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Promoting Student Support in Open and Distance Learning Using Information and Communication Technologies

Jamiah Mayanja[1], Anthony Tibaingana[2] and Paul Muyinda Birevu[1]

[1] *Institute of Open Distance and e-Learning, Makerere University, Uganda.*

[2] *School of Business and Management Sciences, Makerere University, Uganda.*

Abstract: The study investigated the use of ICTs in student support in Open and Distance learning (ODL) at Makerere University. The study adopted a survey design with 327 ODL students, and the data from participants was collected using self-administered questionnaires and individual interviews. The results showed that Makerere University has enhanced student support through the introduction of the learning management systems, web-based applications, registration and accessing results to ensure students' satisfaction and retention in ODL system. However, limited electronic support is extended to ODL students through e-mails, mobile phones, social media applications, radio and television. The study concludes with recommendations to policy makers at Makerere University. Although this study was based in Uganda, the findings may be of relevance to institutions in other developing countries.

Keywords: Information and Communication Technologies, Student Support, Open and Distance Learning.

Introduction

Information and communication technologies (ICTs) play a significant supporting role in the delivery modes of distance learning (Rahman, 2014). Open and Distance learning (ODL) students are physically separated from the educational institution, which makes tutor to student, student to student, and student to study material interactions challenging (Arinto, 2016). Yet these interactions are a key determinant for student learning and success (Baloyi, 2012). Students depend on their tutors as key resource persons and on their peers for required and voluntary interaction to reinforce their learning (Ambe-Uva, 2006). Students also interact with study material to clarify their understanding of the subject matter and generate knowledge (Crosling, Heagney & Thomas, 2009). Students who experience difficulties in their interactions may feel threatened and isolated, leading to reduced motivation levels, and eventually may drop out (Nsamba & Makoe, 2017).

Open and distance learning institutions provide academic and administrative support services to students to reinforce students' sense of confidence and to reduce drop-out rate, (Murangi, 2016). Since ODL students do not report to the institution daily to get service/support, as is available in a conventional system, and, at same time, the institution cannot provide services due to the limited human resources available, the use of ICTs becomes inevitable (Vasudevaiah, 2016). Information and communication technologies such as computers, emails, mobile phones, social media applications, radio and television can create the possibility of bridging the distance between students, students and facilitators, and students and content (Vasudevaiah, 2016; Aguti & Fraser, 2006). This, therefore, suggests that the success of ODL students depends on the various support services available to them

(De la Pena-Bandalaria, 2007). Integration of ICTs in student support in ODL at Makerere University is therefore essential to ensuring students' completion.

Literature Review

Open and Distance Learning at Makerere University

Makerere University Distance learning programs started in 1991, turning the university into a dual mode university (Aguti, 2009; Muyinda, 2012). At Makerere University, distance education is not offered as a discipline, but as an alternative mode of delivery to the on-campus delivery mode (Muyinda, 2012). Currently, the university's target is to have most of the programs offered through ODL. Therefore, the Institute of Open Distance and e-Learning was established to support all colleges offering academic programs through ODL. Presently, the Institute of Open Distance and e-Learning is running ODL programs, referred to as external programs, but it does not have its own staff to run these programs. It relies on other university staff already offering similar programs in the internal mode. Thus, ODL programs are currently run on a collaborative arrangement with other units within the university offering similar programs (Muyinda, 2012), with the institute responsible for the administrative component of the programs.

Many of these external programs have not fully utilised a variety of technologies but have largely depended on print-based study materials accompanied by a tutor, and four (4) weeks of residential face-to-face sessions at the main campus throughout the semester of 17 weeks. Each face-to-face session is held consecutively for two weeks, and there are tutor-marked assignments and tests at the end of the classes. These face-to-face sessions assist students to overcome feeling isolated when studying alone. Two (2) weeks are used for course assessment, while in the remaining eleven (11) weeks students do independent study through self-study materials and group discussions (Muyinda, 2012). In recent times, there has been some effort to introduce ICT into traditional distance student support at Makerere University.

ICTs and Student Support in ODL at Makerere University

Information and communication technologies refer to a diverse set of technological tools and resources used to communicate, and to create, disseminate, store and manage information (Daniels, 2002). Makerere University introduced ICTs in students' learning and support at different phases of the students' life cycle to improve distance education to a more flexible mode of delivery. These include the learning management system (MUELE/Moodle), web-based application, registration and accessing results, and free Internet connectivity on campus, among others (Matovu, 2009; Gwamba, Mayende, Isabwe, & Muyinda, 2017). However, there has been little corresponding improvement in ODL provision. Most of the university processes, operations and policies are still tuned towards the internal mode of study (Muyinda, 2012). For instance, while the university developed an e-learning infrastructure to offer university programs to students who were unable to attend regular face-to-face classes, staff do not develop online courses. Even for the few that are developed there is minimal online interaction with the students enrolled in those particular courses because the mental attitude of most staff still favours on-campus based learning and teaching (Muyinda 2012; Kasse & Balunywa 2013).

In addition, the online library collection is not accessible to most of the ODL students up-country (Mayende & Obura, 2013), and there are no off-campus library services in regional centers (Nabushawo, Aguti, & Winterbottom, 2016). Students struggle to get relevant resources for their study which, consequently, affects their performance. Student research supervision is done via face-to-face meetings, which require students to travel long and costly distances to come and meet their supervisors at the university, and, sometimes, these meetings fail to take place (Muyinda, Lubega & Lynch, 2010). The web-based registration and result systems are available but only with restricted access (Matovu, 2009), causing ODL students to travel to the university to visit different offices or line up for services in person that they could access using various online technologies. In addition, some students do not know who to see regarding their problem and how long it will take to have them resolved. Just like in many dual mode institutions, ODL students at Makerere University have often been given a lower priority than conventional students. This is an indication that limited electronic support is extended to students through e-mails, mobile phones, Internet and radio, leading to the conceptualization of this study to investigate the use of ICTs in student support in ODL at Makerere University

Methodology

This study employed a mixed method approach involving descriptive statistics and case study research design. The aim was to investigate the use of ICTs in student support in ODL at Makerere University. The study population consisted of 2,210 distance education students from the Institute of Open, Distance and e-Learning at Makerere University. These were selected because they are using the ODL mode of study and thus have knowledge of the variable under study. The sample chosen for this study was 327. The selection was guided by Krejcie and Morgan's (1970) recommendation that, in a population of 2,200, a sample size (*S*) of 327 is ideal. Student leaders and three staff members were purposively selected from the Institute of Open, Distance and e-Learning for interview sessions. The rationale for selecting them was that they directly deal with students' issues. Qualitative data was collected using interviews while quantitative data was collected using self-administered questionnaires. The questions were based on the activities that take place at the various phases of the student learning life cycle. These were developed from insights obtained from existing literature and ODL experts evaluated them to assess whether they captured the topic under investigation.

The results in Table 1 show that the majority of the respondents (57%) were male while 43% were female. With regards to age, more than half (53%) of the respondents were 20-24 years. The age categories of 25-30 and over 30 years were 23% and 20%, respectively. Only 4% of the respondents were 19 years or younger. In relation to year of study, 53% of the respondents were in second year, 24% in third year, while those in first and fourth year accounted for 14% and 9%, respectively.

Findings and Discussions

Demographics of the Respondents

Table 1: Demographics of the respondents n = 327

Demographics	Categories	Frequency	Percentage
Gender	Male	188	57
	Female	139	43
Age	19 or younger	12	4
	20 - 24	173	53
	25 - 30	76	23
	Over 30	66	20
Year of Study	First	47	14
	Second	172	53
	Third	78	24
	Fourth	30	9

Source: Primary data

Access and Usage of ICTs by ODL Students

Students were asked to indicate the level of access and usage of the various ICTS. The findings are presented in Table 2 below.

Table 2: ICTs Accessed and Used by ODL Students (n = 327)

Technologies	Accessibility				Rate of Usage					
	Accessible		Not Accessible		Always		Sometimes		Never	
	N	%	N	%	N	%	N	%	N	%
Mobile Phones	316	96.6	11	3.4	310	94.8	11	3.4	6	1.8
Computers	196	59.9	131	40.1	197	60.2	126	38.5	4	1.2
Televisions	290	88.7	37	11.3	305	93.3	14	4.3	8	2.4
Radios	299	91.4	28	8.6	201	61.5	106	32.4	20	6.1

Source: Primary data

The results in Table 2, indicate that more than half of the ODL students surveyed have access to mobile phones (96.6%), radios (91.4%), televisions (88.7%) and computers (59.9%). With regard to rate of usage, more than half of the students always use mobile phones (94.8%), televisions (93.3%), radios (61.5%) and computers (60.2%). Generally, the findings clearly demonstrate that ODL students have access to a variety of ICTs and use them regularly, though mobile phones are most popular. The statistics of mobile phone accessibility in this study (96.6%) are comparable with Kajumbula's (2006) statistics (97%) and Muyinda, Lubega and Lynch's (2010) statistics (96%) of mobile phone ownership among ODL students at Makerere University. Bozkurt, Karadeniz and Koçdar (2017), in their study, found that distance educations students use their mobile phones daily.

Student leaders were asked why a mobile phone is the most popular technology used by students. One student responded that:

> … mobile phones are cheaper than computers and smart phones can be used to download study materials from the learning management system.

Another student said that:

> … we use mobile a lot to interact and share experiences with peers through WhatsApp and Facebook. For instance, most university communications are on the notice boards which are not regularly accessed by us distance students. We obtain most of the information through fellow students who take photos of the communication and post on WhatsApp and face book.

These findings are similar with the existing literature. For instance, Bozkurt, Karadeniz and Koçdar (2017) noted that ODL students use mobile phones and social media to share information and experiences with friends. Similarly, in a study conducted by Muyinda, Lubega and Lynch (2010), ODL students at Makerere University use mobile phone and social media for collaborative learning. This provides a fertile ground for using mobile phones in student learning and support at Makerere University.

However, one student commented that "using mobile technology for study purposes is expensive. We have access to free internet while at the university, but outside camps we have to pay an excise duty on over the top ("*OTT*") services and it is charged at rate of UGX 200 per user of social media per day of access."

ICTs Used in Student Support Services

Students were asked to indicate the ICTs used during interactions with university processes at each phase of the student learning life cycle (application, admission, registration, teaching and learning). The data were analyzed using means on a 5-point scale, where means close to 5 represented strong agreement, while the means close to 1 represented strong disagreement. The findings are presented in Table 3 below.

Table 3 shows the variable's aggregate mean score is 3.065. Ten statements have a mean score of 4 or 4 when the means are rounded off to their nearest decimal place, indicating that the students agree that application for admission is done online, receipt of application is acknowledged via email, instructions for registration are provided online, there is free Internet connectivity while at the university, students interact with each other on social media, the orientation program is communicated via website and sent on SMS, students are provided log-ins to access the student portal, registration for all students is done online, there is an online library for students, students access results online, and tuition payment process is provided online. One statement scored a mean value rated at the level of 3, implying that students were impartial on whether the website provide detailed information about the course of study.

Table 3: ICTs Used to Support Students at the Various Phases of the Student Learning Lifecycle (n = 327)

Lifecycle Stage	Expected Interactions at Each Stage of the Student Lifecycle	Mean
Application and Admission	University website provide detailed information about course of study	3.30
	Television and radio adverts are used to invite applicants for admissions	1.02
	Application for admission is done online	4.00
	Acknowledgement of receipts of application is via email	4.20
	Admission enquiries are responded to via mobile phones	2.20
	Feedback on admission status is given via SMS	2.48
	Congratulatory and welcome message are sent on mobile phones	2.41
	Orientation program is communicated on website and sent on SMS	3.87
Registration	Tuition payment process is provided online	3.52
	Instructions for registration are provided online	4.02
	Registration for all students is done online	3.82
Teaching and Learning Processes	Students are provided log-ins to access student portal	3.65
	Course materials are available on the learning management system	2.67
	Students access results online	3.59
	There is an online library for students	3.68
	Timetables for lecturers and exams are displayed online	2.10
	Projectors and microphone are used during lectures	2.46
	Students interact with lecturers/tutors via e-mail and SMS	2.19
	Computer labs are adequately equipped	2.37
	There is free internet connectivity while at the university	4.01
	Students receive learning support through e-mail, SMS and forums	3.02
	Social media is used to communicate with students	2.32
	Students complaints are received and handled online and via phone	2.36
	Students interact with each on social media	4.32
Average		3.06

Source: Primary data

The remaining 11 statements scored a mean value rated at the level of two (2), implying that students disagreed that television and radio commercials are used to invite applicants for admission, feedback on admission status is given via SMS, admission enquiries are responded to via mobile phones, congratulatory and welcome message are sent on mobile phones, course materials are available on the learning management system, computer labs are adequately equipped, timetables for lecturers and exams are displayed online, projectors and microphone are used during lectures, students interact with lecturers/tutors via e-mail and SMS, social media is used to communicate with students, and

students complaints are received and handled online and on phone. This implies that, to a certain extent, ICTS are used to support students at the different phases of the student learning lifecycle.

Student leaders were asked about the effectiveness of the result management system and handling of students' complaints. One student acknowledged that:

> … the results management system keeps deactivating marks and has restricted access, no student can view results outside the university. When you have a problem with your results you have to physical see the administrator in charge of results because complaints are not handled online. However resolving students complaint also take long which is burden to us distance learners, we have to keep checking to find out whether the complaint was resolved.

This finding corresponds with Musingafi, Mapuranga, Chiwanza and Zebron's (2015) finding, that delayed and ineffective feedback can add a burden to students who are struggling with the isolation and the remote nature of distance learning.

Student leaders were also asked about the availability of course materials on the learning management system and the use of technologies during lectures. One student responded that: "Few courses are on the learning management systems. We get material during face to face classes. But during classes, lectures do not project or use microphones. It's a challenge for us to see and hear what the lecture is saying especially with big classes". Musingafi, et al., (2015) noted that lack of study materials may affect students economically as they waste resources in terms of money and time travelling to regional centers for study materials.

In an interview with Information Technology (IT) staff, they acknowledged some challenges faced while using ICTs in student learning and support. They mentioned limited IT skills by both the students and the lecturers and inadequate computer laboratories, both of which inhibit students' and lecturers' access to engage in online courses. When asked to describe their expectations from the institution to enable them to use ICTs effectively in student support, they indicated that staff need more sensitization and training on using automated ways to serve ODL students. On various occasions they do not receive information on deadlines for submission of assignments, timetables for face-to-face tests and examinations from lecturers and administrators to pass on to students online or via phone. They indicated that, whereas, students register for log-ins to access the learning management system, data from the user logs show limited presence of lecturers online.

Conclusion and Recommendations

Integrating ICTs at the different phases of the students' learning life cycle can improve students' satisfaction with university programs. The results showed that Makerere University has enhanced student learning and support through the introduction of the learning management systems, web-based applications, registration, and results viewing to ensure students' satisfaction and retention in the ODL system. However, limited electronic support is extended to ODL students through e-mails, mobile phones, Internet, radio and television. It can be argued that the limited electronic support in the ODL system may be because of the tendency of the university systems to apply the same policies, process and operations of internal mode of delivery to the ODL mode of delivery. While this study was based in Uganda, the findings may be of relevance to institutions in other developing countries.

From the study, it can be seen that Makerere University ODL students have a high level of access to mobile phones, however, the university does not respond to admission enquiries via mobile phones, send congratulatory and welcome message on mobile phones, regularly interact with students via e-mail and SMS, use social media to communicate with students and receive and handle students complaints online and via phone, use television commercials to invite applicants, upload course materials to the learning management system, display lecture and examination timetables online, or use projectors and microphones during lectures.

Based on the above findings, the study recommends that:

- Makerere University management continuously sensitize ODL stakeholders about their roles in order to increase efficiency and effectiveness in supporting ODL students.
- Online support service systems should be used along with other electronic media in the handling of students' complaints.
- The university should revise its strategies for extensive use of mobile phones in supporting ODL students, since students are already using mobile phones to support their own study.
- Lecturers should commit more time to designing online courses and uploading them in the learning management system. These courses should be provided in common file formats, like PDF, to enable students to download materials on their mobile phones.
- Television and radio should be used to provide academic support to students since they reach a large audience across the country.
- Projectors and microphones should be used during lecturers, especially for big classes.

This study has some limitations, which also provide opportunities for further research. Firstly, the analysis was done on ODL students. It would be valuable to analyze how ICTs are applied to support students in regular programs. Secondly, the study focused on one public university in Uganda, namely, Makerere University. It is recommended that future studies look at other public and private universities.

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References

Aguti, J.N. (2009). University education for national development: Makerere University's dual mode experience. In S. Marshall, W. Kinuthia, & W. Taylor (Eds.), *Bridging the knowledge divide. Educational technology for development* (pp. 215–229). Charlotte, NC: Information Age Publishing.

Aguti, N. J., & Fraser, J. W. (2006). Integration of Information Communication Technologies (ICTs) in the Distance Education Bachelor of Education Program, Makerere University, Uganda. *Turkish Online Journal of Distance Education, 7*(3), Article: 7.

Ambe-Uva, T. N. (2006). Interactivity in Distance Education: The National Open University of Nigeria (NOUN) Experience. Retrieved from https://files.eric.ed.gov/fulltext/ED494376.pdf

Arinto, P. B. (2016). Issues and challenges in open and distance e-learning: Perspectives from the Philippines. *The International Review of Research in Open and Distributed Learning*, *17*(2).

Baloyi, G. P. (2012). *Learner support in open and distance learning context: A case study of ABET programs at the University of South Africa.* (Doctoral dissertation).

Bozkurt, A., Karadeniz, A., & Koçdar, S. (2017). Social networking sites as communication, interaction, and learning environments: Perceptions and preferences of Distance Education students. *Journal of Learning for Development, 4*(3). Retrieved from https://jl4d.org/index.php/ejl4d/article/view/215

Crosling, G., Heagney, M., & Thomas, L. (2009). Improving student retention in higher education: Improving teaching and learning. *Australian Universities' Review, The*, *51*(2), 9.

Daniels J.S. (2002). Foreword. In *Information and Communication Technology in education–A curriculum for schools and program for teacher development*. Paris: UNESCO.

De la Pena-Bandalaria, M. (2007). Impact of ICTs on open and distance learning in a developing country setting: The Philippine experience. *International Review of Research in Open and Distance Learning*, *8*(1), 1-15.

Gwamba, G., Mayende, G., Isabwe, G. M. N., & Muyinda, P. B. (2017, September). Conceptualising design of learning management systems to address institutional realities. In *International Conference on Interactive Collaborative Learning* (pp. 43-50). Springer, Cham.

Kajumbula, R. (2006). The effectiveness of mobile Short Messaging Service (SMS) technologies in the support of selected distance education students of Makerere University, Uganda. Paper presented at the *Fourth Pan-Commonwealth Forum on Open Learning*, Ocho Rios, Jamaica.

Kasse, J. P., & Balunywa, W. (Eds.). (2013). An assessment of e-learning utilization by a section of Ugandan universities: Challenges, success factors and way forward. *International Conference on ICT for Africa*. Harare, Zimbabwe, 20-23 February.

Krejcie, R.V., & Morgan, D.W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30: 607-610.

Matovu, M. (2009). *Availability, accessibility and use of information and communication technology in management of students' academic affairs in Makerere University.* Retrieved from http://makir.mak.ac.ug/handle/10570/1681

Mayende, J., & Obura, C.O. (2013). Distance Learning library services in Ugandan universities. *Journal of Library and Information Services in Distance Learning, 7*(4), 372-382.

Murangi, H. V. (2016). Effectiveness of Learner Support Services at the Namibian College of Open Learning. Retrieved from http://dspace.col.org/handle/11599/2645

Musingafi, M. C., Mapuranga, B., Chiwanza, K., & Zebron, S. (2015). Challenges for Open and Distance Learning (ODL) students: Experiences from students of the Zimbabwe Open University. *Journal of Education and Practice*, *6*(18), 59-66.

Muyinda, P. B. (2012). Open and Distance Learning in Dual Mode Universities: A treasure unexploited. In *International perspectives of distance learning in higher education*. Intech Open.

Muyinda, P. B., Lubega, J. T., & Lynch, K. (2010). Unleashing mobile phones for research supervision support at Makerere University, Uganda: The lessons learned. *International Journal of Innovation and Organizational Learning*, *7*(1), 14.

Nabushawo, H. M., Aguti, J. N., & Winterbottom, M. (2016). Unlocking the potential of public libraries in supporting Distance Learning. *Journal of Learning for Development*, *3*(1).

Nsamba, A., & Makoe, M. (2017). Evaluating quality of students' support services in Open Distance Learning. *Turkish Online Journal of Distance Education, 18*(4), 91-103.

Rahman, H. (2014). The role of ICT in Open and Distance Education. *Turkish Online Journal of Distance Education, 15*(4), 162-169.

Vasudevaiah, G. (2016). Promoting usage of ICT in Open and Distance Education Programs. *The International Journal of Indian Psychology, 3*(3), 77-79.

Authors:

Jamiah Mayanja is a Lecturer at the Institute of Institute of Open Distance and E-Learning, College of Education and External Studies, Makerere University, Kampala, Uganda. Email: jmayanja@cees.mak.ac.ug

Anthony Tibaingana is a Lecturer in the School of Business, College of Business and Management Sciences, Makerere University, Kampala, Uganda. Email: tibainganaanthony@gmail.com

Paul Muyinda Birevu is an Associate Professor and Deputy Principal of the College of Education and External Studies, Makerere University, Kampala, Uganda. Email: mpbirevu@cees.mak.ac.ug

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