

**THE INTEGRATION OF TECHNOLOGY INTO
THE TEACHING AND LEARNING IN HIGHER
EDUCATION : THE CASE OF A ZIMBABWEAN
UNIVERSITY**

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ABSTRACT

The integration of technology into the education system generally refers to technology based teaching and learning. It means teaching and learning that incorporates and utilizes new technologies. Traditional teaching and learning methods have faced challenges from the global coronavirus (covid-19) pandemic especially the emphasis on social distancing as a prevention measure. Technology integration in education means that teaching and learning can still take place even if educators and students are physically and socially distanced. The engagement of computers and the internet now pervades a majority of people's life departments. Educators and students now live in a technological world and as a result these same educators and students easily connect to the integration of technology into teaching and learning. This paper argues that there are many challenges associated with the integration of technology into teaching and learning in higher education. Despite these challenges the integration of technology into the education system has positive effects on students'

learning, expectations, outcomes, performance and experience.

Introduction

People the world over are living in environments which have embraced new technologies and practices. They are living in a constantly and rapidly evolving technological terrain. The technological trajectory indicates that currently technology is omnipresent. From the home, workplace to the school, technology has transformed people's lives. Costley(2014:18) notes that "We are an evolving technological society and in many ways have become dependent on its use". In Zimbabwean schools, mostly in urban areas school kids aged four to five years and attending ECD (A) are expected to bring tablets to school as part of the requirements, upon securing a place. This means that at these schools Information and Communication Technology mentoring begins at an early age. Recently, the Zimbabwe Schools Examination Council has introduced a digital platform where students can access their results after writing Ordinary and Advanced Level examinations. Traditionally, students used to travel to their examination centres in order to check their results.

The Zimbabwe Schools Examination Council has also introduced a platform where Grade 7 learners can apply online for form one places. Traditionally, the Grade 7 learners used to travel long distances to schools of their choices in order to apply and secure form one places. Furthermore, in most schools especially in urban areas in Zimbabwe, primary school holiday lessons are conducted online. Learners do not necessarily have to travel to venues to meet their teachers face to face in order to engage in holiday lessons. The learners only need digital devices like computers, tablets, smart phones and internet connectivity or data bundles in order to do holiday work/lessons.

In addition, university students in Zimbabwe used to travel long distances to their respective universities in order to access their results which were usually displayed on notice boards. Currently, students can access their results from anywhere using their student portals. They only need technology tools like computers, tablets or other mobile devices and internet connectivity.

Great Zimbabwe University is an institution of higher learning in the city of Masvingo, Zimbabwe. A cursory glance outside Great Zimbabwe University main Library, Hebert Chitepo Law school, School of Gender and

cultural studies, Robert Mugabe School of Heritage and Education and Mashava campus shows many community people who are not university staff or students accessing free university wi-fi.

The above examples corroborate the view that this is a digital era where the daily use of technology in various departments of people's lives is prevailing. Furthermore, the Covid-19 pandemic posed serious challenges to the educational sector as face to face lectures were banned. This resulted in a paradigm shift from the traditional teaching methods to the online teaching which has remained popular even in the post Covid-19 era.

The coronavirus (covid-19) pandemic in Zimbabwe is part of the worldwide pandemic of coronavirus disease 2019 (covid-19) caused by severe acute respiratory syndrome coronavirus 2. The coronavirus was confirmed to have reached Zimbabwe in March 2020. Some prevention measures introduced by the Zimbabwean Government include closure of Zimbabwe's borders to all non-essential travel, except for returning residents and cargo, closure of bars, night clubs, cinemas, swimming pools and sporting activities, restriction of all public gatherings to not more than fifty people and the closure of schools and universities. The engagement of online teaching platforms

due to Covid-19 restrictions and the general rise in the usage of new technologies in people's lives including teaching and learning has exhorted the current researcher to investigate the integration of technology into the educational system at Great Zimbabwe University. The main focus is on the impact of such integration on teaching and learning highlighting the challenges and advantages.

TECHNOLOGY INTEGRATION IN THE ZIMBABWEAN CONTEXT: THE BLENDED LEARNING

At Great Zimbabwe University, a combination of online learning and face to face method which is referred to as blended learning is engaged. Potential Great Zimbabwe University students access information that they need about the university before they even register, that is through online. They do not need to travel to the university. They only need the university website which is www.gzu.ac.zw, a digital device and internet connectivity. Through the university website, potential students have access to information about the historical background of Great Zimbabwe University, legislation and statutes, mission and vision of the university, university council members, principal officers, the

university prayer, university logo and the university contact details. Potential students also have access to information about the various centres, schools and degree programmes. They know about the vision, mission, core values and brief staff biography at each school and centre.

Through the university website, new students are taught how to create their own accounts by entering their registration numbers, passwords and signing in. With this student portal created, students can make payments and register online. It is also through this student portal that students are able to access their examination timetables and results from anywhere.

Through the ‘student life’ section of the Great Zimbabwe University website, students have access to information about the dean of students, catering services on campus, student residence, sports and recreation at the university, student health, counseling and advisory, HIV and AIDS, life skills, chaplaincy and ecumenical from anywhere without necessarily meeting the dean of students.

The Great Zimbabwe University library which is central to the integration of technology in teaching and learning has ‘Towards a virtual library’ and ‘From the brick

concept to the click concept' as its pedestal. It offers various online services to students and staff.

The library has online databases, institutional repository, Online Public Access Catalogue (OPA), past examination papers database, full text access to the world's most digital collections both on campus(on site) and off campus (remotely). The Great Zimbabwe University e-library also provides information to students who are themselves researchers and staff about crucial information regarding academic publishing. There are accredited and predatory journals.

Accredited journals are recognized research output which meet specified criteria and therefore score high in terms of discipline, reputation, peer review quality and high quality publishing standard(G.Z.U website). It is therefore recommended that researchers and academics publish with accredited journals in order to receive recognition for an article one has written. The Great Zimbabwe University provides links to International Indexes of accredited journals.

Predatory Open Access publishing is an exploitative open access publishing business model that involves charging publication fees to an author without providing the

editorial and publishing services associated with legitimate journals, Open access or not (G.Z.U website). It is therefore recommended that researchers, scientists and academics avoid these predatory publishers and predatory OA journals. The Great Zimbabwe University library provides a list of predatory publishers and journals. Great Zimbabwe University students and staff do not need face to face interaction with librarians in order to have such critical information. They only need a digital device, internet connectivity and the Great Zimbabwe University website.

The integration of technology into teaching and learning at Great Zimbabwe University during the Covid-19 era and in the post Covid-19 era is critical in this digital world. Some scholars like Onay et.al(2015) have envisaged an increase in online courses offered in many universities:

Many universities all around the world tend to offer online courses to students and this trend is likely to grow. This new form of education is very different from the traditional university systems, hence it requires careful planning and consideration.

However, at Great Zimbabwe University it is blended learning. In this post Covid-19 era, face to face lectures

are conducted. Conventional students (full time) and block students (part time) travel to Masvingo for face to face lectures and also write their examinations from their respective campuses since the adoption of the multi-campus system. With the cohort system, lecturers travel to Bulawayo cohort or Harare cohort for face to face lectures.

The university has made great strides in availing technological resources for the integration of technology into teaching and learning. The university has established computer laboratories with internet access at its various campuses. It has also increased the number of technical staff to assist students and staff. Through its teaching and learning centre, various workshops and training programmes are conducted to impart students and lecturers with the latest developments in the technological world. This is because people are now living in a constantly and rapidly evolving technological world.

The Google Classroom was introduced at Great Zimbabwe University as an online learning platform. Google Classroom is a free web-based learning management platform that allows anyone to create and manage classes online provided that they have a Google

account. Kumar and Bervell cited in Makumbe and Mutsikiwa (2021).

Upon the introduction of the Google Classroom, the Great Zimbabwe University Teaching and Learning Centre conducted workshops to appraise its stakeholders with the new learning platform. This is because technology is continuously and rapidly evolving. It is an ongoing process and demands continual learning (Rathore et.al 2016). Lecturers at Great Zimbabwe University use that platform to upload tasks, module outlines, assignment questions and tutorial questions. Students use the Google Classroom platform to upload assignments and any other material requested by the lecturer/tutor.

Students and lecturers create WhatsApp platform groups specific to their common modules/courses. In those groups they discuss tutorial questions and communicate issues relevant to that module/course. Lecturers and their Deans also create their WhatsApp groups in their respective schools and centres. In those groups, they share information on conference call for papers, information on new developments in the university (They used to meet face to face to discuss them in a School Board Meeting) and any other issues regarding Great Zimbabwe University teaching and learning. Departments under

various schools also have their WhatsApp groups where they discuss issues to do with their departments which may not be relevant to everyone in a School WhatsApp group. Subject areas under various departments also have their WhatsApp groups where they discuss issues regarding their subject areas which may not be relevant to everyone in the department. Students and lecturers also use emails for the same purposes.

These online learning platforms provide instant accessibility to information. Communication and transfer of knowledge is faster and convenient since these students and lecturers can communicate and exchange information anytime whether it is weekend or not and anywhere from the student residence, homes, lecture rooms or even when travelling. This is why Onay (2015) posits that:

There has been an increasing interest in virtual education since 90's after the advent of the internet. In addition to technical improvements, there has been a dramatic increase in the number of people who are seeking a university degree as well as seeking skill enhancements and lifelong learning due to more competitive work environments and demands for a customized and anytime-anywhere learning.

CHALLENGES

While the integration of technology into the teaching and learning at schools and universities is a critical factor in a digital world, there are challenges faced in the application and use of online learning technologies. These challenges vary from a developed to a developing world, from one region to another, from one country to another and within a country from one university to another.

Financial challenges are an impediment in the paradigm shift from traditional methods of information dissemination to online learning technologies at Great Zimbabwe University. While the university has established computer laboratories, the computers are not enough to meet the demand. Some of the computers in the laboratories are malfunctioning and need proper maintenance. Some lecturers do not have personal computers or laptops. An attempt to provide lecturing staff with laptops did not materialize. Lecturers without laptops have to share with students those computers in the laboratories. Some students do not have personal computers and smart phones and so they rely on computer laboratories. Insufficient access to technological resources sometimes demotivates the educators and the students thus becomes a barrier in engaging online

teaching and learning platforms. Grabe and Grabe cited in Rathore and Sonawat(2005) underscore the centrality of technological resources:

Effective integration of technology is achieved when students are able to select technology tools to help them obtain information in a timely manner, analyse and synthesise the information and present it professionally. The technology should become an integral part of how the classroom functions –as accessible as all other classroom tools.

While many scholars/studies have contended that the use of online learning technologies allows the educators and students to learn anytime and anywhere, the high cost of the internet and data bundles means that this is not always the case. Some lecturers and students do not afford the high internet costs and so cannot engage anywhere anytime as they rely on internet services provided by the university at its various campuses.

Poor internet connectivity means that lectures and presentations are disrupted continuously thus demotivating the educators and the students. It is also important to note that some students and lecturers are reluctant to embrace change. Not all lecturers or students

attend workshops organized by the teaching and learning centre to appraise them with latest technology developments. Some students simply concentrate on examinable modules/courses and rely on friends for information posted on online learning platforms. Some students do not have time to learn new technologies especially with the inception of the modularization system of teaching and learning in the first semester of 2023. According to the system, semester modules are no longer taught for the entire duration of the semester but are rather taught and examined in about six weeks of every semester.

Load shedding is another impediment to integration of technology into the teaching and learning at Great Zimbabwe University. Some scholars argue that one of the advantages of online teaching is that there is no time and space limitation. However, load shedding at Great Zimbabwe University has shown that this is not always the case. In order to curb the challenges posed by power cuts, the university has installed generators at its campuses. In most areas generators are switched on at 0900 hrs and switched off at 1200hrs. They are later switched on at 1400hrs and switched off at 1600hrs. The

implication is that, only when the generator is on that online learning can take place.

BENEFITS

Despite these challenges one can argue that technology integration into teaching and learning has positively affected students' academic achievements at Great Zimbabwe University. Rathore and Sonawat (2005):

Technology lends itself as the multidimensional tool that assists the process of learning. Properly used, technology will help students acquire the skills they need to survive in a complex, highly technological knowledge-based based economy. Use of technology can help to improve and enhance the acquisition of knowledge and skills, and learning with and about technology is essential for students to gain the competencies to function well in a 21st century society and workforce.

Transfer of information/knowledge is faster and convenient when using online learning platforms. Lecturers easily distribute various tasks and assignments to students. The students quickly upload assignments and any tasks assigned to them without arranging for a face to

face interaction/meeting with the lecturers. This is enhanced by the ease of use of most online platforms:

Google Classroom is user-friendly. Once logged onto the system, the steps to use the systems are laid out hence students find such a platform easy to use. The uploading of assignments and writing emails to instructors are easy to follow because the steps to carry out such activities are indicated on the platform.

Furthermore, the integration of technology into education makes collaborative research very convenient. Through online platforms, students can be engaged in collaborative discussions without face to face interactions. Students thus share information/knowledge quickly and conveniently. Such collaborative research is not limited to students at Great Zimbabwe University only but also extends to students and researchers from other universities in Zimbabwe, in the region and globally.

Moreover, technological tools allow lecturers and students to access newest information/knowledge from recent publications. The students are able to research on their own without relying on their lecturers. In that regard, they become active learners. By using technology in their learning the students can be active learners. They will be

aware of what information they need, why they need it and how they can get that information. (Suryani 2010). They can explore information available in the internet, find information that they need, copy it and further research. In addition Suryani argues that ‘ICT can also provide a way for dynamic learning. By using the internet, our learning is not limited to the school hours, demographically where we are and who our teachers are’.

CONCLUSION

The general trend in many universities around the world is that there is a shift from traditional teaching and learning methods to online learning. Great Zimbabwe University has not abandoned the traditional methods but it has blended them with online learning. The internet is the primary learning medium. Technology assists the learning process. There are challenges associated with the integration of technology into the teaching and learning process. Despite the challenges, this paper has argued that technology has a positive effect on student learning expectations and outcomes.

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