Measures

The questionnaire used for data collection was self-developed based on available literature on the features of the LMS and the objectives of the study. All questions on the questionnaire were closed-ended, and participants were required to choose from a set of prepared response options. The questionnaire had two sections. Participants were required to please tick [√] where appropriate. Section A was based on the demographic characteristics of the participants. Items in this section included Sex, Age, and College of Affiliation. Section B solicited information on the knowledge about the features of the LMS and comprised 13 items on a 3-point Likert scale ranging from 1-Low, 2-Moderate, and 3-high. The scale has a Cronbach coefficient reliability of 0.868. Some sample items on the scale included the Dropbox tool, Gradebook tool, Assignment tool, Email tool, Lesson tool, Forum tool, Quizzes, Test tool, Syllabus tool, Chat room tool, Resources tool, Announcement tool, Calendar tool, and Turnitin tool. The responses of participants were scored such that higher scores indicated a high level of knowledge and low scores indicated a low level of knowledge.

Pilot Study

A pilot study was carried out on eighteen (18) graduate students from the College of Health at the University of Ghana to determine the applicability of the self-developed questionnaire. Reliability and a validity coefficient of 0.793 were obtained after their responses were analysed.

Procedure

Before the collection of data for the study, ethical clearance was obtained from the research and ethical Committee for the Humanities from the University of Ghana. Questionnaires were administered to participants (graduate students) in their lecture halls to fill and were returned to the research team within one week. The entire data collection lasted for three weeks. Ethical research principles such as confidentiality, informed consent, and anonymity were strictly adhered to from the beginning to the end of the data collection process. On the whole, the administration and completion of the questionnaire were approximately 25 minutes for participants. There were no forms of remuneration made to participants. Data collection was mainly done on Mondays to Thursdays at the lecture halls. However, appreciation was shown to participants on each day of data collection.

Data Analysis

The statistical Package for the Social Sciences (SPSS) version 26.0 was used in analysing the data of the study. Descriptive statistics (mean and standard deviation) were used to determine the level of knowledge about the LMS among graduate students at the UGCH. In addition, the independent t-test was used in comparing the means of male and female graduate students on their level of knowledge about the LMS, and Chi-Square was used to examine the association between age and the knowledge about the features of the LMS.

RESULTS

The study aimed to examine the level of knowledge about the LMS among graduate students at the UGCH. The data collected from graduate students were analysed with descriptive and inferential statistics. Out of the 180 graduate students who responded to the questionnaires, 100 were males, while 80 were females. This ensured that both male and female graduate students contributed their perspectives. Again, the male-to-female ratio was not skewed and may not have had a substantial impact on the results of the study. In terms of age, (31%) were aged 20 to 29, followed by those between the ages of 30 and 39 (58%), 40 to 49 (8%), and then between 50 and 59 (8%) years.

Knowledge of the LMS

Having adequate knowledge about a system may affect its continuous use. The level of knowledge was measured on a 3-point Likert Scale ranging from 1(low), 2 (moderate), and 3 (high). The results of the descriptive analysis are shown in Table 1. A mean score of 1-1.5 means low knowledge, from 1.6 to 2.5 means moderate knowledge, and from 2.6 – 3 means high knowledge.

Table 1: Knowledge of the LMS

Knowledge	Mean	Standard Deviation

Knowledge Subscale (13 items)	1.44	0.44
Forum tool	1.69	0.69
Gradebook tool	1.24	0.37
Lessons tool	1.40	0.40
Quizzes and Test tool	1.24	0.37
Syllabus tool	1.24	0.37
Chat room tool	1.24	0.37
Resources tool	1.45	0.40
Announcement tool	1.34	0.51
Calendar	1.18	0.35
Dropbox tool	1.40	0.40
Email tool	1.33	0.38
Assignment tool	1.56	0.65
Turnitin tool	1.86	0.79

N=180 in all cases across

From Table 1, graduate students' level of knowledge of the features of the LMS was very low (M=1.44, SD=0.44). However, they had knowledge of the Turnitin tool (M=1.86, SD= 0.79), Forum tool (M= 1.69, SD= 0.69), Assignment tool (M=1.56, SD=0.65), and

Resources tool (M=1.45, SD=0.40). Their knowledge of the calendar was the least (M=1.18, SD= 0.35). Their knowledge of the calendar was the least (M=1.18, SD= 0.35). Overall, this implies that graduate students level of knowledge on the features of the LMS was very low.

Knowledge of the LMS and Sex

Earlier studies conducted have revealed sex differences in the use of e-learning resources. Table 2. Below presents the analysis of results on knowledge and sex. The analysis was done with the independent t-test. The analysis was done with the independent t-test with unequal variance; since the sample size is large assumption of normality was applied.

Table 2: Knowledge of the LMS and Gender

Levene Test

df	f-value	p-value
(124,61)	15.62	0.00

Independent t-test

	Gender	N	Mean	SD	Df	t-value	p-value
Knowledge	Males	100	1.50	0.25	178	7.74	0.01
	Females	80	1.16	0.40			

N=180 in all cases across

The results obtained from Table 2 show that males (M=1.50, SD=0.25) had higher knowledge about LMS than females (M=1.16, SD=0.4). Furthermore, the Levene test of equality of variance shows that the variances are unequal since the p-value (0.01) is less than 0.05. Thus, the independent t-test (t (178) = 7.74, p = 0.00) analysis further confirmed that there is a statistically significant difference in knowledge between male and female graduate students at the UGCH.

Knowledge of the LMS and Age

Cong (2020) and Chen et al. (2020) contends that a person's age may influence how they use the LMS. The chi-square test was used to analyse the knowledge of the LMS by graduate students concerning their age. The results have been presented in Table 3.

Table 3. Knowledge of the LMS and Age

	Age groups (%)						
Features	20-29	30-39	40-49	50-59	Chi-square E	DF	P-Value
Forum Tool					0.61	6	0.85
Low	15.6	48.5	12.4	1.4			
Middle	18.6	47.1	8.5	3.8			
High	18.6	42.4	13.3	3.8			
Grade book					0.82	3	0.72
Low	16.6	46.5	12.7	2.2			
Moderate	18.6	47.1	8.5	3.8			
Lessons Tool							
Low	16.6	46.5	12.7	2.2	0.26	3	0.84
Moderate	18.6	47.1	8.5	3.8			
Quizzes and Test Tool					0.72	3	0.72
Low	16.6	46.5	12.7	2.20			
Moderate	18.6	47.1	8.5	3.80			
Syllabus Tool					0.82	3	0.72
Low	16.6	46.5	12.7	2.20			
Moderate	18.6	47.1	8.5	3.80			
Chat room Tool					0.82	3	0.72
Low	16.6	46.5	12.7	2.20			
Moderate	18.6	47.1	8.5	3.80			
Resources Tool					0.54	3	0.79
Low	18.6	44.8	10.9	3.80			
Moderate	16.2	48.3	11.6	1.90			
Announcement Tool					0.66	6	0.84
Low	16.3	46.1	13	2.50			

Moderate	19	48.1	8.7	2.20		
High	17.3	44.5	8.1	8.10		
Calendar				0.40	3	0.82
Low	16.7	46.3	12.3	2.70		
Moderate	18.8	47.7	8.6	2.80		
Dropbox Tool				0.54	3	0.79
Low	18.6	44.8	10.9	3.80		
Moderate	16.2	48.3	11.6	1.90		
Email Tool				0.54	3	0.79
Low	18.6	44.8	10.9	3.80		
Moderate	16.2	48.3	11.6	1.90		
Assignment Tool				0.34	6	0.86
Low	15.5	45.3	13.9	3.30		
Moderate	19	48.1	8.7	2.20		
High	19	48.1	8.7	2.20		
Turnitin Tool				0.14	6	0.88
Low	19	44.8	11.9	2.20		
Moderate	15.8	48.1	11.9	2.20		
High	18.1	46.3	8.4	5.40		

The analysis from Table 3 indicates there was no statistically significant difference between age and knowledge of LMS features. This implies that graduate students exhibited the same level of knowledge on features such as the lesson tool, email tool, and forum tool among others despite their age.

Knowledge of the LMS and Age

Cong (2020) and Chen et al. (2020) contend that a person's age may influence how they use the LMS. The binary logistic regression was adopted to analyse graduate students' knowledge of the LMS concerning their age. The results have been presented in Table 3

Table 4: Binary Logistic Regression of Level of knowledge of LMS and Age

Level of knowledge of LMS					
	Low	High	odds ratio	std	p-value
age group					
20-29	33(26.61%)	18(28.57%)	Reference		
30-39	70(56.45%)	36(57.14%)	0.9429	0.3372	0.8690
40-49	17(13.71%)	6(9.52%)	0.6471	0.3611	0.4350
50-59	4(3.23%)	3(4.76%)	1.3750	1.1248	0.6970
Constant			0.5455	0.1598	0.0390

***significant at p-value=0.05

The analysis from Table 4 indicates there was no statistically significant difference between age and knowledge of SAKAI LMS features using the odd ratio p-value. The outcome implies that graduate students exhibited the same level of knowledge on features such as the lesson tool, email tool, and forum tool, among others, despite variations in age

Table 5 presents the summary of the hypothesis stated for the study.

Table 5: Summary of Hypothesis

	Hypothesis	Conclusion
H1	There is no association between graduate student level of knowledge of the features of the LMS and sex.	Not Supported
H2	There is no association between graduate student level of knowledge of the features of the LMS and Age.	Supported

From Table 5, there were no significant differences in the level of knowledge of the features of the LMS with respect to the age of graduate students at the UGCH. Hence, both younger and older graduate students at the UGCH had similar knowledge as far as the features of the LMS was concerned. However,

there were signicant differences in the level of knowledge of the features of the LMS with respect to sex.

DISCUSSION

The study was conducted to find out graduate students' knowledge level of the learning management system in the University of Ghana College of Humanities. From the data analysis, graduate students had a low level of knowledge of the features of the LMS (SD =1.44, M = 0.44). These findings could be possibly explained by the fact that the LMS is new to graduate students, hence they have not been able to properly integrate the system into their academic life.

This confirms the findings obtained from the study carried out by Arhinful (2016) on the use of the LMS among Canadian and international students and found that the majority of the students lacked sufficient knowledge of the LMS features, resulting in low utilisation. Again, the findings corroborate with the outcome of the study carried out by Sahoo et al. (2020) at the Kings University College where low utilisation of the LMS was found among the students. The findings, on the other hand, contradict Choga's (2015) study, which found that majority of university students had enough knowledge of the features of the LMS. Based on the results obtained, it could be argued that many graduate students may not use the LMS regularly as a result of a lack of awareness and knowledge about the system on campus, thus supporting the claim of Turnbull et al. (2019) and Mtebe (2015) that knowing the LMS may affect its usage continually.

As previously mentioned in the Technology Acceptance Model, graduate student's level of understanding and knowledge about the features of the LMS may influence their usage. This is because one of the challenges that a graduate student may experience in adjusting to the LMS is the lack of knowledge about its perceived usefulness for his/her academic work.

Although graduate students had little knowledge of the features of the LMS, sex had a significant impact. In comparison to their female counterparts (M=1.16, SD=0.4), males (M=1.50, SD=0.25) demonstrated sufficient knowledge of the LMS. The findings of the t-test [t (178) =7.74, p = 0.00] indicated that there was a statistically significant difference in the level of knowledge exhibited by males and females. A probable explanation for this finding is that males are more likely than females to use electronic equipment such as laptops, computers and the internet (Yukselturk & Bulut, 2009). The findings contradict that of Selim (2021) who found females having knowledge of the electronic resources than males. On other hand, the findings support the study conducted Al-Azawei (2019) who found males had the desire to use the LMS as a result of the knowledge they had compared to females. Again, it corroborates with the findings of Antwi-Boampong (2020) and Yoo et al. (2021) who revealed that males had more information and knowledge about modern technologies than their female counterparts. This could explain why males utilise the internet for job hunting, e-banking, posting or uploading content, confirming the assertion of the Technology Acceptance Model that the perceived usefulness of a system may influence its usage.

Furthermore, in terms of age, the analysis revealed no significant difference between age and the level of knowledge of the features of the LMS by graduate students at the UGCH. Based on the results obtained, all graduate students at

the UGCH had the same level of knowledge about the LMS features (Table 4). These findings support the assertion of Suárez-Rodrguez et al. (2018) who believed that there were no age differences in the use of the LMS among university students. Again, the outcome of the study did not support the findings of Bhat and Bashir (2018) and Lin et al. (2014) who found age differences in the knowledge and use of the LMS. A possible explanation may be attributed to the fact that graduate students may have been exposed to online learning during their undergraduate studies. Again, the findings, refuted Colley & Comber's (2019) claim that adults aged 20 to 39 are more digitally inclined and have a better understanding of how to use e-learning tools than older people. Again, the findings did not support the ideas of Mayanja (2020), who believed that the use of the LMS was more obvious and observable among the younger generation than among the older generation. Based on the results, both older and younger graduate students at the UGCH be given adequate orientation and training on the features of the LMS. When this is done, they may see the importance and relevance of the features of the LMS for their academic work. Based on the TAM, it could be concluded that graduate students' perceived ease of the LMS may be influenced by their level of knowledge regardless of age.

CONCLUSION AND RECOMMENDATIONS

The emergence of e-learning on university campuses seems to have led to remarkable developments in online teaching and learning. It is therefore not surprising that the utilisation of several e-learning resources has become a vital aspect of university students' academic life. Today, e-learning may no longer be considered a luxury but a necessary tool in higher education. For now, Learning Management Systems are becoming increasingly popular in most tertiary institutions, to supplement traditional face-to-face teaching and learning, facilitate easy access to high-quality education, and address issues such as student-to-lecture ratios, which result in some qualified applicants being denied admission. However, many e-learning experts believe that the LMS is still underutilised by university students due to the challenges they encountered when using the platform. The study was conducted to investigate graduate students' knowledge level of the learning management system at the University of Ghana College of Humanities. The results of the study indicated that the level of knowledge of the LMS by graduate students at the UGCH was low. Graduate male students had sufficient knowledge of the features of the LMS than female graduate students. The findings revealed that age had no significant impact on the knowledge of the LMS among graduate students. Based on the findings, the study recommends that policy makers and educational stakeholders at the University of Ghana provide training and orientation on the features of the LMS for newly admitted and continuing graduate students. When this is done, the level of knowledge of the LMS among graduate students would be high and give them the necessary computer skills. Also, there will be the need for computer training programs for graduate students by the School of Graduate Studies at the University of Ghana as it may prepare them for their future professional careers. Additionally, there should be internet connectivity and accessibility at all times on campus for graduate students as it may affect their successful usage of the LMS**.** Again, there would be the need for a mandatory policy on the use of the LMS at the University of Ghana by policy makers at the University of Ghana. With this policy, both female and male graduate students will be encouraged to regularly use the LMS. External factors such as inadequate computer literacy skills may influence their perceived ease of use and perceived usefulness, affecting their actual use of the platform as claimed by the TAM. Further studies

could look into these factors. In addition, future research could examine the challenges that university students encountered when using the learning management system using the TAM. Again, it will be important that future research investigate the factors accounting for the low level of knowledge of the learning management system among university graduate female students at the University of Ghana. A qualitative study could also be conducted to explore the attitudes of graduate students towards the learning management system in Ghana and other parts of the world as it may have an impact on their knowledge of the system.

IMPLICATIONS OF THE STUDY

The study was aimed at examining graduate students' knowledge level of the learning management system at the University of Ghana College of Humanities. The findings of the study revealed that graduate students had limited knowledge of the learning management system. This may suggest that graduate students hardly used the learning management system for their academic work at the University of Ghana and had believed that using the LMS may not improve their academic performance, felt less confident using the platform, perceived the system as stressful, encountered difficulties uploading and downloading reading materials, lacked motivation from their lecturers in using the system and hence do not enjoy using the system. Since computer abilities may be necessary for professional career success after graduation, graduate students' inability to use the LMS may affect their preparation for the digital working environment they may find themselves. The findings of the study further imply that the technology acceptance model could be used to explain and understand university students use of the learning management system at the University of Ghana and beyond. Perceived ease of use and perceived usefulness as portrayed in the TAM may affect the extent of utilisation of the learning management system among university students. This study serves as an eye opener on the current acceptance and satisfaction of the learning management system among university students for educational stakeholders and policy makers globally.

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