

GOING ELECTRONIC: ANALYZING THE INTRICACIES OF TRANSITIONING FROM PRINT AT A FAST-GROWING SOUTHERN AFRICAN UNIVERSITY

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Abstract: The present study analyzed challenges faced by a fast-growing southern African institution of higher learning as it transformed its print-based distance education programs to online. The study also analyzed potential solutions to the challenges in the institutions' bid to thrash out a vibrant online learning system. The transition process began with the initial implementation of a blended mode of delivery which would latterly culminate into a fully online system. The study demonstrated that in the absence of availing resources, it only takes determinism and proper planning to embark on a successful transition process to online learning. The study presents implications to administrators, instructional designers and faculty.

CONCEPTUAL FRAMEWORK

Distance education started as early as the 1800s at the University of Chicago which inceptioned the first correspondence program in the United States. Before that time, particularly in preindustrial Europe, education had been available primarily to males in higher levels of society (AECT, 2017). According to AECT (2017), the most effective form of instruction in those days was to bring students together in one place and one time in order to learn from one of the masters. Correspondence study, reports (AECT 2017), which was designed to provide educational opportunities for those who were not among the elite and who could not afford full-time residence at an educational institution, was looked down on as inferior education. According to Pittman (1991) for example, correspondence education offended the elitist and extremely undemocratic educational system that characterized the early years in the United States. In modern times though, the mindset in the world has considerably changed. A report prepared for the Council for Higher Education Accreditation (CHEA) by the Institute for Higher Education Policy indicated that distance learning is growing rapidly, not only as a supplement to traditional institutions and programs, but also as a replacement for those institutions and programs (CHEA, 1998). Indeed in the last couple of decades, distance education has exponentially proliferated and according to Harasim (2000), the first wholly online course was offered in 1981.

While institutions of higher learning had been offering print-based distance education in the past, in recent years there has been a shift in direction and most such institutions have transitioned to online learning. This is a practical trend as the education world has gone more electronic and technological in the modern era. Modern teaching and learning is making full use of cyber-space to make education accessible to more and more people. As Allen and Seamen (2011) contended, the demand for the flexibility online learning afforded, coupled with the increased competition between institutions of higher learning, predicted the growth of online learning. Again, as Palloff and Pratt (2000) observed, the online classroom is a potentially powerful teaching and learning arena in which new practices and new relationships can make significant contributions to learning.

DISTANCE EDUCATION IN AFRICA

Distance education in Africa has been instrumental in lowering illiteracy rate, and more importantly turning about "dropout rates" into "drop-in rates" (Aderinoye & Ojokheta, 2004). Light (2009) contended that distance education is emerging as an efficient way to bring academic courses and training programs to Africa. For example, Light (2009) identified the World Bank's African Virtual University (AVU), which has for over two decades been up and running in Africa. Launched in 1997, the AVU enables students in 16 African countries to take courses and seminars

taught by professors from universities around the world through a synchronous system that uses television technology. In this system, the lessons are mainly taught by European and American faculty members, and they are beamed to 22 universities in Africa. The biggest issue with AVU however, is the program's cost. During its start-up period, AVU was financed largely by grants. To that end, in recent years, the World Bank had been looking for private partners to share both the costs and the benefits.

Another distance education program in Africa, Distance Education for Africa (DeAfrica), is an educational organization based in Nairobi, Kenya. Its objective is to relieve poverty, promote information and communication technologies (ICT) and improve access to efficient and effective world-class training and education courses to poor communities in Africa. DeAfrica's current program reaches students in Kenya, Nigeria, Burundi, Mali, Democratic Republic of Congo, Central African Republic, Zambia, Tanzania, Uganda, Botswana and South Sudan. DeAfrica's current course delivery methods include Moodle (asynchronous platform), Blackboard Collaborate (synchronous platform) and E-books (DeAfrica, 2018).

According to Mnyanyi and Mbwette (2009), the future of open and distance learning (ODL) in Africa is an important matter for discussion. As Ng'wandu (2006) asserted, ODL has the possibility of accelerating access to education, making knowledge available to many through changing ways of managing ODL institutions from traditional to more effective and efficient ways of operating competitively. Mnyanyi and Mbwette (2009) further contended that challenges in building sustainable ODL programs in Africa include the requisite that the modern distance learner will have to learn how to use information and communication technologies (ICT). That according to Mnyanyi and Mbwette (2009) becomes a challenge in Africa considering that ICT is not taught in many places (and where it is taught it is relatively expensive). According to Braimoh and Osiki (2008), another drawback that would hinder progress of modern distance education in developing countries is the issue of unstable power supply which is a serious problem.

Distance education in Malawi, a developing country in southern Africa, began with a national needs assessment conducted by a group of Malawian educators in 2001 (Zozie et al., 2004). The needs assessment was intended to find out more about potential learners in the country. A pilot distance education project involving sampled serving high school teachers was then conducted in a blended type of program that produced promising results. Since then, several institutions of higher learning in Malawi have established distance education programs that mostly started with print and continue to grow. Mzuzu University, Domasi College of Education and Lilongwe University of Agriculture and Natural Resources are the institutions that are offering distance education to date, and mostly using the print mode of delivery.

And so due to the fact that for over two decades most African institutions of higher learning offered print-based distance education since its inception in the continent, there has been little published on the challenges faced by such institutions in adopting the e-learning mode of delivery. Against this background and in the wake of the proliferation of online learning across the globe, the present study sought to analyze the complexities that a fast growing southern African institution of higher learning went through as it worked on transforming its print-based distance education program into a vibrant online asynchronous online learning program.

TRANSITIONING TO ONLINE TEACHING

While distance education has been in existence for over the past three to four decades, the evolution of online learning has been growing rapidly in the higher education field (Barrett, 2010). Holgan (1998) observed that while universities are feeling the pressure to control costs, improve quality, focus directly on customer needs, and respond to competitive pressures, information technologies (IT) have the potential to solve many of these problems. As Horgan (1998) contended, information technologies can change the roles of students and faculty, facilitate more learner-centered personalized education, save money through improved business processes and expand the scope and content of the curriculum. African universities are no exception to this trend. While print-based distance education has for a sometime been the order of the day in most African institutions of higher learning, recently the field has seen most of them turning towards the electronic media. As Palloff and Pratt (2000) contended, the online classroom is a potentially powerful teaching and learning arena in which new practices and new relationships can make significant contributions to learning. In order to successfully navigate the power of this medium in education, faculty must be trained not only to use technology, but also to shift the ways in which they organize and deliver material. This shift can maximize the potential for learners to take charge of their own learning process and can facilitate the development of a sense of community among learners. So, transitioning to online teaching is not simply a matter of taking course material and post it online, it is about crafting a vibrant, active environment that engages

learners to the fullest and makes them able to interact with course content, with one another and the instructor in a very flexible manner. Palloff and Pratt (2000) further argued that the online classroom is a potentially powerful teaching and learning arena in which new practices and new relationships can make significant contributions to learning. In order to successfully navigate the power of this medium in education, faculty must be trained not only to use technology, but also to shift the ways in which they organize and deliver material.

While institutions choose to offer online courses for a variety of reasons, one is the increased access to education the online medium affords (Allen & Seaman, 2011). According to Allen and Seaman (2011), adults for instance, may want to move from the skills they acquired at an earlier time and learn new skills. These working adults, many with families, want the ability to learn what they want, when they want, and where they want. According to Allen and Seaman (2011), online education provides access to students who have no means of transportation, or students whose schedule does not allow participation during a rigid class meeting time. Allen and Seaman (2011) further contended that online education also provides access to students who are interested in a subject matter not offered at an institution within commuting distance. Many institutions implement online education because of the flexibility it provides students, faculty, and the institution (Allen & Seaman, 2011). To that end, online education becomes an equalizer, giving educational access to those who otherwise might be deprived of learning opportunities.

When comparing traditional teaching with online teaching, Karber (2003) attributed four reasons for the attractiveness of online programs. First, individuals who have work or family constraints can benefit from online learning. Lyons (2004) identified three groups of students who find online programs attractive. They are "busy working people, often on shift who want to advance their career, frequent travelers, those who physically find it difficult to attend college and parents who want to, or have to, spend more time at home with their children" (p. 448). In the case of Malawi and most African countries, the problem of small numbers of higher education institutions means that many capable students cannot access higher education. The establishment of online programs in a country like Malawi will potentially see an increase in the number of students being enrolled for university studies. Reeves and Brown (2002) for instance, cited one online program for superintendent's certificate in one Texas University and 90 educators signed up for the first class. Classes were run by superintendents serving as adjunct faculty. This example showed how online programs address the needs of this population of educators.

The online learning environment requires instructors to make adjustments to teaching practices (Grosse, 2004). "Moving from face-to-face teaching to online teaching requires faculty members to make a major transition in their instructional approach" (Sugar et al., 2007, p.367). The transition to the online environment necessitates changes in faculty and student roles. Faculty are no longer perceived as the sole providers of knowledge, but rather educational facilitators and cheerleaders (Palloff & Pratt, 2000). This implies careful and systematic redesign of course content to fit online learning pedagogies.

MacDonald (2014) brought up the question of preparation in redesigning a traditional class into an online course. The challenge, he argued, is to drive students with an interactive approach. That is, making sure that online students are not isolated from one another and from the instructor, adopting teaching strategies that will engage them fully and make them doers of knowledge and not just absorbers of content. MacDonald (2014) also contended that there is need for online learners to adapt to good time management strategies and scheduling practices. That is because in the online learning space, there are many flexible options but if students become lazy and fall behind, they will fail. As Shearer (2003) observed, if the online learning environment is too structured and rigid, the life demands experienced by learners may leave them feeling forced to drop out. It therefore becomes crucial to craft a real vibrant learning environment that makes students comfortable and free to express themselves fully. Barrett (2010) also contended that there is a growing need to offer better quality online teacher training to current and potential online instructors to better enable these instructors to meet the ever-changing need of their online learning populations. In essence, Barrett reiterates not only the importance of developing quality instruction tailored for online learning, but also training instructors in order to prepare them thoroughly for teaching in a highly technological online learning environment.

Belawati (2005) observed that "in terms of ensuring quality in learning processes, the

challenge for open and distance learning institutions is not only to ensure learner support that is both accessible and relevant, but also to encourage students to participate in and use support systems that ensure quality learning" (p. 4). Essentially, Balawati (2005) emphasizes the importance of building a vibrant support system for online students and making the students to use the support system. A good student support system should actually be built within a learning management system, making it easy for students to get help when technical issues, for example, occur.

In summary, the online classroom is a potentially powerful key to making higher education accessible to many capable students. Online learning becomes a tangible answer to contexts like Africa, where access to higher education is limited by a small number of institutions of higher learning. The transition to online learning brings challenges of crafting a truly engaging learning experience that drives the learner to freely interact with the content, other learners and the instructor. This is opposed to be an isolated student who sits alone and absorbs content when it is presented in a learning space. Apart from developing quality online courses, it also becomes crucial to train instructors to be able to teach in the online environment and be able to cope with the changing needs of online learners.

PURPOSE OF STUDY

The purpose of the present study was to analyze challenges faced by a fast-growing southern African institution of higher learning as it transformed its print-based distance education programs to online. The study also analyzed potential solutions to the challenges in the institutions' bid to thrash out a vibrant online learning system. For about two years since distance education was introduced, the institution had offered courses in a wide range of areas in Agricultural studies using a blended type of approach involving students attending two week orientation sessions with their instructors before heading out to collect module printouts from three established centers in the three regions of the country. Students would then indulge in independent learning at home. However, plans were thrashed out to engage tutors who would, from time to time, visit with the students and assist them as they completed course requirements. And so the University latterly made a decision to switch to electronic media mainly due to complexities with mailing logistics that led to numerous assignments going missing. The transition would not come without challenges however, and the present study analyzed such challenges and how the University addressed them in its bid to go all-online against a background of resource-related challenges facing most African institutions of higher learning. Specifically, the study sought to answer the following two research questions:

- What specific issues did the institution in question encounter as it transitioned to online learning and what solutions were put into place to allay these challenges?
- What implications did these issues have on building a vibrant online distance education system at the institution?

METHODS AND DATA SOURCES

CONTEXT AND PARTICIPANTS

Having offered courses through print-based media since 2015 when the directorate of open and distance learning (ODL) was established, in the year 2017, an institution of higher learning in a developing country in southern Africa made a decision to switch the mode of delivery to online. Considering the complexity of transitioning from print to fully online in a region in where it had never been done before, the institution embarked on a gradual process by initially implementing a blended mode of delivery. By the end of 2017, 1016 distance students had been enrolled for four initial programs namely; Bachelor of Science in Agricultural Economics, Bachelor of Science in Agribusiness Management, Bachelor of Science in Agriculture Extension and Bachelor of Science in Agriculture Innovations. The programs would be offered online using free sites of Moodle learning management system while continuing to deliver modules to students in print form. Moodle came in handy because the University had in the recent past experienced the issue of missing assignments mailed through the local post office. To that end, satellite centers in the country's three regions were established and students were given access to these centers where they would be able utilize internet services and be able to turn in assignments. The Institution would therefore introduce the online mode by giving students the ability to submit assignments online through the Moodle dropbox. The blended mode would involve printed course modules which would be collected by students from their nearest satellite center and in turn, submit completed assignments online through the Moodle dropbox. With this new mode of delivery, students would no longer be allowed to mail in printed assignments. Rather, once students turned in assignments in Moodle, staff from the Directorate of Distance Learning would print them out to be forwarded to instructors. Once assignments were graded by instructors, distance education staff would again dispatch them to the three centers where students would collect them. In order to simplify this process and transition to fully online, the University engaged a computer expert to train instructors on using advanced features of Moodle that would in turn enable them to access student submissions online and also provide feedback to students from within the Moodle interface. This process would enable students to access assignment feedback from within a Moodle course shell that they were enrolled to, instead of collecting printed graded assignments.

DATA COLLECTION

Data for this study was collected using qualitative content analysis. Originating from the communication sciences, content analysis is an empirical method that used to examine text and images in order to identify messages and meanings (Hartley & Morphew, 2008; Krippendorff, 2013). A more modern definition describes content analysis as “a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns” (Hsieh & Shannon, 2005, p. 1278). Fraenkel, et al. (2015) observed that content analysis can be used to formulate themes out of large amounts of descriptive information and obtain information useful in dealing with educational problems. In the present study, the process of transitioning from print to online learning at an institution of higher learning in Malawi, southern Africa, was analyzed for arising issues and potential solutions. As the transition to online learning took place, content of progress reports, meeting minutes and presentations to stake holders was analyzed for arising issues and potential solutions. And so these issues arose from the whole intricate process of transitioning to online learning in the context of meager resources to facilitate the process. As the whole process of transitioning to online learning unfolded, a google document was created and all issues, outright solutions and potential solutions were systematically recorded for analysis.

DATA ANALYSIS

TABLE 1: ISSUES, SOLUTIONS AND POTENTIAL SOLUTIONS

When a fast-growing national university on the southern part of Africa decided to transition to online learning distance education, it had to deal with numerous issues that would otherwise derail the process. The table below summarizes those issues including outright solutions and potential solutions.

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- **No source of salaries for distance education staff** - Students to pay online learning fees, source additional funds from outside funder.
 - **Unstable Calendar in country’s institutions of higher learning** – No plan in place to address problem.
 - **Poor internet connectivity nationally** - Three centers established in three regions, students allowed to use internet facilities at centers to access course material.
 - **Low technological competency in online students** – Plan to organize training sessions in computer applications at three centers for incoming students.
 - **No tutorial services available for online students** – Plan to develop tutor guides, tutors employed.
 - **Long assignment turn-around resulting to delayed feedback to students on their work** – Dropbox facility in Moodle to potentially rectify this problem.
 - **No online student support services in place** – Tutors to help students at centers and online.
 - **No online learning curriculum in place** – Distance education curriculum development initiated in liaison with Deputy Vice Chancellors’ office.
 - **No online learning platform** – Moodle free sites identified as official Learning Management System (LMS).
 - **No quality assurance plan for online learning in place** – Plan to develop a framework for assuring quality.
 - **Potential high dropout due to inability to pay tuition fees** – Lobbying with Higher Education Grants and Loans Board to include distance students.
 - **Faculty not trained for online teaching using an LMS**–IT expert identified to train faculty.
 - **Faculty not trained to develop online modules**– Plan to engage expert to train faculty in online module development.
 - **Need for University to learn from experienced online learning institutions** – Partnership established with a Zambian online learning institution, subscription to membership to Distance Education Association of Southern Africa effected.
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DISCUSSION

Research Question 1: What specific issues did the institution in question encounter as it transitioned to online learning and what solutions were put into place to allay these challenges?

First of all, the issue of sourcing salaries for staff at the newly established Center for Open and Distance Learning arose. Procedurally, the Center had to make enough money from fees to fully sustain itself and pay its staff. However, in an ailing economy, it would not be feasible to burden online students with heavy fees as that would scare them away from accessing higher education. Total fees for online students were pegged at about \$400 an academic year. Considering that this fee would not suffice, the University decided to introduce more courses at certificate and diploma level to generate income that would be channeled towards its distance education endeavors. Again, the country's institutions of higher learning had in the past experienced unstable academic calendars due to financial issues facing them. From time to time, faculty members would go on industrial strike that badly hampered progress of students. Online students would not be spared from these calendar issues since faculty who teach traditional courses were the same teaching distance education courses. However, due to the lack of an immediate solution, no plan was put in place to address this problem. Another problem that ensued was that the Center for Open and Distance Learning admitted multiple cohorts within a short period of time resulting in varying academic calendars. This ended up overstressing faculty members who are normally already stretched teaching regular, traditional students. To allay the situation, the University had to adjust the distance education academic calendar several times in order to make the system work. This, however, resulted in extending a single semester to up to as long as seven to eight months.

Another problem that online students would face in a developing country where the internet connectivity infrastructure was not yet up to scratch was access to reliable internet services. It would be a challenge for students to access internet from their homes in a third world country. In a more positive development, since the University had established three satellite centers in the three regions of the country, students would be allowed to access internet services at these centers depending on which region of the country they resided. It must however be pointed out that even at the centers, the internet was slow mainly due to inadequate bandwidth. Also, the cost of Internet services is very high in the country and that would negatively impact delivery. Again, most students enrolling with the University as online students would have technological competency issues (a must for online students) upon entry. To allay this problem and prepare students to take online courses, the University put in place a plan to organize training sessions in computer applications at the three centers for incoming students. As observed by McPherson et al. (2003), online tutoring has been widely considered as a crucial factor in the success of computer-mediated collaborative learning activities. As the transitioning to online learning took shape, the University quickly realized that no tutorial services were available for online students. To that end, tutor guides were developed and part time tutors engaged, who would be working with online students primarily for two hours a week online, and also by meeting with them face-to-face at the three centers from time to time.

One outstanding issue the University had faced while allowing students to turn in paper assignments was a long assignment turn-around which resulted in delayed feedback to students. Moodle free sites was identified and selected as the University's official learning management system. For starters, some faculty members used the system to compliment traditional teaching. Overall, the introduction of Moodle as a learning management system would essentially eradicate the problem of delayed feedback as the dropbox facility would mean a quicker turnaround of submitted work. It was however immediately realized that there were no online student support services in place and students would inevitably struggle in the absence of a vibrant support system. While the institution was not ready to implement a fully online support system, the engaged tutors would be tasked with providing the needed learner support at the three centers of learning. It was also found of paramount importance to quickly put together an online learning curriculum so it would be adhered to. The first step the University took was to initiate this process in liaison with the office of Deputy Vice Chancellor.

As the transition took effect, it was realized that the University had no quality assurance plan for online learning in place. Plans were therefore thrashed out to develop a framework for assuring quality of online learning. A rubric for evaluating online courses possibly be developed in the future as a potential permanent solution. It was also perceived that there would be a potential high dropout rate due to inability to pay tuition fees which would be high to most students due to poor economic conditions facing most middleclass and lower families in the country. A decision was quickly made for the institution to lobby with the Higher Education Grants and Loans Board to include distance students in its disbursement.

Faculty members had also not been trained for online teaching using a learning management system such as Moodle. To address this problem, a computer information technology expert was identified to train faculty members. A related more critical issue that arose as the institution embarked on transitioning to online learning was that online teaching faculty lacked the expertise to develop course modules for online teaching and learning. The University was quick to come up with an answer to this problem by hiring an expert in online module development to train faculty members.

Finally, in order to stay abreast with trends in online learning in the 21st century, the University administration decided that it would benefit from partnering with well-established institutions in online learning. For starters, a memorandum of understanding (MOU) was developed and signed with a Zambian institution called In-service Training Trust (ITT). Among several, the MOU spelled out plans to collaborate with the institution by co-offering some courses. Also, the University went ahead and officially registered as a member of the Distance Education Association of Southern Africa (DEASA). It was perceived that this membership would provide further avenues for establishing partnerships with other institutions of higher learning. Finally, the University also decided to hold discussions with and register with a local organization called Open and Distance Education Association of Malawi (ODEAMA).

Research Question 2: What implications did these issues have on building a vibrant online distance education system at the institution?

First of all, by identifying issues that would hamper the transition, the University embarked on a mission that would clear the way ahead by solving problems that stood in its way. To begin with, while the \$400 fees online students would pay per academic year might not suffice in the modern economy, it would highly subsidize the cost of taking classes throughout a program's duration. But it must be pointed out that the issue of unstable academic calendars due to faculty members going on industrial strikes would continue to impede progress of students in various online programs. In fact, other institutions of higher learning in the country had for a long time been grappling with this problem and no substantive solution ever seemed in sight. The issue of irregular semesters for distance students would have to be dealt with going forward. It would not be sustainable to enroll multiple cohorts at a time and have extended semesters that would run for as long as eight months. The University would have to normalize this negative trend in order to smoothly run online programs.

The issue of poor internet connectivity infrastructure and inadequate bandwidth is something most African students have had to live with. The most important thing is that the institution had internet at its three centers. And so even though the speed might have been somewhat slow, students would still be able to access content and turn in assignments. As had been the trend in the recent past, the internet infrastructure continues to improve in the country and so issues to do with speed would naturally subside over time.

Engaging part time tutors who would work with online students for two hours online each week and meet them face-to-face once in a while would only propel the institution to higher heights when it comes to improving quality in online learning. As students acclimatized themselves in a new online learning environment, the tutors would make sure the process was seamless. Again, the fact that Moodle had been adopted as the official learning management system would ensure that assignments reached instructors faster and feedback was prompt. With proper management of this new system, the transition would be poised to succeed. However, the University would have to move faster and develop a framework for assuring quality of online learning. For example, hiring instructional designers who would then develop a rubric for evaluating online courses would ensure that standards were consistently maintained and upheld. In the same way, while a computer expert was hired in the interim to train faculty on handling an online class, hiring full time instructional designers would ensure that faculty had reliable support, not only at the beginning but throughout. For instance, instructional designers would not only train faculty in module development, they would also act as the learning management system support help desk, making sure that issues that Moodle posed to faculty members were dealt with by experts.

Finally, partnering with world institutions in online learning would have to be sustained so that the University would continue to stay abreast of trends in online learning which is still a relatively young field. And so partnering with another African institution should not be enough, the University would have to be more ambitious and identify other institutions from as far as the United States and Europe to partner with.

CONCLUSIONS

As online learning continues to proliferate across the networked world, African institutions that had in the past implemented print-based distance education programs are beginning to transition to fully online. However, the process does not come without challenges in the developing world and Malawi is no exception. The present study clearly demonstrates that in the absence of availing resources, it only takes determinism and proper planning to embark on a successful transition process to online learning. And so while numerous institutions have struggled with innovation due to lack of enabling resources, the present institution braved an environment of meager resources to embark on a promising journey to 21st century-type distance education. By first identifying issues that would hamper the transition, and by proposing and gradually implementing solutions that would address the issues, the University quickly made tremendous progress in establishing a future, vibrant, online learning system in Africa. For example, the establishment of three centers in a three-region country and hiring of online tutors invariably solved potential problems that would otherwise impede growth. Indeed, the tutors would make it easy for students to get the online learning support they always need. With time, the University would be able to conduct all the tutoring fully online. Going into the future, naturally, the programs will continue to grow and things will continue to logically fall into place. At the same time, obstacles will always arise, but with such a resolute foundation and determinism, the University is primed to continue to put structures in place in order to be able to allay such issues as they occur.

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