Challenges of Adopting E-Learning at the University of Ghana

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Chapter 11
Challenges of Adopting E-Learning at the University of Ghana

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ABSTRACT

The purpose of the study was to delve into the challenges faced in the use of e-learning at the University of Ghana. In all, 190 graduate students were selected for the study. The main instrument used for data gathering was questionnaire. The findings revealed that when using the SAKAI LMS, graduate students encounter issues such as poor internet access, lack of computer skills, among others. In comparison to their male counterparts, female graduate students faced more obstacles when using the e-learning platform. From the data analysis, there were no statistically significant variations between age and the problems graduate students had when using the e-learning platform. Based on the findings, graduate students should obtain sufficient instruction on how to use the SAKAI LMS. In order to facilitate lifelong learning and human resource development, the study recommends the incorporation of e-learning into the curriculum of higher education teaching and learning.

1. INTRODUCTION

Information and communication technologies have now become an inseparable part of our everyday life. The appearance of the internet, as well as the spread and development of a range of digital technologies such as computers, laptops, and cell phones, appears to have altered teaching and learning in higher educational institutions into a new system known as e-learning (Akti Aslam and Duruhan, 2020; Yunus, 2021).

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The utilization of several e-learning resources have made it possible for university students to effectively learn at their own pace, thereby eliminating the limitations of time and location as well as making boring and stressful topics interesting and fun (Endres and Chowdhury, 2019; Gurcan and Ozyurt, 2020). As a result, a lot of universities worldwide have integrated numerous e-learning resources on their campuses to facilitate effective teaching and learning for their students and faculty members who may be scattered all over the world (Rahman, Arifin and Furqan, 2019; Dong, Xu, Chai and Zhai, 2019). The most prominent and commonest of such e-learning resources adopted by majority of universities and institutions of higher learning in recent times has been the Learning Management System. Glancing through the available literature, a lot of definitions have been given by different scholars in explaining what a Learning Management System is.

According to Chand, Deshmukh and Shukla (2020), Rivera, McAlister and Rice (2021) a Learning Management System is an electronic computer software used in the management and administration of teaching and learning activities such as academic registration, academic records, assignment submission, online interactions among others. Gurcan and Ozyurt (2020) and Dougiamas and Taylor (2020) have argued that using e-learning tools can help faculty members to plan, implement, and measure their students' learning processes and outcomes.

Despite the numerous features of the Learning Management System, some of the common features include the drop box, grade book, assignment tool, email tool, lesson tool, and chat tool among others. The Learning Management System (LMS), according to Kuru Gonen (2019), is not only restricted to a virtual classroom environment, but may also be used successfully in a hybrid/mixed setting. A few higher educational institutions in Ghana have successfully integrated various e-learning resources on their campuses, allowing working and mature students to effectively and efficiently further their studies while working on their individual development goals (Marfo and Okine, 2010). In spite of the fact that higher educational institutions have made major efforts to integrate a variety of digital technologies to enhance teaching and learning, both staff and students appears to be underutilizing e-learning resources.

The University of Ghana included e-learning materials into its teaching and learning processes in order to become a world-class university in the next ten years. In order to meet the university's strategic objective, the University of Ghana introduced the SAKAI Learning Management System in its academic programs in 2014. From my interactions with graduate students concerning the use of the e-learning platform for their academic work, majority of them indicated that they often use the platform when their lecturers ask them to, and again when they are to submit their assignment using the system. A few graduate students interviewed were of the view that they had to battle with several challenges such when logged into the platform. Hence, the purpose of this study was to find out the kind of challenges graduate students face when using the SAKAI LMS and to contribute considerably to further studies in the field of educational technology with new and creative ideas from graduate students.

2. LITERATURE REVIEW

In an effort to overcome the global digital divide in teaching and learning, higher educational institutions and stakeholders have invested millions of resources in integrating e-learning into their educational programs in recent years. Regardless of all of these attempts, higher educational institutions continue to lack the requisite action plans and funding to deploy information and communication infrastructures effectively on their campuses. However, universities that have fully integrated e-learning into their cur-

riculum have witnessed major gains in teaching, learning, research and human resource development of its students and faculty members (Odunaike, Olugbara & Ojo, 2019).

Glancing through literature, one of the key issues impeding the effective use of e-learning resources in majority of universities, particularly in Sub-Saharan Africa, has been the lack of adequate ICT infrastructure and poor electrical power supply. Colley and Comber (2019) have asserted that one of the reasons why many higher educational institutions lack appropriate e-learning tools and gadgets have been due to the high cost of acquiring them. Universities that are making plans of adopting e-learning into their teaching and learning curriculum may suffer additional costs.

A report published by the World Bank in 2008 indicated that poor internet connectivity and accessibility by both staff and students were among the primary issues facing higher educational institutions in the adoption of e-learning in Africa. In a study conducted by Darko

– Adjei (2018) it was discovered that inadequate internet connectivity prevents majority of undergraduate students at the University of Ghana from efficiently using the features of the SAKAI LMS. On the contrary, Sclater (2018) in a study at the Open University in the United Kingdom discovered sufficient internet service routers in students' classrooms and lecture halls, thereby allowing them to easily access the internet for their academic work.

In a study focused on the challenges of using an Open Source LMS in China, Hedberg and Ping (2018) found that most Chinese universities had insufficient bandwidth in their lecture halls, making it impossible for their students to easily access the internet and use the LMS. In yet another study, Mtebe & Raisamo (2019) used semi-structured interviews on a random sample of 92 instructors to collect empirical data on perceived impediments affecting the use of open educational resources in Tanzanian higher educational institutions. The findings revealed that instructors' efficient use of the Learning Management System was hampered by the lack of a good internet connectivity and poor internet speed.

Cavus & Zabadi (2018) concluded that due to lack of knowledge and computer abilities both undergraduate students and instructors regarded the LMS features to be extremely sophisticated and challenging for smooth academic work. As a result, university lecturers and students will require considerable electronic learning tool training.

Lorencowicz and Becker (2018) found that the majority of 503 undergraduate students in an engineering course at the University of Botswana lacked computer skills and did not use the e-learning platform as much as predicted. Furthermore, 44.5 percent of individuals surveyed stated they had never used a computer. This is an issue of concern because using the LMS demands a basic understanding of computer capabilities. Students of the University of Ghana find learning how to use the Learning Management System a necessity in this regard. Based on the findings of the studies reviewed so far, good internet connectivity and accessibility may be required for the successful utilization of the Learning Management System.

3. RESEARCH METHODOLOGY

A cross-sectional survey design was used for this study. The design was selected since the respondents' data was gathered at a single moment in time. All graduate students at the University of Ghana were included in the study's sample. The total number of graduate students was 5,546 at the time the research was done. Three (3) colleges were chosen out of four (4) at the University of Ghana using the Multi-Stage sampling technique, primarily Health Sciences, Education, and Humanities. Six (6) schools were chosen

from these three institutions. Using the simple random procedure, a department was chosen from each of the six schools. This method ensured that each department had an equal opportunity to be chosen

After a pilot study had been carried out on 18 graduate students, 209 graduate students were selected for the study using the systematic random sample technique. Permission was sought from the University of Ghana's Research and Ethical Committee for the Humanities prior to data collection. The questionnaire was the primary tool for data gathering. The study was unable to use interview schedules due to the enormous sample size. Data was collected mostly in the Lecture Halls of graduate students at respective departments on Mondays through to Thursdays.

The consent of respondents was obtained on each day of data collection, after which they were given questionnaires to complete. Throughout the data collection process, no questions about respondents' names were asked. The questionnaire's secrecy and rigorous adherence to high ethical standards made it extremely trustworthy, resulting in a high response rate. The 'give and collect later' strategy contributed to a high response rate (98%) for the survey.

A declaratory statement on the top of each questionnaire promised each respondent that the data would be utilized solely for scholarly reasons. Only 190 of the 205 questions were used in the data analysis. This was due to the fact that 15 questions were not completed correctly by the respondents.

4. DATA ANALYSIS

The current study looked into the issues that graduate students had when using the SAKAI LMS at the University of Ghana. The data was analyzed using descriptive and inferential statistics. Inferential statistics was used to make inferences and make good judgments about the population of graduate students from which the sample was selected, whereas descriptive statistics was used to determine the distribution's normality. The research involved a total of 190 graduate students. There were 102 men (59%) and 88 women (41%). Respondents were divided into age groups based on their age (categories).

The bulk of respondents (29%) were between the ages of 20 and 29, followed by those between the ages of 30 and 39 (56%) and those between the ages of 40 and 49 (4%). A five-point Likert scale was utilized to evaluate graduate students' challenges on the Issues Subscale, with 1=Strongly Disagree, 2=Disagree, 3=Neutral, 4=Agree, and 5=Strongly Agree. Table 1 examines the challenges that graduate students at the University of Ghana have when utilizing the SAKAI LMS

4.1 Challenges Encountered in Using the SAKAI LMS By Gender

The purpose of this study was to see if male and female graduate students at the University of Ghana faced the same obstacles when using the SAKAI LMS. The independent t-test examination of the problems of using the SAKAI LMS by gender is shown in Table 2.

Table 2 shows that female graduate students had significantly more obstacles (M=4.09, SD = 0.44) than their male counterparts (M = 3.15, SD = 0.22). This was further supported by the findings of the t-test ($t(188) = 6.84$, $p = 0.00$), which demonstrated that there is a statistically significant difference in the obstacles faced by graduate students in using the SAKAI LMS based on their gender.

Table 1. Challenges encountered in using the SAKAI LMS

Challenges	Mean	Standard Deviation
Challenges Subscale (7 items)	4.51	2.22
It's difficult to use the SAKAI LMS	4.47	2.13
It's aggravating to use the SAKAI LMS	4.44	2.42
I'm not always confident in my ability to use the SAKAI LMS	4.73	2.19
I don't have the necessary computer abilities to use the SAKAI LMS	4.26	2.20
My use of the SAKAI LMS is hampered by poor internet connectivity	4.32	2.93
It's tough for me to download learning materials from the SAKAI LMS	4.75	1.62
I'm having trouble logging into the SAKAI LMS	4.59	2.07
N=190 in all cases across		

Graduate students (M = 4.51, SD = 2.22) have substantial challenges when using the SAKAI LMS (M = 4.51, SD = 2.22) as seen in Table 1. A high proportion of graduate students (M=4.75, SD=1.62) had trouble obtaining their lecture notes and reading materials from the platform (M=4.75, SD=1.62). Other graduate students were uneasy with the SAKAI LMS (M=.73, SD = 2.19) and had trouble logging in (M = 4.59, SD = 2.07). Others (M=4.47, SD=2.13) reported utilizing the SAKAI LMS to be stressful.

Table 2. Independent t-test on challenges in the using the SAKAI LMS by gender

Gender	N	Mean	SD	DF	T	Value
Male	102	3.15	0.22	188	6.84	0
Female	88	4.09	0.44			

N=190 in all cases across
** significant at p = 0.05

4.2 Challenges Encountered in Using the SAKAI LMS by Age

It was intriguing to see if age had a role in the issues faced by graduate students at the University of Ghana when using the SAKAI LMS.

Table 3 shows that there was no statistically significant differences in the problems faced by graduate students based on their age. This means that graduate students, regardless of their age, may experience difficulties using the SAKAI Learning Management System, such as poor internet connectivity and assignment submission, among others.

5. RESULTS AND DISCUSSION

Despite the fact that majority of higher educational institutions have spent a significant amount of money to equip their campuses with a variety of e-learning resources, efficient use and adaptation by professors and students may pose a number of obstacles. Graduate students encountered substantial degrees

Table 3. Challenges encountered in using the SAKAI LMS and age

Challenges	Age				Chi-Square	DF	P-Value
	20- 30	30-39	40-49	50-59			
	(%)	(%)	(%)	(%)			
It's difficult to use the SAKAI LMS.					15.851	12	.198
Strongly Disagree	26.2	52.4	14.3	7.1			
Disagree	20.3	61	13.6	5.1			
Undecided	21.6	62.7	13.7	2			
Agree	42.3	50	7.7	-			
Strongly Agree	66.7	33.3	-	-			
It's aggravating to use the SAKAI LM					50.930	12	.123
Disagree	36.4	42.4	12.1	9.1			
Undecided	59	28.2	5.1	7.7			
Agree	25.9	63	11.1	-			
Strongly Agree	4.5	78.8	16.7	-			
I'm not always confident in my ability to use the SAKAI LMS					40.649	12	.245
Disagree	11.1	55.6	16.7	16.7			
Undecided	60	20	10	10			
Agree	32.1	58.3	9.5	-			
Strongly Agree	16	70	14	-			
I don't have the necessary computer abilities to use the SAKAI LMS					30.550	12	.134
Strongly Disagree	61.5	23.1	-	15.4			
Disagree	46.7	36.7	10	6.7			
Neutral	40	45	12.5	2.5			
Agree	20.9	62.8	11.6	4.7			
Strongly Agree	3.8	80.8	15.4	-			
My use of the SAKAI LMS is hampered by poor internet connectivity.					45.945	12	.546
Disagree	70.8	20.8	8.3	-			
Neutral	23.3	58.9	13.7	4.1			
Agree	11.8	69.1	13.2	5.9			
Strongly Agree	20	66.7	13.3	-			
It's tough for me to download learning materials from the SAKAI LMS.					31.426	12	.324
Disagree	25	50	25	-			
Neutral	40	33.3	10	16.7			
Agree	24.2	62.5	12.5	0.8			
Strongly Agree	66.7	16.7	-	16.7			
I'm having trouble logging into the SAKAI LMS.					39.550	12	.234
Disagree	50	35	7.5	7.5			
Neutral	54.5	36.4	4.5	4.5			
Agree	18.2	64.8	14.8	2.3			
Strongly Agree	2.9	76.5	17.6	2.9			

N=190 in all cases across
** significant at p = 0.05

of problems when utilizing the e-learning platform (M=4.51, SD =2.22), according to the findings. It's probable that this is due to graduate students' lack of understanding of how to use the SAKAI LMS's capabilities efficiently, as some of the features may take time and effort to learn. This backs with the findings of a study conducted by Dube and Scott (2014) at Zimbabwe's NUST University, which indicated that the SAKAI LMS's complexity influenced its use and acceptance by professors and students.

Furthermore, according to the findings, graduate students who have not had sufficient exposure to social networking sites such as Facebook, among others, may struggle to have a firm grasp and use the SAKAI LMS interface, and so may find it incompatible with their academic life on campus.

The study's findings revealed that female graduate students at the University of Ghana had numerous problems when utilizing the SAKAI LMS. The findings of the t-test ($t(188) = 8.67$, $p=0.00$) show that there was a statistically significant difference between the problems faced by men and women. This finding could be explained by the fact that males have a strong desire to utilize electronic devices such as computers and laptops, and hence may have more knowledge about them than females when utilizing them.

This finding contradicted that of Ikolo and Okiy (2021), who showed that while using e-learning materials and equipment, both male and female university students faced similar obstacles, such as a lack of computer skills.

With regards to age, the studies demonstrated that graduate students of all ages had similar challenges when using the SAKAI LMS (Table 3). This showed that all graduate students at the University of Ghana, regardless of their age, battled with poor internet access. The findings, however, refuted Mayanja's (2021) assertion that younger pupils suffer fewer barriers to using ICT resources than older students. This is because there were no statistically significant differences in the challenges faced by graduate students according to their age in this study.

Graduate students, on the other hand, may have more difficulty seeing small characters and viewing images well on the Sakai LMS screen as they get older.

6. CONCLUSION

The introduction of online learning in higher educational institutions curricula have possibly transformed teaching and learning into a digital academic environment. The utilization of several e-learning resources have become a critical component of higher education's teaching and learning approaches. One of the ultimate goal of integrating a Learning Management System in many university campuses is to avoid turning away the admission of qualified students applying for tertiary education. As indicated from the findings of the study, graduate students at the University of Ghana had certain challenges they had to battle with when logged unto the SAKAI LMS such as inadequate internet connectivity, difficulty downloading learning materials among others.

6.1 Recommendations

The following recommendations are made from the conclusions of the study.

- There should be enough training on the LMS for graduate students in order for them to effectively use and benefit from the system on campus.

- The University of Ghana should make sure that there is always good internet connectivity and accessibility at all times on campus.
- University students should continuously improve their computer literacy skills in order to be prepared for jobs in the twenty-first century digital world of work.

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