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Evaluation Of The Use Of Supportive Tools In E-Learning

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ABSTRACT
Globally, technology plays a vital role in the day-to-day affairs of mankind. As a result of advances in technology, the world is gradually becoming frontier-less and consequently transforming into a small village through digital media. This study aimed at investigating the use of e-learning supporting tools in the Islamic University in Uganda (IUIU). The study used samples of 100 and 351 for lecturers and students respectively. The study used a quantitative approach to collect data using a questionnaire. The data collected was analyzed using descriptive statistics. In its findings, the study revealed that there is a positive adoption of e-learning and its supporting tools in IUIU. However, the university should step up and provide technological infrastructure predominantly those that are not available in the institution.
Keywords: E-learning, Support, Tools, Technology

INTRODUCTION

In the 21st century, technology has become an important part of education. All modern educational sceneries are continuously embracing different technological tools and platforms to improve efficiency in the teaching and learning processes. The adoption of technology to support teaching and learning has become indispensable skills for the teachers and the students nowadays (Adekunle *et al*., 2015). According to Hartshorne and Ajjan (2009), the Internet has become one of the vital ways to make available resources for research and learning for both teachers and students to share and acquire information. Technology-based e-learning incorporates the use of the internet and other important technologies to produce resources for learning, teach pupils, and also standardize courses in an organization (Fry, 2001). There has been extensive debate about a common definition of the term e-learning, as such, there is no universally accepted definition of e-learning (Oblinger and Hawkins, 2005; Dublin, 2003). According to Dublin (2003), most definitions tend to disclose the interest and specialization of the researchers. For instance, Rossi (2009) defined E-learning as a concept that covers a range of applications, learning methods, and processes. Markus (2008) defined E-learning as a learning process created by interaction with digitally delivered content, network-based services, and tutoring support. Moreover, E-learning is referred to as the design, development, and delivery of instructional materials by electronic devices, such as computers and CDs via the Internet. Nonetheless, E-learning simply denotes a computer-based (e.g., digital videos, tablets, projector, operating systems) learning process which links digital content, system-based administrations, and mentoring support and help in the

students and teachers interaction (Sunday *et al*., 2018; Abdulhamid *et al*., 2017; Zhang *et al*., 2010; Arghya *et al*., 2020).

In e-learning, the interaction between the learner, the instructor, and the learning content is mediated by the use of ICT (Mackintosh and Daniel, 2009). E-learning comprises all forms of electronics that support learning and teaching. The information and communication systems, whether networked learning or not, serve as specific media to implement the learning process. According to Jia *et al*., (2011), E-learning offers new prospects for learning and leads to strong changes in educational practice. For instance, the idea of the old-fashioned way of education does not fall in line with the modern era of lifelong learning where the traditional roles of teachers and students are changing (Marold *et al*., 2002); thus, e-learning emerged as the best option. Furthermore, e-learning becomes typically useful in circumstances where there are limited or no ways to facilitate teaching (Horn and Staker, 2011). For example, in schools that are incapable of offering an extensive set of courses with highly qualified teachers in certain subject areas; in remedial courses for students who need to recover grades to be able to graduate; in the advanced courses that are offered off campuses; and with home-schooled and homebound students. In conventional teaching, is instructor-centric, where the instructor mainly controls class content, including topic, course material, progress, and discussions (Baloian *et al*., 2000). However, Brown and Smith, (2013), the role of communication and interaction in the learning process are very vital factors in contemporary educational standards.

Technology is the basic factor in the development of e-learning, and it refers to requirements such as networks, hardware, software, computers, radio, audio cassettes, video, and Internet access: "The technological dimension of the e-Learning framework examines issues of technology infrastructure in e-learning environments. This includes infrastructure planning, hardware, and software" (Khan, 2003). Thus, the technological requirement also includes projectors, Multimedia Laboratories, E-books and Education resource and planning (ERP), and a Virtual learning environment. Another factor related to technology is software and interface design: "The interface design refers to the overall look and feel of e-learning programs. Interface design dimension encompasses page and site design, content design, navigation, and usability testing" (Khan, 2003,). Thus, the technological dimension should also include pedagogical and technical staff. Adequate technical support is an important part of the implementation and integration of ICT and e-learning in an education system (Sife *et al*., 2007).

Suitable infrastructure for information and communication development, (i.e. internet, extranet, intranet) is seen as one of the biggest challenges in the implementation of e-learning in higher education institutions, particularly in developing countries (Fares, 2007). An E-learning environment must provide students and teachers with a high degree of reliability and accessibility. The problem of e-learning policy is the major factor affecting the regulatory framework in most of the African institutions of high learning. Luboobi (2007) observes that the regulatory structure for telecommunications, ICT are still preventive in most African countries. There is an increasing quest for use of technology to facilitate efficiency in education (Onyema, 2019), as several academic institutions are investing in technological facilities that encourage e-learning activities. As such, this paper investigates the use of technological tools that supports e-learning in teaching and learning processes at the Islamic University in Uganda.

METHODOLOGY

The population of the study

The population for the study covered students and academic staff in the Islamic University in Uganda, Mbale Main Campus. The campus had a total population of 4,714 students from six faculties and 279 academic staff.

Sample size and sampling technique

The sample for this study was drawn from the entire population of 6 faculties and a total of 100 teaching staff were randomly selected from the total population of 279. Additionally, 351 students were randomly selected from the total population of the students. The student respondents were sampled using a proportionate stratified sampling technique.

The formula used for sampling strategies was:

$\frac{Faculty\ Population}{Total\ no.of\ Population} * Total\ sample.$ (Krejcie and Morgan, 1970)

For example, for FASS its sample was calculated thus, $\frac{893}{4714} * 351 \approx 67$

A Simple Random Sampling was likewise used to select 100 members of the academic staff out of a total of 297 members.

Data analysis

The responses were analyzed using basic descriptive statistics including frequencies and percentages using the Statistical Package for Social Science (SPSS, Version 20). The data was presented using tables.

RESULTS AND DISCUSSION

Table 1: Integrating Google search

Respondents	Frequency	Percent (%)
Academic staff		
Strongly Agree	5	9.4
Agree	29	54.7
Neutral	7	13.2
Disagree	0	0.00
Strongly Disagree	12	22.6
Total	53	100
Students		
Strongly Agree	66	32.7
Agree	60	29.7
Neutral	31	15.3
Disagree	35	17.3
Strongly Disagree	10	5
Total	202	100

The result from table 1 showed that 5 (9.4%) and 29 (54.7%) of the academic staff strongly agreed and agreed that Google search was integrated into teaching and learning at IUIU, while 12 (22.6%) and 7 (13.2%) strongly disagreed and undecided respectively. For the Students part, 66 (32.7%) of the students strongly agreed that Google search is used in the teaching and learning process in their institution, while 60 (29.7%) of the students agreed, 31 (15.3%) were neutral. However, 35 (17.3%) of the respondent disagreed and 10(5%) of the respondents strongly disagreed that Google search is used in the teaching and learning process at IUIU.

The result indicated that 34 (64.1%) of the academic staff and 126 (62.4%) of the students revealed that Google search is one of the e-learning components that were currently integrated into the teaching and learning process at IUIU. These findings are supported by Dhanani (2020), who concluded that Search Engines can be used in the teaching and learning setting as a pedagogy, and are an active learning tool that fosters reflection and metacognition.

Table 2. Re-usable learning tools (CD-ROM, DVD, Videotape)

Respondents	Frequency	Percent (%)
Academic staff		
Strongly Agree	9	17
Agree	37	69.8
Neutral	0	0.00
Disagree	7	13.2
Strongly Disagree	0	0.00
Total	53	100
Students		
Strongly Agree	25	12.4
Agree	143	70.8
Neutral	9	4.5
Disagree	18	8.9
Strongly Disagree	7	3.5
Total	202	100

Table 2 showed that 9 (17%) and 37 (69.8%) of the lecturers strongly agreed and agreed respectively that re-usable learning tools are used in teaching and learning processes at IUIU. While 7 (13.2%) of the lecturers disagreed. However, 25 (12.4%) of the students strongly agreed that Re-usable learning tools in the teaching and learning process in the university. Moreover, 143 (70.8%) of the students agreed, 9 (4.5%) were neutral. Furthermore, 18 (8.9%) of the respondent disagreed and 7 (3.5%) strongly disagree that Re-usable learning tools are used in the teaching and learning process at IUIU.

Findings of this study discovered that 46 (76.8%) of the academic staff and 168 (83.4%) of the students opined that re-usable learning tools like CD-ROM, DVD, Videotape are some of the technological infrastructures currently used in conducting lectures. It was suggested that re-usable learning tools like. CDs, DVDs can be used to store learning materials, record lectures, and other teaching and learning processes. This is in line with El-Khouly (2008), who argued that the internet is indisputably a thrilling medium for the delivery of educational content these days. However, it poses some limitations to what the instructor can offer to the learners. As such, some reusable tools e.g. CD-ROM technology can be used to augment e-learning courses.

Table 3. Enterprises resource planning (ERP) use

Respondents	Frequency	Percent (%)
Academic staff		
Strongly Agree	21	39.6
Agree	28	52.8
Neutral	4	7.5
Disagree	0	0.00
Strongly Disagree	0	0.00
Total	53	100
Students		
Strongly Agree	116	57.4
Agree	76	37.6
Neutral	10	5
Disagree	0	0.00
Strongly Disagree	0	0.00
Total	202	100

The result displayed in Table 3 indicated that 21 (39.6%) and 28 (52.8%) of the lecturers strongly agreed and agreed that Enterprises Resource Planning (ERP) is used in teaching and learning processes at IUIU, while 10 (5%) of the lecturers were neutral. From the student's perspectives, 116 (57.4%) of the respondents strongly agreed that Enterprises resource planning (ERP) is used in the teaching and learning process at IUIU and 76 (37.6%) also agreed while 10 (5%) were neutral. These findings 49 (92.4%) of the academic staff and 192 (95%) of the students revealed that Enterprises resource planning (ERP) is one of the e-learning supporting tools that were integrated into the teaching and learning process at IUIU. The findings can be justified by the fact that each student is allocated a password portal on ERP. This compelled each of the students to visit the ERP website looking for articles, knowledge content e-books, and references. Khan, (2003) made similar conclusions, where he declared that ERP is one of the e-learning supporting technologies that promote teaching and learning processes.

Table 4. Integrating Online discussion

Respondents	Frequency	Percent (%)
Students		
Strongly Agree	9	4.5
Agree	71	35.1
Neutral	45	22.3
Disagree	47	23.3
Strongly Disagree	30	14.9
Total	202	100
Academic staff		
Strongly Agree	0	0.00
Agree	12	22.6
Neutral	11	20.8
Disagree	29	54.7
Strongly Disagree	1	1.9
Total	53	100

The result in Table 4 designated that 9 (4.5%) and 71 (35.1%) of the student strongly agreed and disagreed that online discussion is used in the teaching and learning process at IUIU. While 30 (14.9%) and 47 (23.3%) of the students strongly disagreed and disagreed and 45 (22.3%) were neutral. For the educators, 12 (22.6%) of the lecturers agreed that online discussion is used in the teaching and learning process at IUIU. Only 1 (1.9%) and 29 (54.7%) of the lecturers strongly disagreed and disagreed, while 29 (54.7%) were undecided. The findings here revealed that 80 (39.6%) of the students agreed while 30 (56.6%) of the academic staff disagreed, therefore there is a conflict of agreement between the lecturers and students. This implies that, although some of the students agreed to have used it, the online discussion is not officially a component of the teaching and learning process at IUIU. Online Discussion Forum is a supportive tool to enhance interactive learning and student-teacher communication. However, further research needs to be conducted on it.

Table 5. Integration of Web-based learning

Respondents	Frequency	Percent
Students		
Strongly Agree	11	5.4
Agree	81	40.1
Neutral	64	31.7
Disagree	31	15.3
Strongly Disagree	15	7.4
Total	202	100
Academic staff		
Strongly agree	12	22.6
Agree	12	22.6
Neutral	6	11.3
Disagree	10	18.9
Strongly Disagree	13	25.5
Total	53	100

The result in Table 5 revealed that 11 (5.4%) and 81 (40.1%) of the students strongly agreed and agreed that Web-based learning is used in the teaching and learning process at IUIU, while 31 (15.3%) and 15 (7.4%) of the students strongly disagreed and disagreed, and 64 (31.3%) were neutral. The result also highlighted that 12 (22.6%) of the lecturers equally strongly agree and agree that Web-based learning is used in the teaching and learning process at IUIU, while 10 (18.9%) of the lecturers disagreed and 6 (11.3) of the respondents were neutral. However, 13 (25.5%) of the respondent strongly disagreed. Based on the findings of this study, 92(45.5%) of the students and 24(45.2%) of the academic staff agreed that Web-based learning was integrated into the teaching and learning process at IUIU.

Web-based learning accessible from within a core application can also often qualify as online learning. However, having to search for or open a separate application to access materials does not qualify as online learning since the materials are not readily accessible. According to Stojanovic (2001), Web-based learning is the emerging technology aiming at web-based information and services that would be understandable and reusable by both humans and machines. It is predicted that web technologies will influence the next generation of e-learning systems and applications.

Table 6. Integrating use E-mail

Respondents	Frequency	Percent (%)
Academic staff		
Strongly Agree	0	0.00
Agree	33	62.3
Neutral	7	13.2
Disagree	11	20.8
Strongly Disagree	2	3.8
Total	53	100
Students		
Strongly Agree	62	30.7
Agree	77	38.1
Neutral	14	6.9
Disagree	32	15.8
Strongly Disagree	17	8.4
Total	202	100

Table 6 indicated that 33 (62.3%) of the academic staff agreed that email was used in the teaching and learning process at IUIU and 7 (13.2%) of the respondents were neutral. However, 11 (20.8%) and 2(3.8%) disagreed and strongly disagreed. Based on the findings of this study, E-mail is one of the E-learning supporting tools that are integrated into teaching and learning processes at IUIU. Furthermore, 62 (30.7%) of the students strongly agreed that E-mailing learning is used in the teaching and learning process at IUIU, while 77 (38.1%) of the students agreed, 14 (6.9%) were neutral. However, 32 (15.8%) and 17 (8.4%) of the respondent strongly disagreed and disagreed. Based on these figures, 40 (75.5%) of the lecturers and 139 (68.8%) of the students agreed that E-mailing is currently used in teaching and learning processes at IUIU. This could be attributed to the practice of some academic staff who send materials to students via e-mail. Accordingly, Tegmen (2021), indicated that providing feedback to users via email is the most effective strategy in enhancing teaching and learning processes. Thus, using a positive wording style does influence the engagement in the most advantageous manner.

CONCLUSION

This study evaluates the use of e-learning supporting tools in teaching and learning processes in the Islamic University of Uganda. The study revealed that e-learning supporting tools are not entirely new to the institution, and are beneficial to both the students and the lecturers. The study recommends that the university should also strive to provide technological infrastructure particularly those that are not available within its environment.

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