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Open Educational Resources Used in Teacher Education Programs in Uganda

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Abstract:

This study was set out to explore the major forms of OER utilized in the different teacher education programs of Makerere and Kyambogo Universities. An exploratory study design was used to familiarize the researchers about the forms of OER in use at the participating universities. Data was collected using self-administered questionnaires, interview guides, observation checklists and document analysis. Data was presented and analyzed using both statistical methods and narrative techniques. The analysis of data revealed a minimal use of around 20% of the different forms of OER at both universities. It was therefore concluded that the two universities have just started adopting a few of the different forms of OER and are being put to minimal use. Consequently, the researchers recommended that workshops should be organized for both lecturers and teacher trainees to notify them the best forms of OER applicable to the different course units offered in the different teacher education programs.

Keywords: *Open education resources, teacher education, teacher trainees and forms of OER*

1. Introduction

The 21st century, has witnessed a global revolution in teaching and learning steered towards the use of Open Educational Resources (OER) in Teacher Education (McGill, 2011). Higher Education Institutions (HEI) are caught up in paradoxical practices with many top-ranked universities sharing their teaching and learning materials freely on the Internet. This new practice is a movement towards 'opening up' what was previously 'closed' to all except a limited number of people who paid for access as well as use of information and services (Cheryl, 2010). OECD (2007) notes that 'opening up' or Open Educational Resources (OERs) are products of development of the information society and the wide spread diffusion of information technology. OERs have given rise to new opportunities in teaching and learning. Consequently, these opportunities have challenged how teaching and learning has to be organized or even carried out in higher education institutions.

OERs are technology – enabled, open provision of educational resources for consultation, use and adaptation by a community of users for non- commercial purposes. They are typically freely available over the Web or Internet. Their principal use is by teachers but they can also be used directly by students. They include learning objects such as lecture materials, references and readings, simulations, experiments and demonstrations, as well as syllabi, curricula and teacher's guides (KNUST, 2010; Wiley, 2005; UNESCO, 2002).

D'Antoni (2009) as noted by Cheryl (2010) points out that the OER movement is still in its infancy with just a decade of existence. It has its beginnings in 1999 through grass root projects like Richard Baranuik's initiative of Rice University which eventually became the Connexions project by 2001 and large scale projects like MIT (Massachusetts Institute of Technology)'s Open Courseware (KNUST (Kwame Nkrumah University of Science and Technology), 2010). Cheryl (2010), KNUST (2010) and Wiley (2005) observe that MIT's open publication of all her course materials by 2001 was a great inspiration to other institutions to openly publish their course materials. These include Johns Hopkins

Bloomberg School of Public Health, the Open University in the UK, the Open Universities Nedarland and the University of Cape Town (UCT) among others. Despite OER movement being young, its influence is greatly felt by HEI. Accordingly, leading institutions like MIT, UCT have adopted OER. Likewise, Mugimu (2010) echoes some message that there are already OER initiatives in Uganda hosted at Makerere University in the E- late initiative.

Besides institutions' launch of free Open Courseware (OCW) web sites, there have been attempts to publish and access information for far less resources than the text book publishing industry has been in position to provide. This has been coupled with increasing desire to share through social technologies like social networking, personal publication through blogging and web sites and e- mail (Lane Open Education Resources, 2010).

1.1. Theoretical Perspective of the Study

Rogers (2003)'s Theory of Diffusion of Innovations guided this study. This theory denotes that for an innovation to be diffused into societies and cultures, it has to go through a process of five stages and adoption categories. The stages are the knowledge, persuasion, decision, implementation and confirmation stages whereas the different adoption categories are the innovators, early adopters, early majority, late majority and laggards. On the basis of adoption categories, it was important to utilize this theory to explore the forms of OER that have been adopted in the different teacher education programs of the participating universities because they were just a decade old by the time this study was conducted.

1.2. What are Open Education Resources?

Atkins (2007) defines Open Educational Resources (OER) as teaching and learning resources that reside in the public domain or that have been released under intellectual property license to permit their free use or re- purposing by others. OER are available at little or no cost as long as long as they are to be used for teaching, learning, or research purposes. They are freely available for use by instructors, departments, institutions and students without cost and users are legally allowed to modify the content to suit their needs (KNUST, 2010).

Atkins et al (2007) identify what Open Courseware projects provide those who visit their web sites. These though similar, vary from one project to the other. For instance, MIT's Open Courseware provides free access to the primary materials for virtually all of her courses. They are provided to students at MIT, faculty and other learners anywhere in the world at any time for free. The mix of material provided are the syllabus, course calendar, lecture notes, assignments, exams, problem and solution sets, labs and projects, hyper – textbooks, simulations, tools and tutorials and video lectures. The Utah State Open Learning Support (OLS) website connects individuals to share, discuss, ask, answer, debate, collaborate, teach and learn. In addition, Utah State OLS provides very specialized content in applied water management and irrigation which have been eagerly adopted in developing countries especially in arid regions. There is also the Carnegie Mellon Open Learning Initiative (OLI) which provides a number of innovative online instructional components like cognitive tutors, virtual laboratories, group experiments and simulations.

Similarly, Yuan, MacNeil and Kraan (2007) wrote on MERLOT (Multimedia Educational Resources for Learning and Online Teaching) to be providing links to more than 15,5500 resources which encompass simulations, animations, tutorials, drills and practices, quizzes and tests as well as lectures, case studies, collections, materials and podcasts. However, in spite of their availability, the study assumed that very few teacher trainees in Makerere University and Kyambogo University are utilizing them just in case they know about their availability. It is possible the same inadequate usage could be applicable to some staff members. This study will clear the doubt.

The above content or course materials are available in different formats for access by Higher Education Institutions. These formats include textual content where content takes forms like HTML, XML, and PDF; audio content comprised largely of files using the MP3 format, Windows Media and Real Formats.; and video content available in a wide variety of formats like Windows Media, Real, Quick time and MP4 found in collections around the internet (Wiley, 2007).

1.3. Context of the Study

There are some OER projects intended to develop human resource capacity in sub Saharan Africa. Some of these are Teacher Education in Sub- Saharan Africa (TESSA) web based OER materials in various subjects in English, French, Arabic and Kiswahili (Anamuah- Mensah & Wolfenden, 2008).The TESSA experience are expected to be an eye opener to teacher training faculties like at Makerere University and Kyambogo University that need to restructure their teacher education curricula and integrate it with use of OER.

In Uganda, available studies indicate only one standalone project at School of Education, Makerere University involved in the production of OERs known as ELATE project. Even then ELATE project is engaged in the development of OERs to support professional growth of in service teachers (Mugimu, 2010). Thus there is scanty literature about how ELATE materials and other OER materials have been integrated in teacher education programs of the participating universities.

1.4. Statement of the Problem

OERs have revolutionized teaching and learning by making freely available a vast pool of educational resources on the Internet for use by instructors, individual learners and institutions. If effectively used at the different levels of education by teachers or lecturers, OER can reduce the challenges related to acquisition, access, storage and purchase of instructional materials like text books that are expensive in addition to the lengthy procurement process to acquire the relevant textbooks. Unfortunately, it seemed that many lecturers and teacher trainees in universities at Makerere University and Kyambogo University which lead the training of teachers in Uganda had not yet adopted the innovation. Yet

it was expected that in such universities there was a very good ICT infrastructure in place that facilitates lecturers' and teacher trainees' access and use of OER. Therefore, this study was carried out to examine the forms of OER in Teacher Education programs of the participating universities.

1.5. Purpose of the Study

The purpose of this study was to evaluate the forms OER utilized by both teacher educators and teacher trainees in the various Teacher Education programs of Makerere University and Kyambogo University.

2. Research Methodology

The study employed an exploratory study design. This was employed because of Babbie (2007)'s and Amin (2005)'s recommendations of its appropriateness in familiarizing a researcher with a topic especially when the subject of study itself is relatively new.

According to UNESCO (2002), OER are just a decade old. Even its adoption by Uganda's leading teacher education institutions like Makerere University and Kyambogo University had not been studied by the time this study was conducted. Thus exploratory study design was to serve the purpose of understanding better the available forms of OER that have been adopted so far at the participating universities.

The study had a population of two E – learning coordinators, seventy-two (72) lecturers and 5821 teacher trainees who had registered for the different teacher education programs in the participating universities.

The study attracted a sample of one E – learning coordinator, seventeen lecturers and 362 teacher trainees from the two practicing universities. Lecturers were drawn from each department in the Schools Education of the participating universities. The departments were; Foundations and Curriculum Studies, Humanities and Language Education, and that of Science, Technical and Vocational Education at Makerere University, and at Kyambogo University the departments were Educational Planning and Management, Teacher Education and Development Studies, Psychology and Foundations of Education.

The researchers used non-probability, purposive and convenient sampling strategies. Non- probability samples were taken in such a way that teacher trainees who happened to be present in lecture rooms or examination rooms were chosen to participate in this study hence leading us to the use of a convenience sampling strategy. These arrangements were based on the recommendations of Amin (2005) who suggests that non probability samples can be taken on samples of those who happen to be present when the study is being carried out. On the other hand, the sample of lecturers and E-learning coordinators was carried out purposively.

In order to collect primary data, the researchers used interview guides, observation checklist, documentary analysis, and self-administered questionnaires. Self-administered questionnaires were administered to teacher trainees to establish the extent to which they hold a particular perspective on the available forms of OER in teacher education programs of the participating universities. Interviews helped in generating a detailed account of the major forms of OER from the lecturers and E – learning coordinator perspective.

In order to enrich data from interviews and self-administered questionnaires, researchers utilized an observation guide and documentary analysis of documents like strategic plans for Kyambogo University for the years 2007 to 2012 that was accessed online and Online courses either at MUELE (Makerere University E- learning Environment).

Data was analyzed on a case by case basis. Data on forms of OER from Makerere University was analyzed differently from that of Kyambogo University and afterwards was compared to establish the common forms of OER in Teacher Education in Uganda. In analyzing data for individual cases, both quantitative and qualitative approaches were employed. A Statistical Package for Social Scientists (SPSS) was utilized to come up with tables and figures to represent the findings. They were subsequently interpreted and qualitatively analyzed. Data from both universities was thematically coded together and subsequently presented and analyzed at once except for unique cases to a particular university.

3. Data Presentation, Analysis and Interpretation

3.1. Teacher Trainees' Background Variables

The researcher asked respondents to disclose information related to their gender, and university they were pursuing their teacher education programs from, the teacher education program they were pursuing and their year of study. The results are reported in this sub section.

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	205	56.6	57.9	57.9
	female	149	41.2	42.1	100.0
	Total	354	97.8	100.0	
Missing	System	8	2.2		
Total		362	100.0		

Table 1: Gender of Teacher Trainees

Table 1 indicates that a total of 362 teacher trainees participated in this study. 205 were male teacher trainees, 149 female teacher trainees and 8 (eight) did not respond to this variable.

University					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	kyambogo university	131	36.2	36.2	36.2
	makerere university	231	63.8	63.8	100.0
	Total	362	100.0	100.0	

Table 2: Distribution of Teacher Trainees Participants in Relation to the Universities Studied

Participants in this study were teacher trainees of Kyambogo University and Makerere University. As reflected in Table 2, 131 (36.2%) of the respondents were teacher trainees at Kyambogo University and 231 (63.8%) were training from Makerere University.

Programs distribution					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	BA with Education	178	49.2	49.4	49.4
	BSc with Education	92	25.4	25.6	75.0
	Bachelor of Education	44	12.2	12.2	87.2
	other	46	12.7	12.8	100.0
	Total	360	99.4	100.0	
Missing	System	2	.6		
Total		362	100.0		

Table 3: Distribution of Teacher Trainees Who Participated in Relation to Teacher Education Programs They are Pursuing

Table 3 discloses that teacher trainees who participated in this study are pursuing teacher education programs of Bachelor of Arts with Education (49.2%), Bachelor of Science with Education (25.4%), Bachelor of Education (12.2%) and 12.7% are on other teacher education programs (Bachelor of Vocational Studies with Education in Agriculture, Business Studies, Fine Art or Technological studies specifically from Kyambogo University). Only 0.6% of the participants failed to respond to this background variable.

Year of Study					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	First year	38	10.5	10.6	10.6
	Second year	140	38.7	38.9	49.4
	Third year	182	50.3	50.6	100.0
	Total	360	99.4	100.0	
Missing	System	2	.6		
Total		362	100.0		

Table 4: Distribution of Teacher Trainees Who Participated in Relation to the Years of Study

Table 4 points out the years of study which the participants were in by the time of administering the questionnaires. The study attracted only 10.5% first year teacher trainees, 38.7% second year teacher trainees, 50.3% third year teacher trainees and 0.6% never responded.

3.2. Lecturers and E- Learning Coordinators' Background Variables

One E- learning coordinator participated in this study. The other participants were lecturers from both universities. Two of the lecturers had worked between zero to three years in teacher education settings. Some seven had worked between four to seven years and another three had worked between eight to fifteen years. Only one had worked between fifteen to twenty years and two had worked for over twenty years in teacher education settings. Six (34.3%) of the lecturers were from Kyambogo University and the other eleven (65.7%) from Makerere University.

At Makerere University, two lecturers had never heard about OER, seven of them had heard about OER and two were very conversant with what OER are. Yet at Kyambogo University, two of the lecturers had heard of OER and the other four were very conversant with OER.

3.3. Major Forms of OER Used by Lecturers While Facilitating on Teacher Education Programs

Findings in this section are in response to the research question of; what are the major forms of OER used in Teacher Education at Makerere University and Kyambogo University? This research question was interested in establishing the major forms of OER utilized by both lecturers and their teacher trainees in the different teacher education programs. To achieve this research question, teacher trainees together with their lecturers were asked to identify the forms of OER that are being used in facilitating course units in the various teacher education programs at participating institutions. This variable was further categorized into eight variables (forms of OER) to which participants were supposed to indicate whether a given OER is available and is in use at their university or not. The results are presented in the following figures.

To begin with are the online modules. Teacher trainees were asked to indicate whether lecturers use this form of OER. The responses on the availability and use of online modules at the respective participating universities are highlighted in figures 8.2.1a and 8.2.1b for Kyambogo University and Makerere University respectively;

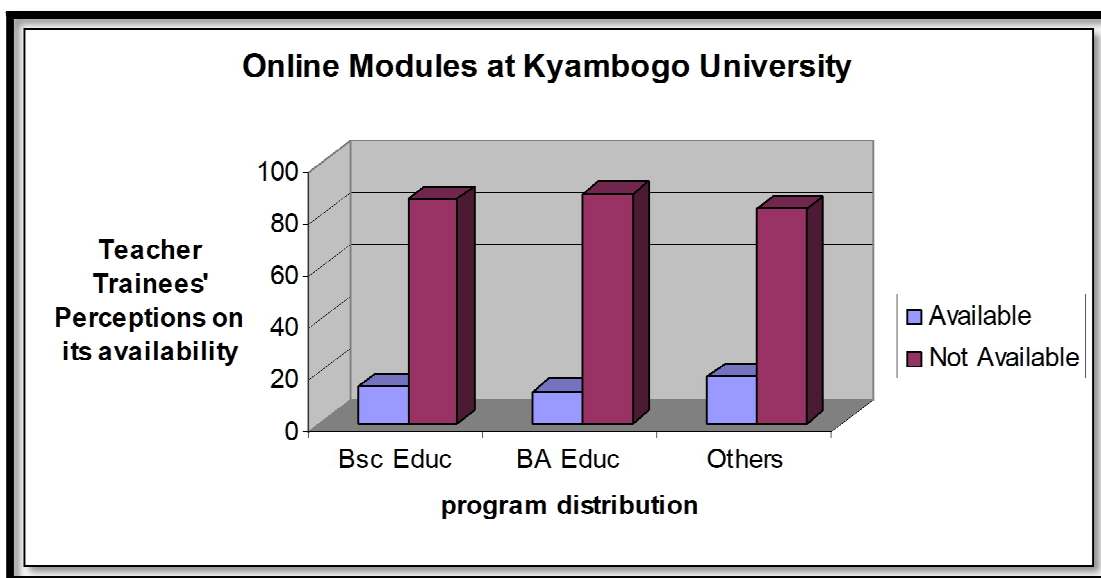


Figure 1: Perceptions on the Availability of Online Modules at Kyambogo University

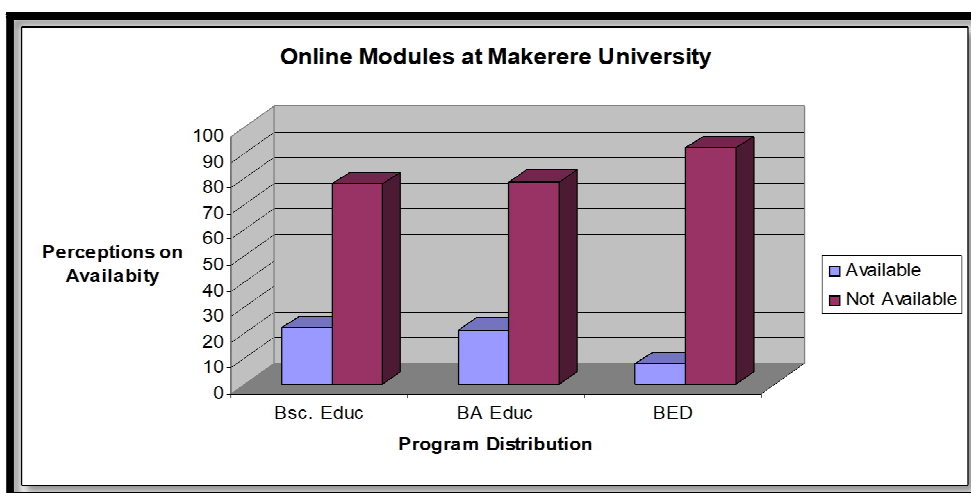


Figure 2: Perceptions on the Availability of Online Modules at Makerere University

Fig. 8.2.1a is a reflection of the perceptions of teacher trainees at Kyambogo University of the availability and use of online modules while 4.1b reflects those of Makerere University. Fig. 8.2.1a indicates that less than 20% of the teacher trainees of the different teacher education programs (Bsc Educ, BA Educ and others) of Kyambogo University confirm the availability and use of online modules. Over 80% believe online modules are inexistent to teacher trainees of Kyambogo University. The trend is not different at Makerere University as pointed out by Fig. 8.2.1b. The exception is with the BED program which is worse than the other programs with less than 10% acknowledging the availability and use of online modules at Makerere University. Despite the minor percentages, some Science Education lecturers who were interviewed gave an impression that they are using online resources. "Whenever I give a coursework, I tell teacher trainees to search for materials from the internet and enrich their presentations," as said by one teacher trainer from Department of Science, Technical and Vocational Education of Makerere University. But these revelations are inconsistent with teacher trainees' perception of their use of online modules.

Besides online modules, teacher trainees were asked to give their opinions on the use of Online Exercises and solutions. Their responses are presented in Fig. 8.2.2a and 8.2.2b below;

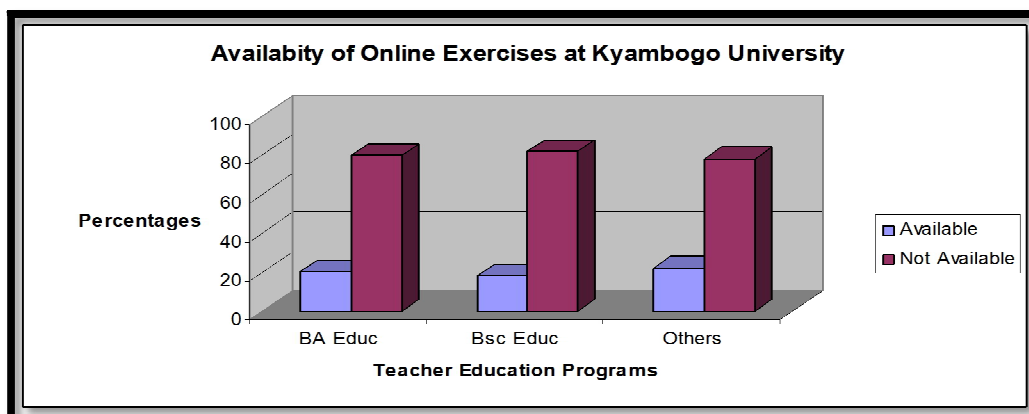


Figure 3: Availability and Use of Online Exercise at Kyambogo University

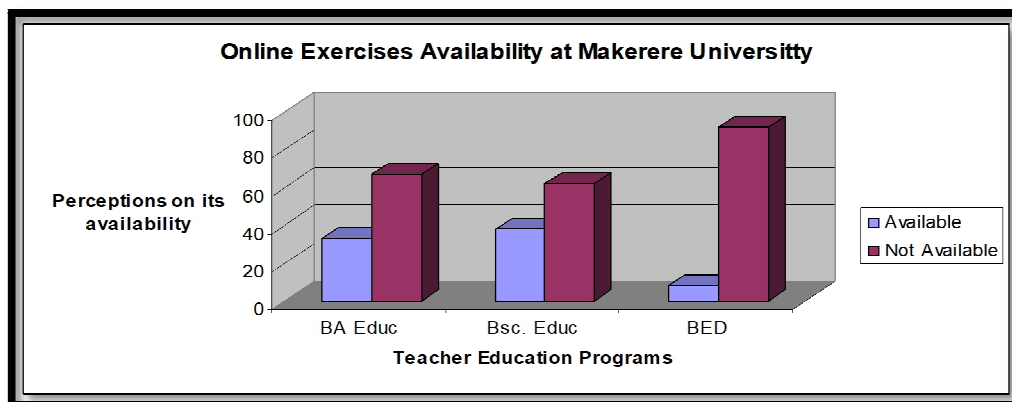


Figure 4: Availability and Use of Online Exercises and Solutions at Makerere University

Fig. 8.2.2a and Fig 8.2.2b illustrates availability and use of another form of OER known as Online Exercises and Solutions. Fig 8.2.2a indicates that almost in all teacher education programs of Kyambogo University it is only around 20% of the teacher trainees who have ever noticed the use of online exercises and solutions by their lecturers. On the other hand, Fig 8.2.2b reveal that around 30% of those who offer Bachelor of Arts with Education of Makerere University are of the opinion that their lecturers use this form of OER while conducting their lectures. Close to 40% of Bachelor of Science with Education teacher trainees buy the idea that their lecturers have ever used online exercises and solutions while lecturing to them. However, for the case of BED, over 80% from this category of teacher trainees have never seen online exercises and solutions. Consequently, neither lecturers nor teacher trainees have ever used them for purposes of learning. In the interviews held, one of the teacher trainers mentioned to have used this form of OER in conducting his/ her lectures. "I sometimes post assignments on MUELE for teacher trainees to try out and offer them feedback online," One teacher trainer from Department of Foundations and Curriculum Studies of Makerere University noted. Another of OER studied was availability and Use of Lectures on Podcasts. The findings from the participating universities are reflected in Fig Figure 5 and Fig. 8.2.3b below;

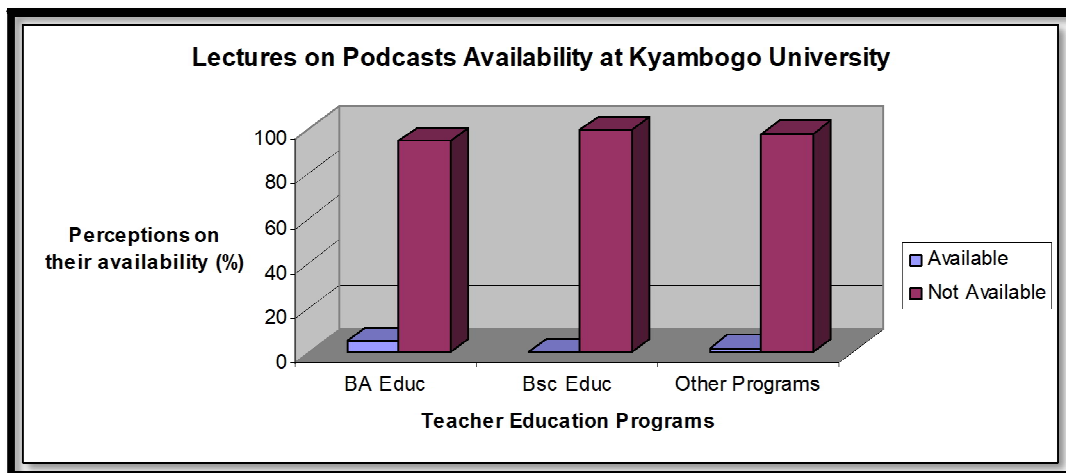


Figure 5: Use and Availability of Lectures on Podcasts at Kyambogo University

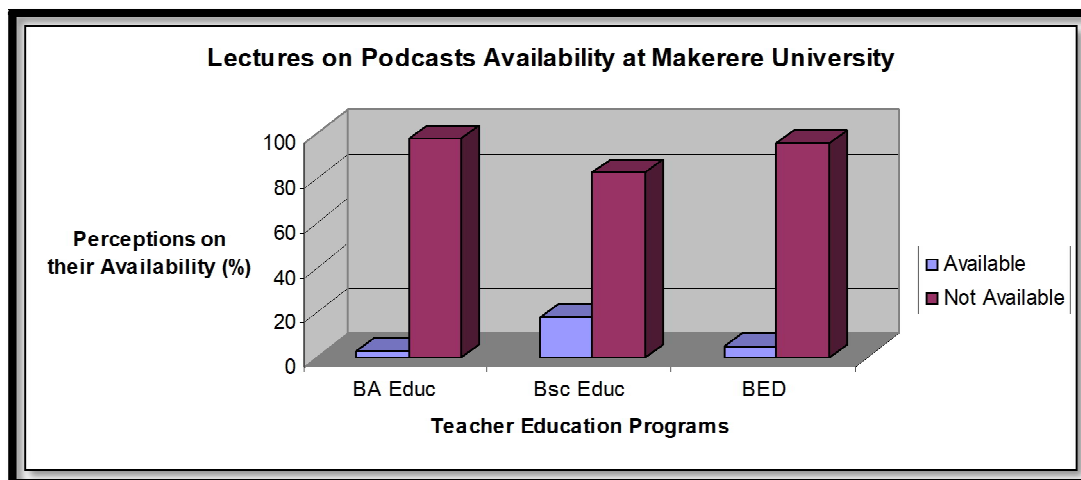


Figure 6: Use and Availability of Lectures on Podcasts

Figure 5 and Fig 6 disclose that close to 20% of the participants in the Science Education category of Makerere University have seen their lecturers using lectures on podcasts. However, over 95% of the teacher trainees in the other teacher education programs including those offered at Kyambogo University suggested that their lecturers had not yet used this form of OER in any of the lectures they have attended with their lecturers by the time this study was conducted. No related response was raised by any interviewee from interviews held with lecturers with regard to the use of this form of OER.

Another form of OER form OER studied by this research on whether it is available and in use at either Kyambogo University or Makerere University was the Materials created by lecturers and posted online. The findings are shown in Fig 7 and Fig 8 below;

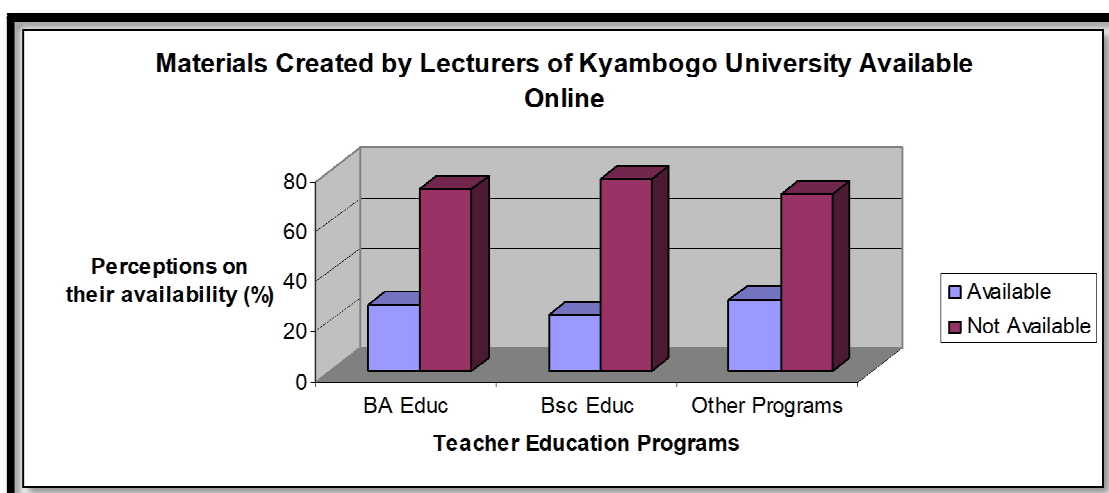


Figure 7: Materials Created by Lecturers at Kyambogo University Available Online

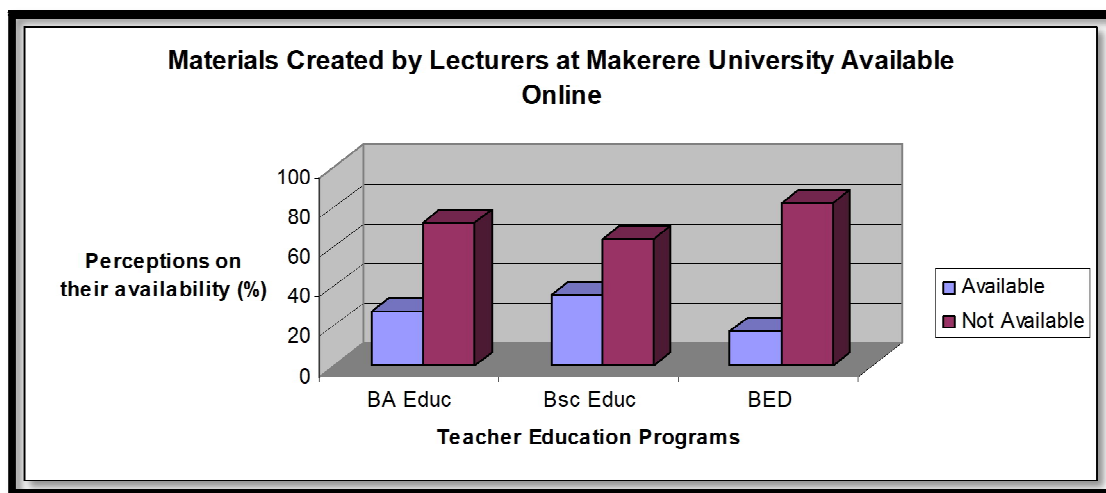


Figure 8: Materials Created by Lectures Available Online at Makerere University

Lecturers at the participating universities design resources and post them online as implied by Fig 7 and Fig 8. Over 20% of teacher trainees pursuing Bachelor of Arts with Education and other teacher education programs of Kyambogo University supported by close to 20% of Bachelor of Science with Education of the same university perceive that their lecturers use materials they have designed on their own and post them online. For the case of Makerere University, around 35% of Bachelor of Science with Education, over 20% of Bachelor of Arts with Education and close to 20% of the BED teacher trainees indicated that their lecturers were using their materials they created and posted online. This was supported by observations done by the researcher as some courses on MUELE and ODEL had notes which online readers could access including teacher trainees. However, in the interviews held with lecturers most participants were non-committal on this issue. But some two lecturers from Makerere University revealed that they advise their second year teacher trainees to go to MUELE to read notes posted there to enrich what transpires in the lectures. Also one lecturer from Kyambogo University had this to say; "Whenever we meet our distance education students in the face to face sessions we tell them to visit ODEL on our website to access notes before they go back to their schools. Some of them come from schools without internet so they have to access these notes when they have come at the university and print them. Then those who have access to internet in their schools they are at advantage because we have limited time with them." In addition to Materials created by lecturers available, the study also researched on the use of Textbooks available online by lecturers of the participating universities. The findings are reported in Fig 9 and Fig 10 below;

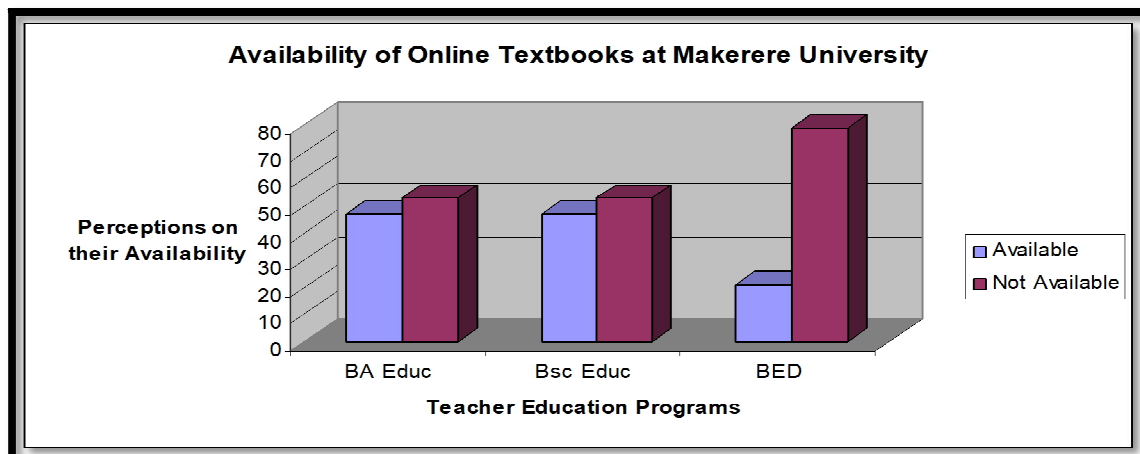


Figure 9: Availability and Use of Online Textbooks at Makerere University

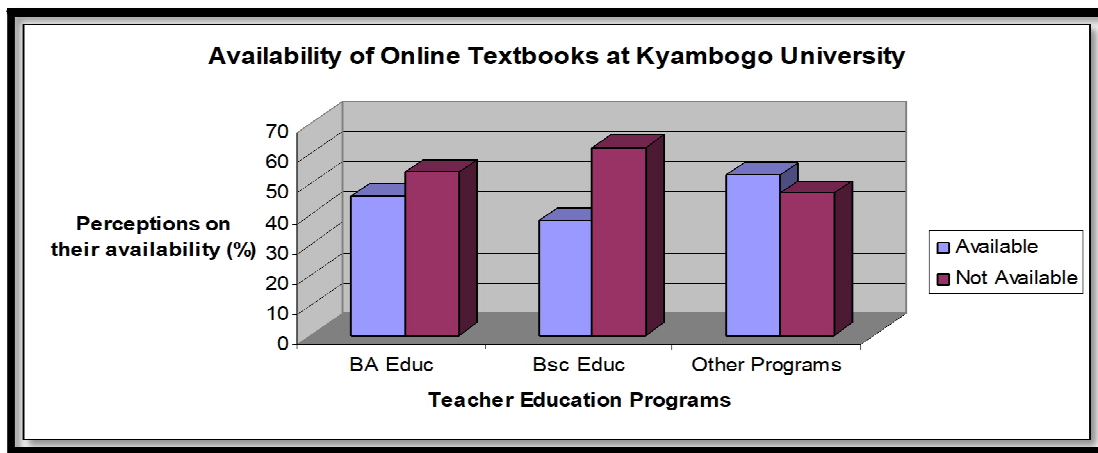


Figure 10: Availability and Use of Online Textbooks at Kyambogo University

For the case of text books available online, Fig 9 and Fig 10 reports that teacher trainees suggests that their lecturers greatly use them while they are lecturing to them. The percentages indicated are impressive and raises hope that when teacher trainees complete their teacher training courses they will be good carders of this form of OER. Inevitably this will reduce on the challenges arising from poor stocking of text books at their places of work. From interviews, one of the lecturers had this to say "I tell students to carry out self-study to supplement on what has been taught in class." This statement in essence suggests that some teacher trainers are encouraging teacher trainees to carry out further reading on line. It is in the self-study that teacher trainees have gained access to various text books and thus the impressive percentages shown in Fig. 4.5a and Fig 4.5b where with the exception of BED of Makerere University, in the remaining teacher education programs almost close to 50% acknowledge lecturers' use of online textbooks and thus confirm its access and availability at the participating universities. Furthermore, the study also considered journal articles as another form of OER. This was also studied in this research and the findings are presented in Fig 11 and Fig 12 below;

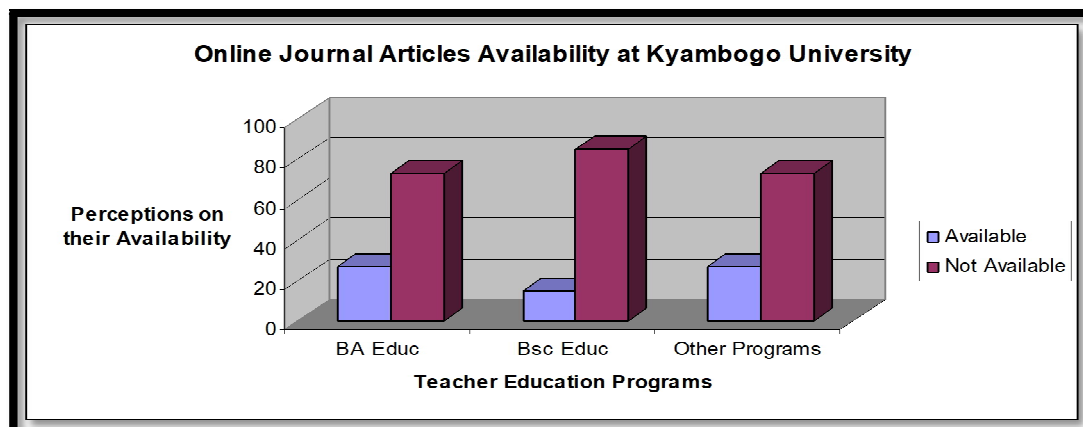


Figure 11: Use and Availability of Online Articles at Kyambogo University

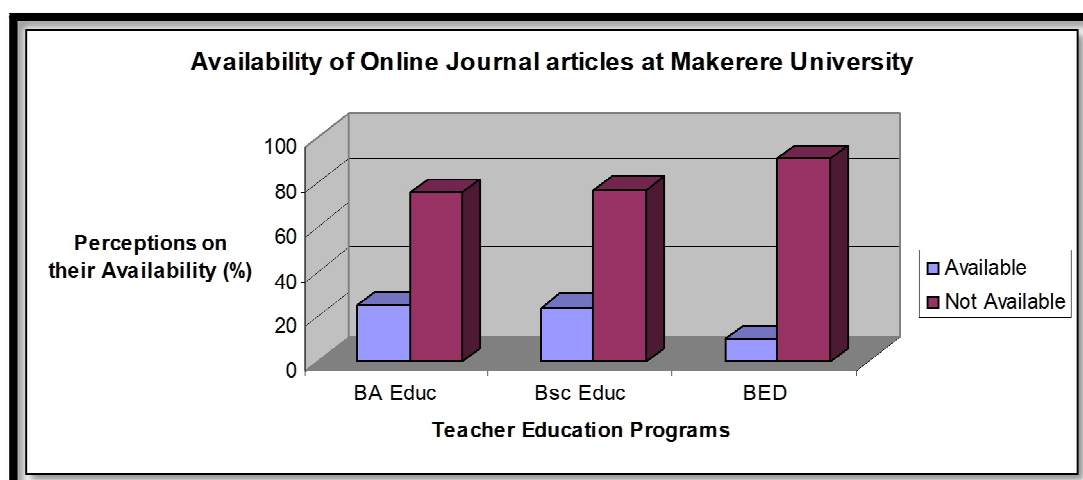


Figure 12: Use and Availability of Online Journal Article at Makerere University

Fig 4.6a reveals that around 15% of Bachelor of Science with Education plus 25% of teacher trainees pursuing Bachelor of Arts with Education and those from other teacher education programs of Kyambogo University were of the view that their lecturers use online journals in facilitating learning. While Fig 4.6b reveals that at Makerere University, around 10% of BED teacher trainees plus around close to 25% of the remaining teacher education programs held a similar opinion. The revelations from teacher trainees in the two participating universities indicate some little effort being put in by some lecturers in using this form of OER while conducting lectures. Even findings from interviews with some lecturers were in agreement with teacher trainees' observations. There was no related response from interviews in regard to the use of on line journals in their lectures.

Further, another form of OER considered for this study was the Use of online Images, music and movies in lectures. The results are presented in Fig 13 and 14 below;

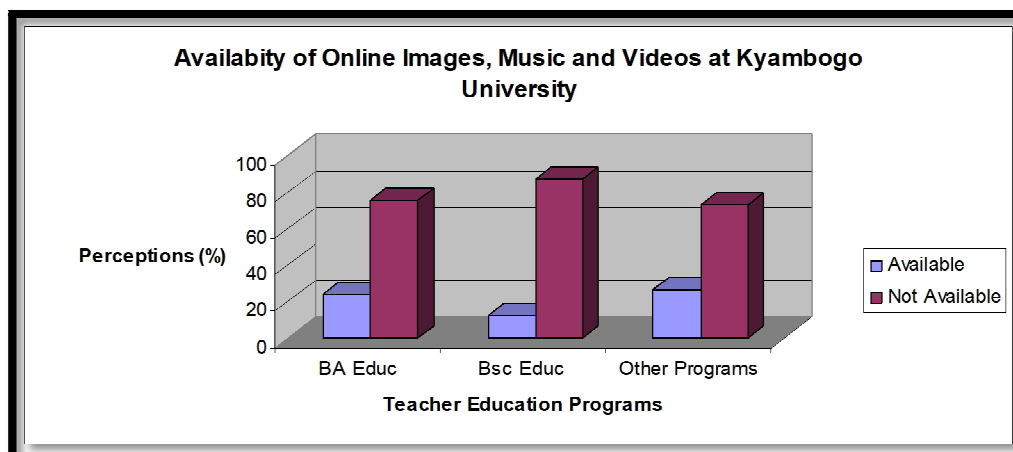


Figure 13: Use and Availability of Online Images, Music and Movies at Kyambogo University

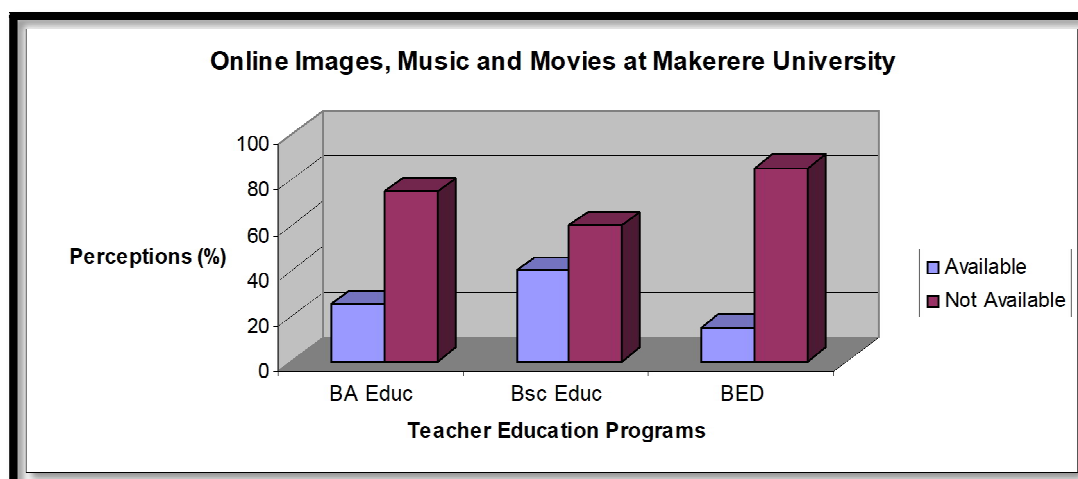


Figure 14: Use and Availability of Online Images, Music and Movies at Makerere University

The use of online images, music and movies by lecturers and their availability in their lectures; is far below average in majority of the teacher education programs of Makerere University and Kyambogo University as reflected in Fig.4.7a and Fig 4.7b. It is indicated that over 80% in all categories of respondents with the exception of Bachelor of Science with Education of Makerere University suggested that their lecturers do not use them. The revelations are further backed by no similar response obtained from the interviews held with lecturers.

Finally, Wikis were also considered by this study as another form of OER. Respondents were still requested to indicate whether their lecturers have ever encouraged them to search for learning materials from Wikipedia sources or not. Therefore, they were to indicate whether wikis were at their disposal in their self-studies guided by their lecturers. The results are reflected in Fig 15 and 16 for Kyambogo University and Makerere University respectively;

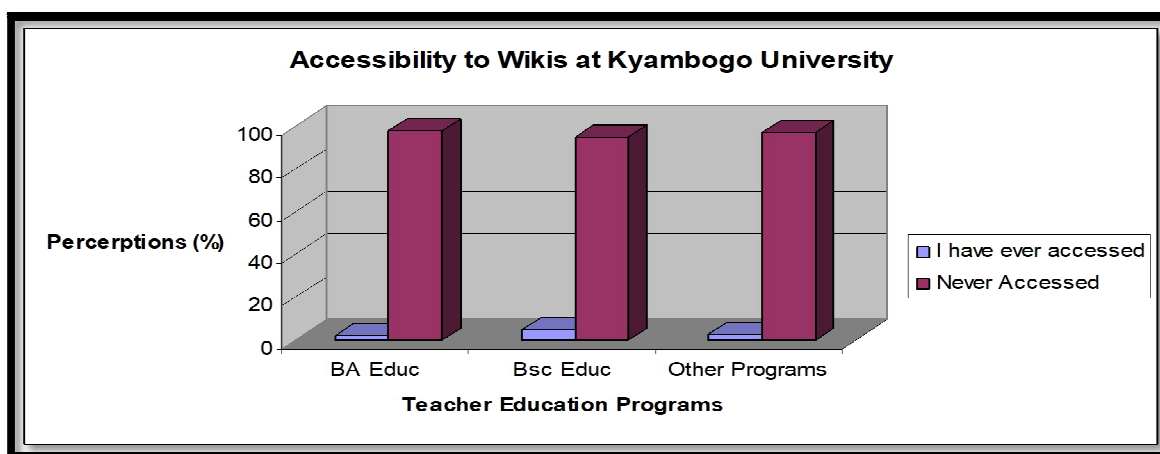


Figure 15: Accessibility and Use of Wikipedia Resources at Kyambogo University

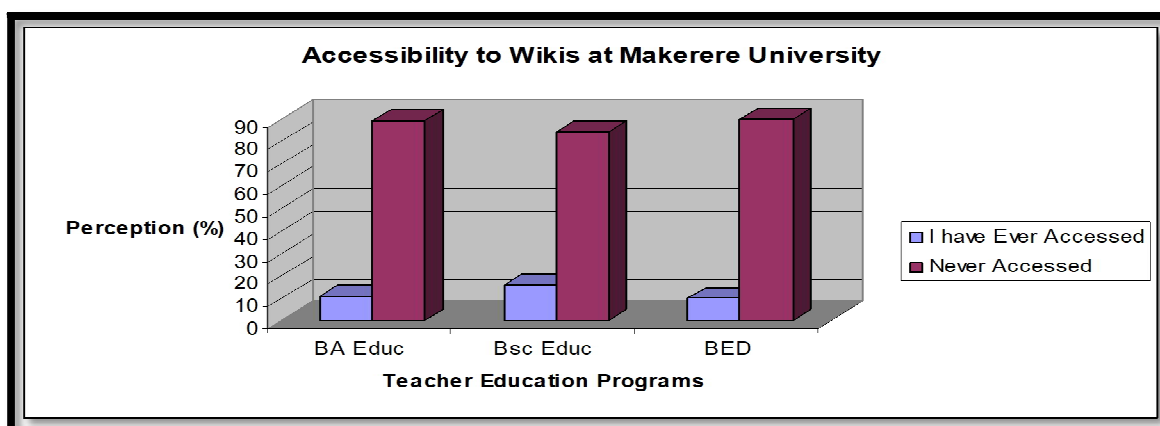


Figure 16: Accessibility and Use of Wikipedia Resources at Makerere University

Fig. 15 suggest that there is negligible use of Wikis at Kyambogo University. Almost less than 5% of all participants from Kyambogo University suggested that their lecturers actually use Wikis or recommend to them to use the wikis. None of the respondents interviewed from Kyambogo University suggested that they use this form of OER in lectures or recommending it to teacher trainees.

Fig. 16 does not greatly differ from the former as almost less than 10% though greater than 5% of the participants from the different teacher education programs suggested that lecturers at Makerere University use or recommend the use of Wikipedia resources. Just like the case was with Kyambogo University, no interview mentioned the use of this resource with their teacher trainees.

Other forms of OER used by lecturers established from interviews held with some lecturers in the Schools of Education of both Kyambogo University and Makerere University are: Manuals for practical and Lecture notes.

4. Discussion of Findings

KNUST (2010) noted that OER materials are available in the form of lecture materials, simulations, experiments and demonstrations. Others are cited by Atkins et al (2007) as lecture notes, exams, problem and solution sets, hyper text books, cognitive tutors and virtual laboratories. However, with the exception of lecture materials and hyper textbooks, our study revealed that the other forms of OER were not utilized at all at Kyambogo and Makerere University. Further according to Yuan, MacNeil and Kraan (2007), there are still other forms of OER which were not established to be in use at these universities. They include animations, drills and practices, as well as quizzes.

Fortunately, it should be noted that this study revealed though to a small extent the utilization of Online Modules, Online Exercises and Modules, Materials created by lecturers and posted online, Textbooks available online, Journal articles, Images, Music and Movies available online in the different teacher education programs. These are almost the same forms utilized at MIT as identified by Atkins et al (2007). Thus there are some efforts in adopting OER resources in teacher education though the adoption rate is that of the laggards as indicated in Rogers (2003)'s theory of diffusions of innovations.

5. Conclusions

From the study findings, researchers concluded that there is a very minimal use of the different forms of OER in teacher education programs of Kyambogo University and Makerere University. Specifically, there is an average 20% utilization of Online Modules, Online Exercises and solutions, Materials created by lecturers and posted online, Textbooks available online, online Journal articles, plus Images, Music and Movies available online in the different teacher education programs of the participating universities.

6. Implication for Teacher Education

Researchers recommend sensitizations of lecturers on the different forms of OER to be done as soon as possible so as they are made available to them and their teacher trainees. It is possible that good media for teaching like online images, music and movies, lectures on podcasts, and others will be greatly put to better use at Makerere University and Kyambogo University.

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