Examining the Use of Digital Media and Technologies in teachers' teaching: A Case of Selected Schools in Luampa District, Zambia

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Abstract

The purpose of this study was to investigate and examine teachers' use of technology and digital media in their lesson delivery. This study also explored how teachers equip their learners with 21st century skills that are taking place in the education sectors. Respondents under this study were primary and secondary school teachers. The primary school runs from early childhood to grade 9, while the secondary sector covers grades 8 to 12. A questionnaire was formulated and used to collect data from two institutions used as study areas.

Results revealed that the most worrying concern is lack of knowledge of many teachers on the use of digital media and emerging technologies on teaching. The other challenge observed was on the lack of the required technological tools to use at the secondary sector and lack of technological skills. There was need to train teachers on technology skills so that they can provide our learners with solid foundation of ICT and Computer Studies.

Keywords: digital media; emerging technologies; creativity; ICT; primary and secondary school.

Introduction

The use of digital media and technologies in teaching and learning under education has been on an increase. It was observed that teachers are aware of the pressure technology has put on education, learning and pedagogies to be used (Musawi, 2011). The purpose of this study was to explore and examine the use of media and technology in teachers' teaching in both primary and secondary sections in order to equip learners with necessary skills so that they integrate technology in their learning at higher levels. It also looked at how teachers involve technology in their lessons in order to enhance learners' proper understanding. This made the researcher examine the use of digital media and technologies in the only two chosen schools in our district. The first institution is a government primary school that has a well-furnished Computer Laboratory and the second one being a day secondary school under the care of a church.

On the other hand, we realise the governments emphasise on the teaching examining of Information and Communication Technology (ICT) to all school going age. With this great emphasis put on by the Ministry of General Education in Zambia, the study aimed to establish the root cause of why teachers fail, if that will be the case, to obey the ministry's directives.

The reasons established on whether teachers are or not using technologies in their teaching will lead to an area of study to be proposed that can be undertaken in future researches either by the researcher or other different researchers interested in the topic in order to find solutions to the identified challenges. The data was collected through the use of questionnaires and observations made as the researcher interacted with respondents. The respondents in this case were teachers from early grades up to grade 12. The study established the level at which the use of technology was practiced or not practiced in teachers' classroom situation.

Literature

It is evident that there have been pressures mounting on the change in the way teachers teach (Walsh & Apperley, 2011) due to experienced constant changes in knowledge base. It is emphasised that instructional strategies should accommodate the emerging twenty-first century skills that involve technology (Uzun, Yildirim & Ozden, 2013) if creativity is to be enhanced. Technology innovation has influenced so many changes in human life (Hatlevik & Guðmundsdóttir, 2015) starting from fun, work to education (Torres, Esteves dos Santos, Kowalski & Behrens, 2016). If learners are to be

adequately prepared to encounter future challenges in their life time, there is need to change the manner teachers teach and nature of education to be acquired (Hall, 2012) in order to provide rich learning environment. Technology also encourages new contexts and changes in the way the curriculum (Hall, 2012) is organized in order to integrate and develop digital competency in young people. Technology is associated to a way of using knowledge with a view to provide solutions to problems experienced by mankind (Siyanbola, Egbetokun, Oluseyi, Olumiyiwa, Aderemi & Sanni, 2012). Musawi (2011) categorised emerging digital technologies in education into three roles: medium or resources, the management and delivery roles.

The level to which technologies have been accepted by students and instructors is of great importance and concern of many educators (Uzun, Yildirim & Ozden, 2013). This is what has influenced this study, to inquire on how teachers have accepted and adopted the use of technologies and media in their teaching. Use of media in a classroom situation can be satisfied through employing visuals, sounds, smells and tastes as it is believed learning can be satisfied through the use of senses. Commonly used media under the information and communication technology includes blogs, wikis, YouTube Videos, mobile devices (Phones and tablets), digital tools (like the chat, discussion group, forums, Video and Video Conference and electronic mail) satellites of TV broadcast, electronic books, CD-ROMS and Laser disks. These are used in teaching in order to enrich and improve the students learning process (Bates, 2015) by providing an equal opportunity for everyone to learn easily.

Bates (2015) addressed a question on what influences teachers' use and selection of media and technologies in his or her teaching. He talked of the nature of students, the type of technology, the cost of the media and the time available to be the major determinant when it comes to what is considered in the type of media and technology to use in one's teaching. The other necessary factor to consider is that teachers should be equipped with required skills in the use and appropriate selection of technologies. This means teachers should have the right digital competence if they are to support students learning process (Ala-Mutka, Punie and Redecker, 2008). The digital competence can be built in our learners only if ICT skills are integrated in their learning as early as during their early grades or in primary education (Al-Mutka et al, 2008). Examining our syllabi, it was observed that technologies are introduced in lower grades (1 to 4) as a component of Creative and Technology Studies (Curriculum Development Centre, 2013) and from grades 5 to 7 is categorised as Technology Studies (Curriculum Development Studies, 2013). At Junior Secondary School level the subject is offered as Computer Studies, it is compulsory and it is examined. When it gets to Senior Secondary grades it becomes optional.

The importance of technology in teaching was stressed (Pitler, Hubbell, Kuhn & Malenoski, (2007) and Omariba, Gitau & Ayot, 2016) in that it provides immediate feedback and is a scaffold offered that help students understand the content learned. It also develops skills like critical thinking and self-reliance is enhanced in individual learner. The implementation of technologies in teaching has its own hindrances as noted by Omariba and his friends. Some of the cited challenges are lack of technologically skilled teachers, and equipment failure or software behaviour to respond to commands.

Methodology

For the purpose of this study, a structured questionnaire was developed following the information gathered under literature consulted. The questionnaire consisted of 10 questions. The respondents under this study were teachers from two different institutions which were Mwandasengo Primary and Luampa Secondary schools. Teacher were used in order to examine their level of acceptance to adapt technology in their teaching to offer support in students' learning in order to satisfy their various diversity learners come with to their classroom. From each school a total number of 15 teachers were targeted.

This study aimed at analysing and describing teachers' perspective of how they often promote the usage of technologies and digital media in their teaching. Data gathered was analysed to provide insights into challenges teachers face in promotion and usage of technologies in their lesson delivery.

This led the author of this article to suggest what can be done and further recommend areas to be looked at in the future studies under the same topic.

The study followed a non- probability sampling strategy. A small non-random sample was adopted and critically examined in order to provide information on what was the situation on the use of technologies in the schools in the district and to assist in attaining a trustworthy conclusion.

Data analysis and results

Frequency of usage of technology

Inquiring on how often teachers involve technology in their lesson delivery, responses are tabulated as shown below:

S/N	CHOICE	SCHOOL TYPE	RESPONSES
1.	ALWAYS	A (Primary)	3
		B (Secondary)	-
2.	SOMETIMES	A (Primary)	5
		B (Secondary)	9
3.	DON'T USE IT	A (Primary)	-
		B (Secondary)	-

Table 1: Showing results on how often technology is used.

It is clear that from School A we had 3 teachers indicating they always use technology in their lesson delivery while 5 teachers sometimes use technologies in their teaching and learning exercise. Coming to the other section (secondary), all responses indicated that they sometimes use digital media in their teaching. No teacher, either from primary or secondary, chose option 3 (Don't use it).

### Training attained in the use of technologies and media

Table 2. Results on training attained in use of technology

S/N	CHOICE	SCHOOL TYPE	RESPONSE
1.	NO	A	2
		B	5
2.	YES	A	6
		B	3

From the secondary level 5 teachers were not trained in the use of technology or went to college the time the component of technology was not yet included in the courses covered, while 3 of them accepted having undergone training in either ICT or Computer Studies. One teacher from secondary did not indicate any choice. At primary sector, 6 teachers attained training in the use of technologies in their teaching and 2 teachers lacked the knowledge on how and when they can use technologies. This influences the researcher to embark on a study that will look at how teachers already serving are equipped with changes that take place when they are in the field.

Media and technologies used

The commonly used and stated technologies and media by most teachers in the two schools are as: Computers and Laptops, internets, radios, cell phones, books newspapers, and televisions.
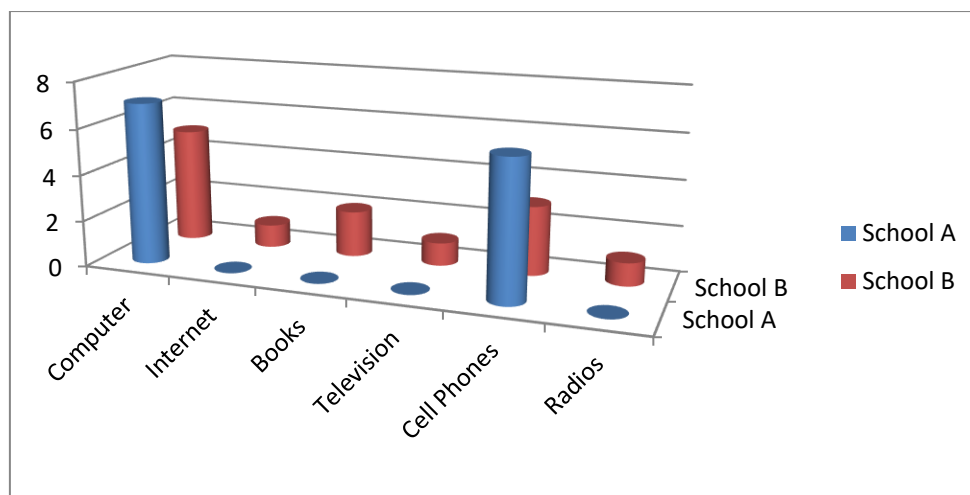
Table 3. Types of media and technology

It is evident that most teachers don't understand what is meant by media and technologies that can be used in teaching and learning process. From School B: 5 teachers choose computers; 1 choose internet; 2 indicated books; 1 choose television; 3 choose cell phones and 1 teacher choose radio. While on the primary sector (School A) choices of media they use in their lesson delivery in order to facilitate and promote learners' understanding are: 7 teachers chose computers; and 6 chose phones. No one considered, from School B, indicated the internet, books, television and radio.

Advantages of technology in education

A number of reasons that are considered as advantageous to teachers for using technologies gathered are as shown below.

Table 4. Advantages of Technologies

S/N	ADVANTAGES OF TECHNOLOGY	RESPONSE ACCORDING TO SCHOOL TYPE	
		School A	School B
1.	Improves teacher's delivery strategies	4	4
2.	Saves time	0	4
3.	Enhances learners' understanding	5	6
4.	Promote hand on activities	2	3
5.	Interaction between learners is encouraged	1	1
6.	Equip learners with modern skills	5	0
7.	Self-dependence is intensified in learners	1	0

Challenges faced in the use technology

Teachers indicated that it is important that they use media and technologies in their teaching though they are hindered by a number of factors. They also understand that using instructional technologies allow learners grasp easily the concepts presented to them (Omariba, Gitau & Ayst, 2016). The responses gathered from teachers are as shown below and these are responsible for their usage of media and technologies in their lessons
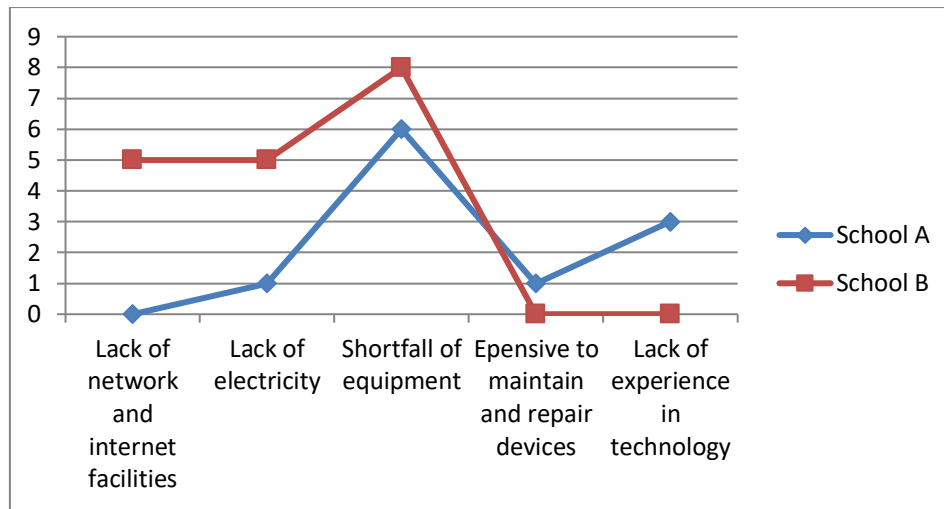
Table 5. Challenges faced by teachers in using technology

From the line graph above, it is evident for School A that shortfall of equipment is leading followed by teachers' lack of technological skill, while on school B; shortfall of equipment is on a lead followed by lack of electricity, and lack of network and internet facilities. The identified challenges influence the extent to which teachers involve technologies in their teaching.

School management support in promotion of usage of technologies

School administrators have recognised the need of not just depending on books as the only method of instruction when teaching. For this reason, managers from the two institutions have attached great interest to the promotion of teaching of technology through provision of the services listed as below. Majority of the respondents did not fill or respond to this part.

Table 6. Role played by school management in supporting technologies

S/N	RESPONSES	SCHOOL TYPE AND CHOICES	
		SCHOOL A	SCHOOL B
1.	Securing of devices/equipment	5	4
2.	Sensitisation on embracing technology	2	4
3.	Provision of alternative power sources (Solar).	1	2

Conclusion

Use of technology and digital media has influenced changes in the way teachers teach, learners learn and the strategies involved in acquiring and transmission of new knowledge.

It is evident from resources consulted that the roles of technology in education can no longer be neglected but has to be embraced by all teachers and students if they are to acquire the most 21st century skills (Omariba et al, 2016). From the small portion of teachers integrated with from two schools in our district, there is still much work to be done if all are to acquire more technology skills needed and to be able to incorporate the technological changes experienced.

The study had its own challenges; firstly, the intention was to target 15 teachers from School A and School B, and 30 questionnaires were prepared and distributed. The head teachers were asked to distribute them to their teachers. Respondents' attitude was discouraging as not all questionnaires were filled up and returned. From School A, only 8 questionnaires and School B returned 9 questionnaires. Secondly, the researcher's lack of knowledge on SPSS packages in analysing collected data was a blow. Lastly, a small number of respondents will not give us a true picture of what is the actual situation in the entire district.

Lack of training in technology skills by many serving teachers (Constantino, 2014) has great impact on their usage of technologies in their teaching and this leads them to failure to categorise

digital media and technology devices. The future study to be undertaken will address the issue of how already serving teachers are assisted to acquire changes that exist in the system.

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