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AN ASSESSMENT ON THE USE OF INFORMATION COMMUNICATION AND TECHNOLOGY IN THE ENHANCEMENT OF STUDENTS' ACADEMIC PERFORMANCE UNDER COVID 19 EPIDEMIC: A CASE STUDY OF DAVID LIVINGSTONE COLLEGE OF EDUCATION IN LIVINGSTONE

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Abstract

This study was aimed to assess the use of Information Communication and Technology on academic performance on students under Covid 19 epidemic, a case study of David Livingstone College of Education in Livingstone district o Zambia. The study focused on students and lecturers at David Livingstone College of Education in Southern Province of Zambia. The use of on-line learning advocated for by government through the Ministry of General Education is a new phenomenon **Abstract**

in most schools and colleges in the country. This has been exacerbated by the outbreak of the Covid 19. Therefore, the researcher thought it befitting to conduct a survey to establish whether the on-line learning has enhanced learning through the use of information communication technology or not. However, the simple random sampling technique was used to select 40 pupils and 20m lecturers. In order to assess whether the use of Information Communication and Technology enhanced learning among students during the closure of the college due to Covid 19, the researcher used questionnaires and structured interview schedule to collect data. The questionnaires were administered via student's whatsapp social media platform and students sampled to participate in the study completed questionnaires. In the same way to avoid one on one interview, students were interview as a group using Google meeting platform and interview notes were noted. The study revealed that the use of information communication and technology has enhanced learning among students. Most of the students who participated in the study expressed satisfaction and appreciated the use of ICT to facilitate learning during the time of closure of the college as a result of the Covid pandemic.

Key words

Information, communication, Technology, students, academic, covid 19, facilitate

BACKGROUND OF THE STUDY

The high institutions of learning such as universities and colleges have dictated much of their effort to build up a group of computer-generated teaching environment supported by necessary resources and platforms. This has made them to be striving so as to achieve positive successful results. Consequently, the spread of covid-19 has brought more harm than good leaving these institutions in a predicament (Al-Azawei, A., Parslow, P., & Lundqvist, K, 2017). This has subsequently led to bad consequences of emotions constitutive of fears, worries and feeling of apprehension among students globally. This fear has negatively affected the psychological status of students and leads to stigma in certain situations. Additionally, fear is manifested in different forms which include fear of security, fear of missing out, fear of failure, fear to take risks and so on. This has influenced the adoption of Information Communication and Technology during covid-19 pandemic when most schools, colleges and universities have started implementing distance learning to lessen the dangerous and cruel effects of Coronavirus. However, most of these higher institutions of learning have faced certain challenges regarding teachers' knowledge and its implementation through information communication and technology, students' understanding and proficiency, and the lack of transferring classroom teaching into virtual classes (Appavoo, P, 2020).

By nature, covid-19 as a pandemic has even exacerbated the situation leading to psychosocial challenges such as loss of lives and discrimination. This fear has influenced the educational institutions resulting in hampering the teaching and learning process. As a result, this has obliged various countries to adopt the concept of using information communication and technology through e-learning (Liu, S.-H., Liao, H.-L., & Peng, C.-J. 2005).

The authentication of the effectiveness of information communication and technology or virtual class application is highly dependent on the adoption of the technology as a means for distance learning. It has been shown in most adoption studies that the process of adoption itself is not an

easy one with respect to the fact that it may influence many aspects, such as learning technology, context and strategy. One of the key extra feature that has worsens the learning environment globally is that people have developed high pressure of fear during the spread of covid-19 and this has put the colleges under the pressure of accounting for two important issues simultaneously. This includes choosing an effective e-learning tool and controlling the high fear environment of the students. This current study asses the importance of information communication and technology that lessens the fear factor during the educational process at the college. Nonetheless, choosing the best e-learning platform with effective instructions has been regarded as a big challenge. Consequently, this study tries to assess the way to the advanced element of fear from covid-19 by using ICT, to pinpoint the groundbreaking effect of fear from the disease in college of education. Keeping all these limitations in mind, the purpose of the current research is to provide a better educational understanding of the type of technology that can fit in the best, whenever fear is a dominant figure in the life of lecturers and students. Both lecturers and students are following this new application for the first time to improve learning outcomes during this critical period.

In the world today, most people have continued to live as citizens of a single country or a nation because of the advanced Information Communication and Technology (ICT) systems which has become one of the most essential communication means nowadays towards teaching, the exchange data, knowledge and unknown information. The great growth of the Information Communication and Technology has a high benefits on students at tertiary level on academic performance in which they use for learning, research, interact and socialize. Both negative and positive impacts has been created as students use Information Communication and Technology for good and bad information is being accessed or rather spread in the process. As Information Communication and Technology is developing rapidly, as is not only constrained to net- based technology but also compatible with mobile technology, it convokes any user to complete her/his communication easily through the digital devices. It was attested that Google, Zoom, Whatsup, Facebook, Twitter, telegram and Instagram as the most common Information Communication and Technology platforms (Alwagait, Shahzad, & Alim, 2015; Michikyan, Subrahmanyam, & Dennis, 2015).

A number of studies were carried out across the world to assess the impact of Information Communication and Technology in different organizations and settings for it has been used in various different ways by all walks of people regardless of age as well as by different countries throughout the recent past years.).

A research carried out in India reveals that it is the one of the biggest country in terms of internet users in the world, with a high on internet cafe and mobile audience. Social networking sites like Facebook, Twitter and Orkut among others distracting students from their studies. As a result of Corona Virus disease which broke out in Wuhan China and spread over the world, students use a lot of their time on internet as way of learning as well as social networking than they do using personnel email. Social Networking is “the act of engagement,” while social media is the tool used to communicate with mass audience (Rithika, 2015). Even though, there is loss of privacy and safety, Information Communication and Technology provides opportunities for connecting with Lecturers and students, classmates, friends, and people with shared interest. Today, the main aim of the student should be education and their future career. However, many students rely on the accessibility of information Communication and Technology (Hartshorn, 2010).

Another study conducted in the United States of America by O’Keeffe and Pearson reveals that, in the American Academy of Pediatrics, there are a couple of benefits to Information Communication Technology use. They believe one of the most essential benefits of Information Communication and Technology is that it improves how an individual comprehends himself by engaging with others, and becoming creative through blogging. This leads to better results in their individual school work. Another important benefit according to the dual aforementioned, is the fact that using social media gives pupils the chance to improve their learning, since they have the opportunity to share knowledge with one another and conduct group projects more efficiently (El Khatib & Khan, 2017).

Information Communication and Technology has also completely changed students mode of learning and their studying style and the general set-up. Students are now using these sites officially for learning and as resources to get information to help themselves towards their completing assessments, projects, assignments and other related academic work among others (O’Keeffe and Pearson, 2011). This is prompting Information Communication and Technology

to become a catalyst in the field of education growth in many institutions of learning including Universities Colleges and secondary schools.

In regard to the use of Information Communication and Technology, Zambia is not an exception. The 2015 survey conducted by the Zambia Information and Communications Technology Authority (ZICTA) on the use of internet by the university students in Zambia indicates that it is also increasing at a faster rate. In the same study, ZICTA observes that 63% of Internet users in Zambia spend their time online on social networking sites, meanwhile, about 71% of those that are in possession of smart phones use their gadgets to access whatsapp, Skype, Facebook, Viber and Twitter for communication using instant messaging or voice calling (ZICTA, 2015).

The rapid growth of internet use in Zambia is currently estimated at 63% from 13.4% in 2012 which is more than double the estimate for 2009 (ITU, 2013 cited in Serpell, 2014) has been attributed to widespread use of personal mobile devices and adequate internet services provision which has covered almost all areas of the country (Serpell, 2014). The other factor is that universities colleges and school have been closing in Zambia due to rapid increases of Covid 19 cases and this has forced the government to introduce Information Communication and Technology to be the only way of teaching to cover up the lost time and students are active internet users (Rideout, Foehr, & Roberts, 2010). This therefore, motivated the researcher to develop keen interest to undertake a study on the assessment on the use of Information Communication and Technology on academic performance on students under Covid 19 epidemic (a case study of David Livingstone College of Education in Livingstone district in Zambia).

The great growth of the ICT has a high impact on students` academic performance in which they are learning, interacting and socializing. Both negative and positive impacts has been created as student use ICT for good and bad information is being accessed or rather spread in the process. It was attested that Google meeting, Zoom, Whatsup, Facebook, Twitter and Instagram as the most common internet platforms (Khan, Hatami, Sasidharan, and Al-Roshdi, 2017). A Number of lecturers today have started to use internet for improving teaching and communication with and among students in their classes, class discussions, and teamwork on projects to enhance learning outcomes which has completely changed pupils` way of learning and their studying style and the general set-up. Learners started using these sites as resources to get information and help

themselves towards their completing assessments, projects, assignments and other related academic work among others (Serpell, 2014).

According to Boyd (2017), the rapid growth of internet use in Zambia among students and the estimates have been given in the above background of the study. It has been also stretched that young people are active internet users (Rideout, Foehr, & Roberts, 2010). This therefore motivates the researcher to develop keen interest to undertake a study on the assessment on the use of Information Communication and Technology on academic performance on students under Covid 19 epidemic a case study of David Livingstone College of Education in Livingstone district in Zambia.

Purpose of the study

The purpose of this study was to assess on the use of Information Communication and Technology on academic performance on students under Covid 19 epidemic (a case study of David Livingstone College of Education in Livingstone district in Zambia).

Specific objectives of the study

The specific objectives of the study were:

1. To find out the types of Information Communication and Technology platforms commonly used by students at David Livingstone College of Education
2. To investigate the impact of Information Communication and Technology platforms on academic performance for student under Covid19 epidemic.
3. To establish whether information communication Technology has enhanced learning among students.

METHODOLOGY

The research was on the assessment of the use of Information Communication and Technology to enhance learning among students at David Livingstone College of Education. The study used both the qualitative and quantitative research method. The reason to the triangulation of the methods is that data generated was both numerical and subjective. Furthermore, this approach enabled the researcher to have an in-depth understanding of the research objectives in the sense that a single research method would have not unearthed detailed information as a single paradigm.

Research design

Amin (2012) defines a research design as the scheme, outline or plan that is used to generate answers to research problems. The research design used in this study was descriptive survey. The study aimed at collecting information from respondents on their attitudes and opinion in relation to the use of information communication technology to enhance learning during the time the college is closed due to Covid 19 pandemic.

Target population of the study

The study focused on students and lecturers at David Livingstone College of Education in southern province of Zambia. The use of on-line learning advocated for by government through the ministry of general education is a new phenomenon in most schools and colleges in the country. This has been exacerbated by the outbreak of the Covid 19. Therefore the researcher thought it befitting to conduct a survey to establish whether the on-line learning has enhanced learning through the use of information communication technology or not. A population is a group of individuals, objects or items from which samples are taken for measurements (Tromp: 2006). The study population comprised 40 student teachers, 20 ladies and 20 gentlemen. 20 lecturers, comprising of 10 gentlemen and 10 ladies participated in the study from David

Livingstone College of Education. A simple random sampling criterion was used to sample the respondents for the study.

Sample and sampling techniques

A sample is a part of a population being studied (Kombo, 2011). According to Awoniyi (2011), sampling is the process of choosing a representative portion of the entire population. Awoniyi furthermore, defines sampling technique as a method used to draw samples from a population in such a way that a sample will facilitate determination of some hypothesis.

For the purpose of this study, only one secondary college was considered for the study. However, the simple random sampling technique was used to select 40 pupils and 20m lecturers

Data collection techniques

In order to assess whether the use of Information Communication and Technology enhanced learning among students during the closure of the college due to Covid 19, the researcher used questionnaires and structured interview schedule to collect data. The questionnaires were administered via student's whatsapp social media platform and students sampled to participate in the study completed questionnaires. In the same way to avoid one on one interview, students were interview as a group using Google meeting platform and interview notes were noted. A questionnaire is a research instrument that gathers data over a large sample (Kombo, 2011). The questionnaire was in form of a four point scale and depending on the response by the student; points were awarded ranging from 1-4. Lecturers were subjected to an interview schedule by using Google meeting platform.

Data presentation and analysis

Data presentation is a method used to summarize and communicate information using a variety of tools such as diagrams, tables, histograms, distribution, charts and graphs (Nalaila, 2002). Kombo (2011) also defines data presentation as a process of evaluating data using analytical and logical reasoning to examine each component of data provided. Kombo (2011) furthermore, states that data analysis refers to examining what has been collected in a survey or experiment and making deductions and inferences.

Therefore, the researcher used descriptive statistical tables to present quantitative results. The data collected was coded and analyzed using Statistical Packages for Social Science version 16 (SPSS 16.0). The descriptive statistics such as frequencies, percentages, mean and standard deviation was employed. Qualitative data was analyzed thematically by drawing themes form the data collected from interview schedules.

Table 1: Learning platforms used

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Google meeting	24	4.00	4.00	4.0000	.00000
Watsup	5	2.00	2.00	2.0000	.00000
Zoom	7	3.00	3.00	3.0000	.00000
Gudgetless	3	1.00	1.00	1.0000	.00000
Valid N (listwise)	3				

The table above shows the statistical description of the interactive platforms used to access learning. The mean score indicated shows those who responded to say the use of ICT has enhanced learning while two (2) indicates those who said average, three 3 for those who stated that on-line learning through zoon platform was good. Gadget less stands for those students who do not use any of the platforms for learning due to lack of electronic gadgets to use. These were only three with a point (1).

Table 2: Respondents views (students)

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Good	5	3.00	3.00	3.0000	.00000
Excellent	24	4.00	4.00	4.0000	.00000
Average	8	2.00	2.00	2.0000	.00000
Poor	3	1.00	1.00	1.0000	.00000
Valid N (listwise)	3				

The descriptive statistics displayed in table two (2) revealed that the use of information communication technology was very effective and that it enhanced learning among students during the closure of the college as a result of the Covid 19 pandemic. 24 respondents stated that learning was excellent during the period under review and that most students preferred Google meeting platform for learning as compared to the other platforms such as Zoom and Watsup. Five (5) students stated that use of information communication technology (ICT) was very good and that at least they were able to learn despite the college being on reses. Eight said it was average and only three respondents said learning through the use of ICT was poor. This was attributed to lack of gadgets to use such as Smart phones, Lap top computers, Tablets and Desk top computers. Furthermore, intermittent internet services were also a contributing factor. In some cases some students could not access internet services and that made it difficult to learn.

Among students who had challenges with the use of Information Communication Technology ICT, were students with disabilities. The Visually impaired students had significant challenges with the use of information communication technology. This was because they were not oriented or trained on the use of information communication technology for learning purposes and hence did not benefit during the on-line learning system. Lack of specialized tools and software for use by students with disabilities was another factor that impeded effective on-line learning for the visually impaired students. Access to information without gadgets installed with special software like screen readers to help them read printed information was a setback. This was a factor the

researcher considered for further recommendation and implementation for the purpose of enhancing learning among learners with visual impairments.

The hearing impaired students also had challenges to access audio information when presented during the Google meeting or Zoom platform. They were only able to access written information sent to students for their studying. This was highlighted during the interview schedule that they did not really support the use of some platforms that use audio information dissemination system.

Most lecturers interviewed expressed satisfaction that the use of Information Communication Technology was very effective and enhanced learning among students during the period under review. They stated that the most common ICT tools used were a Smart phone and Lap tops. The platforms used were Google meets, Zoom and Whatsup. Lecturers stated that power point presentations and Microsoft word documents were applauded for students to access other than just listening to the audio presentations. However some expressed some concerns to the fact that they lacked the skills of interacting with ICT gadgets due to lack of training in the same field. The recommendation was that capacity building on the lecturers must be enhanced as well so that staffs are well oriented to the use of ICT. Out of the twenty (20) lecturers interviewed, only two expressed concerns of lack of the necessary skills to the use of ICT and interactive platforms like Google meet to facilitate learning.

Conclusion

The conclusion to this study is that the study revealed that the use of information communication and technology has enhanced learning among students. Most of the students who participated in the study expressed satisfaction and appreciated the use of ICT to facilitate learning during the time of closure of the college as a result of the Covid pandemic. The other concern was that the college should expand the use of ICT structures within college for use even when students are on campus. Students with disabilities should also be included fully in the on-line learning system by providing them with the necessary materials to use so as to enhance learning among them.

Recommendations

The researcher had the following recommendations to make for consideration;

1. The college should enter into a memorandum of understanding with internet service providers to provide internet bundles to students at a subsidized rate so that students can afford to have internet access most often in order to learn on-line.
2. Orientation to student and lecturers on the use of ICT and media platforms for teaching and learning on-line should be enhanced.
3. The Ministry of General Education and college boards should provide college with modern ICTs facilities.
4. The Curriculum Development Centre should recognise the vital role that ICTs play by integrating ICTs in all the courses in the syllabi.
5. All the lecturers should acquire the necessary skills to enable them make full use of available ICTs in the college.



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