The Effectiveness of Online Learning Strategies Adopted by Secondary Schools in Nyanga North, Zimbabwe

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Abstract – *The study sought to determine the effectiveness of online learning techniques towards the quality of learning in Nyanga North Secondary Schools in Zimbabwe during the COVID-19 era. The researcher was motivated to carry out the study by the alarming fall in pass rates by students in Nyanga North secondary schools in 2020 national examinations. The unexpected COVID 19 outbreak in 2019 led to subsequent national lockdowns which disrupted the normal way of social life. The emergence of the Covid 19 virus meant education across the globe had to take a new trajectory. The functionality of learning institutions was affected as strict measures were put in place to combat the spread of the deadly virus. The traditional leaning methods became less effective as the measures which were put into effect promoted distance learning to reduce physical contact between persons. It was therefore incumbent for schools and other learning institutions to embrace new methods of teaching and learning to bridge the gap created by national shutdowns so that learners would not leg behind with their syllabuses. The purpose of the study was to determine the effectiveness of online learning strategies towards the quality of learning in Nyanga North secondary schools. An exploratory research approach was adopted by the research to have a deep understanding of the problem area. The researchers made use of a qualitative research approach where questionnaires were used as the data collection instrument for the study. The population of the study consisted of students from 13 secondary schools in Nyanga North. The study population was 120 students randomly selected from the thirteen secondary schools. The questionnaire response rate was 80% with 96 out 120 students returning fully completed questionnaires. The findings of the study showed that the adoption of online learning was impeded by a number of factors including geographical location of the school, student backgrounds, nature of information and communication technology infrastructure in schools and the experience and knowledge of teachers towards advancing the online learning initiative. The researchers concluded that online learning techniques being adopted by teachers in Nyanga North are not being effective as the teachers do not have the knowhow on conducting online classes due to known and unknown reasons.*

Keywords: online learning strategies, secondary schools, Covid 19, E-learning

INTRODUCTION

Globally, public education systems have been impacted by the shutdown of academic institutions as a precautionary step to curb the spread of the deadly COVID 19 virus. Approximately over 1 billion and 575 million learners in various countries worldwide are claimed to have already been impacted by closure of academic institutions including universities due to measures in place to prevent the spread of COVID-19

virus (UNESCO, 2020). Most countries worldwide have implemented lock down measures to curb spread of COVID 19 virus which have ultimately promoted the use technology in most of the sectors. The use of technology was believed to be most acceptable and a reliable option for supporting educational systems through-out the COVID 19 pandemic period. Regardless of implementation obstacles, some benefits have been identified in the need to migrate to remote learning in the process of fighting Covid 19 virus (Toquero, 2020).

The transition to a virtual learning approach has also been cited as a positive chance for students and teachers to develop their artistic abilities (UNESCO, 2020). The spread of COVID-19 spread has also created worry, anxiety, and other worries among individuals worldwide, particularly those involved in the learning process, such as pupils, educators, and guardians (NCIRD, 2020). Many studies have been undertaken worldwide with the goal of identifying elements that contribute to the success of integrating various facets of technology with the traditional teaching method. The same criteria were expected to influence the extent to which technology is used during the transition from traditional schooling to virtual studying, as well as the quality of education for both modes. Basing on previous research findings which were aimed at pin pointing factors which influence educational systems in the integration of technology into teaching, it was found out that to obtain commendable results it is also necessary to know the types of interactions among educators, pupils, and technology (Honey et al., 2000).

Although online learning has grown ingrained in many educations' systems world over, the extent to which it is employed and accepted is different. In many developed countries the implementation of virtual learning was successful due to the presence of right information technology infrastructure (Huang et al, 2020). The success of online learning is promoted and hindered by a number of factors that should be taken into contemplation. The fruits of online learning have since been enjoyed in some countries and parts of Zimbabwe even though the technique cannot be applied and yield the same effects. During the lock down period in Zimbabwe, the United Nations Education Scientific and Culture Organisation devised a teacher professional development plan in collaboration with Zimbabwe's Ministry of Primary and Secondary Education (MoPSE) to ensure that learning was not interrupted during the COVID-19 epidemic. Zimbabwe's schools were closed for nearly a year, affecting 4.6 million students and 139,596 Primary and Secondary school instructors (UNESCO, 2021). Nyanga District in Manicaland Province has 34 secondary schools which are found in different circuits including Nyanga North, West and East (Ministry of Primary and Secondary Education, 2021). Regardless of the effort by the Ministry of Primary and Secondary Education to promote online learning during the COVID-19 era, some schools have seriously recorded very low pass rates particularly in Nyanga North, Manicaland Province. Therefore, this study seeks to determine effectiveness of online learning techniques being employed during Covid 19 pandemic by secondary schools' teachers in Nyanga North.

THEORETICAL FRAMEWORK

According to Twig (2003), there are a number of online learning models that can be used in order to facilitate effective online learning. These include the replacement model, emporium model and buffet model.

a) Replacement model

According to Twig (2003), the replacement model involves a reduction in class meeting time, with face-to-face time being replaced by online, interactive learning activities for students. Certain activities, it is assumed, can be completed more efficiently online, either alone or in small groups, than in a classroom. Some class meetings are replaced with online activities in one iteration of the replacement model, while in-class activities remain mostly unchanged. Others substitute online activities for some class meetings and make considerable changes to the content of the remaining ones.

b) The emporium model

Twig (2003) claims that with the use of advanced instructional software and one-on-one on-site guidance, students can pick when to access course materials, what types of learning resources to use based on their requirements, and how rapidly to work through the contents. This online model is built on the notion that the optimal time to learn a subject is when the student wants to learn it, not when the instructor wants to teach it. As a result, the emporium model eliminates all class meetings in favor of a learning resource center with

online materials and individualized support available on demand. Both the learning institution and the student must invest a large amount of space and equipment to the approach. Interactive tutorials, computational exercises, electronic hypertextbooks, practice exercises, answers to frequently asked questions, and online quizzes are examples of instructional software. Course information is presented in a modularized online instructional format, with links to a number of extra learning aids such as streaming-video lectures, lecture notes, and exercises.

c) The buffet model

According to Twig (2003), a buffet model proposes a wide range of options that may be tailored to meet the needs of each individual learner. Because children learn in a variety of ways, even the most effective "set menu" of teaching tactics will fall short for some. The buffet model's main point is that by tailoring the learning environment to each student, institutions are more likely to achieve higher learning outcomes. Students should be treated as individuals rather than as members of a group, and additional learning opportunities should be available within each course. Institutions must be adaptable and develop environments that allow students more choice rather than maintaining a fixed image of what all students want or need.

LITERATURE REVIEW

Zimbabwe's national e-learning strategy for schools is a multi-ministerial program that includes the ministries of ICT, Postal and Courier Services, and Primary and Secondary Education. Information Communication Technologies (ICTs) are clearly articulated as a vital pillar for the development of a digital economy in the National Development Strategy 1: 2021-2025. As a result, the e-learning approach is included in the SMART Zimbabwe 2030 Master Plan, which is one of the Cabinet-approved Government priority programs for innovation, science, and technology development for the years 2019-2030. SMART Zimbabwe is critical to Zimbabwe's transformation into a digital and knowledge-based economy. SMART Education is one of the components of SMART Zimbabwe, which aims to enhance the use of ICT in the whole education system, regardless of geography or economic circumstances. In terms of equipment, the Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ) has donated gadgets for schools, particularly in rural regions, as part of the International Telecommunications Union's (ITU) Connect a School-Connect a Community Programme (Ministry of ICT 2021). TelOne, NetOne, Econet, Telecel, Liquid Telecoms, Africom, Zimbabwe Academic and Research Network (ZARNet), and other telecoms sector firms have all contributed to school and tertiary institution connectivity. The International Telecommunications Union (ITU) and the United Nations Educational, Scientific, and Cultural Organization (UNESCO) are collaborating to connect every school in the globe, and Zimbabwe is a member of this initiative.

Table 1.1: The targets of online learning strategy in Zimbabwe:

1500 schools are connected to the wide-band network.
The National ICT Device Factory in Msasa is expected to produce up to 150 000 gadgets.
Mobile application development for use with the existing e-learning management system
Instructional Designers, Materials Production Officers, and Teachers will generate e-learning content, which should be ready by June 2021.
By December 2021, 3,000 teachers will have undergone basic digital skills training (capacity building).
Audio, video, and text (multimedia) interactive resources will be used to deliver e-learning. A multi-stakeholder coordinating structure will be established to lead the initiative in order to achieve the projected transformation and upliftment of rural learnership.

Source: Ministry of ICT, Zimbabwe, E learning Strategy

Table 1.2: The online learning initiative enablers in Zimbabwe*:*

▪ The purchasing of standardized gadgets for schools;
▪ Educators are being taught fundamental digital skills (capacity building)
▪ To optimize and reduce the cost of access, a federated content hosting solution was used.
▪ A federated content hosting approach to optimize and cut down on the cost of access
▪ Platforms for e-learning are being developed.

Source: Ministry of ICT, Zimbabwe, E learning Strategy

EMPIRICAL REVIEW

Coman et al, (2020) conducted a study on online teaching and learning in higher education during the Coronavirus pandemic. The purpose of the study was to determine how Romanian universities managed to provide learning information to students during the Coronavirus pandemic even when universities were made to close due to the outbreak of the deadly virus. The study examined the perceptions of students on virtual learning citing how they have managed to make the best use of online learning facilities. The importance of using online learning was indicated in the research as well as the drawbacks related to the initiative. The major drawbacks of the initiative were lack of technical skills by the teachers and channeling resources towards online learning. The findings of the study highlighted that Romanian higher education institutions were not prepared for entirely online learning.

Pietro et al, (2020) examined the possible impact of COVID-19 on education in their study. The study showed that as a measure to combat the spread of the corona virus, the majority of the educational institutes were temporally forced to close up until the situation normalized. However, the move meant that schools would adopt online learning techniques due to the presence of laws which made schools to close for an indefinite period. The projections showed that most of the students were negatively affected by the initiative due to a number of factors. The research showed that COVID-19 did not affect all the students equally as some were positively impacted with the move whilst others saw the initiative as a major block towards advancing their careers.

Mukute et al, (2020) conducted a study in South Africa on education in the COVID-19 era: Identifying silver linings in Southern Africa's educational responses. COVID-19negatively affected socioeconomic activities worldwide, including the functionality of educational institutions. By mid-April 2020, COVID-19 affected nearly 1.6 billion children from attending schools in 192 nations worldwide. The interruption of education in Africa, particularly in Southern Africa, caused by COVID-19 has been severe as children spent most of the time at home which had an impact on social development. The outbreak of the virus meant that educational institutions were come up with innovative developments to ensure that learning would still take place. Primary schools in the country transitioned to online education and community-based learning in small groups to ensure continuity of learning.

Gomba (2016) carried out a study in Zimbabwe on students' perceptions on distant education at the advanced level. A survey of 34 advanced level Zimbabwean students at a Catholic boarding school was conducted to ascertain their perceptions on distant education at high school level. The study showed that the country is undergoing a technological revolution, prompting requests for the adoption of online education via distant learning (Bukaliya and Musika, 2011). The findings of the study indicated that the majority of participants preferred the introduction of blended learning at the Advanced level over online learning. The researcher recommended that measures should be taken to equip teachers on conducting online teaching and also assist schools in promoting cultures which accommodate the new initiative.

Maposa (2021) conducted a study in Zimbabwe on the perspectives of teachers on promoting remote-based teaching and learning during the COVID-19 era. Before the outbreak of the virus schools relied on face-to-face classes but the COVID-19 outbreak meant that new methods of learning were to be adopted.

Governments imposed social segregation policies, which included stay-at-home and the shutdown of schools and other educational facilities in a way to prevent the virus from spreading. The government also made initiatives of promoting radio lessons even though it had its own challenges. In context, only 29.1 percent of Zimbabwe's population has access to radio transmission, with poor networks for frequency distribution being cited as the major hindrance for students to access the information. The study revealed several impediments promoting digital learning initiatives, including a lack of appropriate infrastructure, high data costs and difficulties in accessing computing devices amongst other factors. The findings of the study were to persuade the Zimbabwean government to incorporate a culture of digital learning in schools since technology has become a key in our day to day lives.

Recent studies carried out in various countries including United Kingdom amongst other nations in Europe showed the negative effects of COVID-19 towards the learning process. Researches on the subject area were carried out in most of the developed countries worldwide with little being done in underdeveloped areas of developing countries like Zimbabwe.

Conceptual model
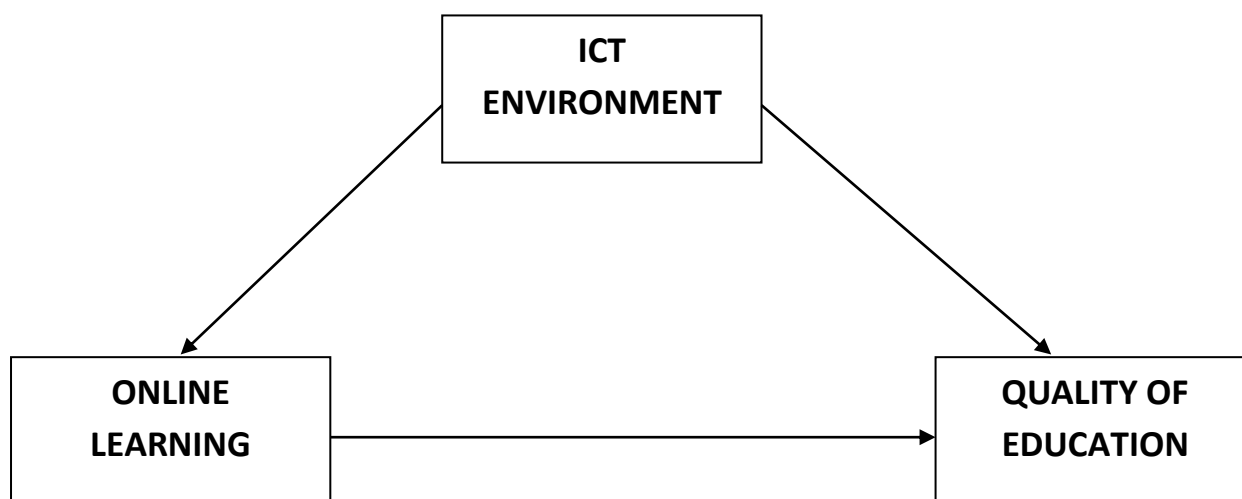
Source: Constructed by authors 2021

On-line learning is defined by Means et al. (2009) as the use of technological devices, tools, and the internet in education. Online learning, according to Fry (2001), is defined as the use of the internet and other important technologies to create educational materials, deliver instruction, and manage programs. Online learning, according to Dhawan (2020), includes learning experiences in synchronous or asynchronous contexts using various devices with internet connection, such as mobile phones, laptops, and other devices. A synchronous learning environment, according to Dhawan (2020), is a circumstance in which students are engaged in live lectures with real-time interactions between educators and learners. Any form of distance learning or distance education, according to Bartley and Golek (2004), qualifies as online learning. As a result, online learning is widely regarded as an unrivalled opportunity for educators and students to continue teaching and learning without interruption from any location. According to Vlachopoulos (2020), virtual learning can be viewed as a one-of-a-kind chance for institutions to fill the gap left by traditional education. (Dhawan, 2020) pointed out that online learning tools allow for immediate feedback between educators and students. Learners could access WhatsApp audios and videos in their spare time, as well as Zoom meetings, Google classrooms, Facebook, and Microsoft teams. To be effective, on-line teaching tools, according to Sadiku et al. (2018), should stimulate student participation and cooperation, promote active learning through prompt feedback from the student and the teacher, and emphasis time on respecting diverse talents and ways of learning. They go on to say that online learning tools should take into account individual student differences, motivate students, avoid information overload, and encourage student reflection.

METHODOLOGY

Research Approach

The study adopted a qualitative research approach in determining the effectiveness of online learning techniques during the COVID-19 era towards the quality of learning in Nyanga District Secondary Schools. The research adopted an exploratory research design since it gives more insight into the problem under investigation (Mollick, 2014).

Respondents

In fulfilling the objective of the study, students from various schools in Nyanga North were chosen to take part in the study. A total of 120 respondents took part in the study with the random sampling technique being used in coming up with the sample for the study. The researcher chose to use random sampling because of its simplicity in coming up with the sample for the study.

Data collection and analysis

The researcher made use of both primary data and secondary data for the study. Primary data was collected using the questionnaires. The researcher also made use of secondary data in trying to establish a link between the effects of the novel virus on the functionality of entities worldwide. The probability sampling technique was used in come up with a sample which completed the questionnaires.

RESULTS AND DISCUSSION

Background

The study findings showed that the student's background has an impact on his technical and digital skills. Students with a less advantaged background hinted that they never used computers and smart phones before hence they found it difficult to access digital learning platforms whilst those with more upward background hinted that they welcomed the initiative and it benefited them a lot. The findings showed that student from less advantaged background were negatively impacted with the government's initiative of promoting virtual learning and hinted that the government should make efforts in buying them reading textbooks so that they can read on their own and consult teachers in areas where they will be finding difficulties in comprehending.

Location

The findings of the study showed that the location of the student also has an effect on the acceptance of online learning. Students in remote areas are limited to accessing the digital platforms due to reasons like poor network connections and lack of digital skills which are they believe are influenced by one's location. Location of the student also determines the type of school which the student will go. Remote areas have schools with poor information technology infrastructure which directly influences the student's digital abilities. Students in towns have greater access to schools with proper information technology infrastructure thereby increasing the chances of the student's acceptance of digital technology platforms.

Learning environment

A positive school environment should have appropriate facilities, well-managed classrooms, available school-based health supports, and a clear, fair disciplinary policy. The respondents from schools in Nyanga North highlighted that some of the schools do not have the right infrastructure to promote the adoption of digital learning. Digital learning requires a technological environment which supports the initiative. Students from schools like Munga River highlighted that the school does not have electricity not to talk of computers; hence online learning is not possible.

Knowledge and experience of teaching staff

The respondents highlighted that the teachers are facing difficulties in facilitating e-learning. Knowledge and experience influence success or failure by teachers in conducting online learning. Students from Ruwangwe Day, Fombe, Kazozo and Mazarura highlighted those efforts have been made by teachers in trying to promote virtual learning but their efforts have not been fruitful. Both teachers and students do not have the knowledge and experience of using online learning platforms; hence the initiative was never welcomed.

CONCLUSION AND RECOMMENDATIONS

Students are facing challenges associated with using online facilities as a primary means for carrying out their studies. From the findings of the study, the researcher found out that online learning is not being effective as a means of promoting education in the remote areas of Nyanga. The success of online learning in Nyanga North is being impeded by a number of factors including location of the schools, lack of knowledge and experience by both the teachers and the students in using online platforms, nature of information technology infrastructure present in schools and backgrounds of the students. These factors have affected the acceptability of virtual learning in Nyanga North secondary schools which is also evident through the pass rate obtained by most of the schools in 2020. The outbreak of COVID-19 negatively affected student in remote areas of Nyanga as some indicated that they had gone for 4 months without attending any class sessions. Before the government of Zimbabwe's initiative to promote online learning, they are factors which needed to be taken into contemplation to ensure that no student will suffer during the period. The researchers recommend the following;

The government should establish learning and research centers in schools to promote the use and adoption of digital technology in schools. Before the outbreak of the global pandemic in 2019, classes were conducted face-to-face reading circle to enhance peer support and learning for students but the deadly virus has brought a new world order which should be taken into consideration before decisions can be made. In this regard, the government has a role to play in promoting online learning in Zimbabwe so that it benefits everyone. Teachers should be taken for training on how best they can use digital platforms including Zoom, Google Classroom in conducting lessons. Without adequate training teachers found it hard to carry out the exercise on their own which resulted in them not initiating the online learning exercises.

The government should not only make effort to promote virtual learning but should also make effort of distributing reading materials in schools. Some students indicated that the schools were performing poorly due to shortage of reading text books as the ones available were for teachers only. The government can make efforts to distribute not only hard copy text books but also soft copy text books which can easily be distributed to many students, allowing them to study on their own and seek assistance in areas which they fail to comprehend.

Also, one of the ideas for improving the efficiency of online learning is through the promotion of sound pedagogy delivery mechanisms. Students have different backgrounds; it is recommended that the instructors use multimodalities to facilitate the teachings (Stewart et al., 2013). During lectures or classes, it is critical for teachers to be actively responsive in providing feedback (Fredrickson, 2015). Individualized feedback that recognizes students' achievements is beneficial in encouraging pupils to keep track of their own progress (Fredrickson, 2015). As a result, when establishing assessment procedures, learner flexibility should be promoted.

The cost of data should fall and all academic websites should be subsidized and come up with initiatives so that they can be accessed free access by the students. Currently, 8 gigabytes of data costs at least 22USD per month in Zimbabwe which some parents and students cannot afford due to economic hardships. Also, some schools in the district do not have electricity power supply which is impeding the adoption of digital media learning. Solar systems can be an alternative which can be used in place of electricity in remote areas. With the weather conditions present in Nyanga North, the use of soar systems in schools can be a good initiative as it is cheap and less costly to install comparing with electricity.

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