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Perceptions of Information and Communication Technology: Evidence from Secondary Schools in Zanzibar

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Abstract

The information and communication technology (ICT) become paramount in the contemporary whereas the society and other educational partners would not be far away from uses of this developmental technology. This study aimed to evaluate the perceptions of teachers on applying ICT in public secondary schools in Zanzibar. The survey questionnaires deployed as the instrument tool for the data collection in six public secondary schools in Zanzibar. Data analysed through Statistical Package for Social Sciences (SPSS) version 21, and the results revealed that the teachers' have the positive perceptions towards the adoption of ICT use in an education setting. Consequently, the utilisation of technology encourages teaching and learning. Indeed, the teachers showed to be ready to incorporate the ICT use in the teaching process. However, lack of enough time and cost of the ICT services contributed factors that impediment the teachers to embrace ICT use. Moreover, the results demonstrate some teachers' ignorance in insensitive of ICT skills.

Keywords: ICT, perceptions, secondary school, teacher, education, Zanzibar

1. Introduction

Information and Communication Technologies (ICTs) have turned into the life of the people in the current society. ICTs have played a significant role in the current time. In the line of instruction, ICTs have made more space for individuals to progress competence and grow professionally. Numerous nations have turned out to desolate without the utilisation of ICTs while others have moved toward becoming power block. ICTs have changed various social orders (Buabeng-Andoh, 2012). In the contemporary, the information is power; subsequently, the administration of such information is using ICTs. The first goal of ICT was to improve instruction process and the conveyance of substance learning (curriculum) in the classrooms (Adu & Galloway, 2015). ICT inclusion as the one of the critical competence of life learning (Aesaert, van Braak, van Nijlen, & Vanderlinde, 2015).

According to Salehi and Salehi (2012) call attention since the 1960s such that technologies as TVs, recording devices and video have been utilised as educating instruments. Today, ICT can be equipment, for example, PCs, projectors, digital cameras, and so on, and can likewise be programming, for example, Microsoft Word, PowerPoint, and so on. (Wang & Woo, 2007). In instruction, ICT acknowledged as an essential medium to be applied as a part of the classroom to motivate students in learning (Bai, Mo, Zhang, Boswell, & Rozelle, 2016; Wekke & Hamid, 2013). In the hands of educators, the ICT can enable instructors and students by encouraging communication and interactions, offering new methods of delivering, and by substantial change educating and learning forms (Muslem, Yusuf, & Juliana, 2018).

Numerous educators experienced the issue of perceptions when utilising ICT in the instructing and learning process in the education (Kurniawan, 2014). Some researcher like Ward, Gristein, and Keim (2015) describe perception as “the way toward perceiving, organising, and interpreting sensory information”. For those teachers with lacking insufficient skills to adopt ICT in the classroom, it is imperative to give them exceptional preparing on the most proficient method to use ICT. The level and degree of technology utilisation additionally relied upon the way educators prospect on the contribution of technology in the classroom and is “predicated upon what they feel technology can do in the educating learning process” (Muslem et al., 2018).

The government vision and policy of Revolutionary Government of Zanzibar(RGoZ) to incorporate the utilisation of the ICTs in all administrative segments including educational framework. Hence, the primary target of ICT in education from the pre-primary, primary, secondary up to the tertiary level (Suleiman, Yat, & Iddrisu, 2017). The vision of ICTs in education in Zanzibar also has spelt out in the 2006 Zanzibar Education Policy (MoEVT, 2006). Additionally, the government plan and documents (Revolutionary Government of Zanzibar) emphases on this, whereby instructors, students and other educational partners employ ICT skills in educating and learning process. In this manner, to support the government plan and target. We have to examine at how the teachers’ perceptions in the secondary schools in applying ICT in the educational setting.

2. Related Literature

Some scholars examined the teachers' perception of ICT use in the education (Muslem et al., 2018; Qasem & Viswanathappa, 2016). As per Muslem et al. (2018) noticed that used English educators involved on use of ICT in the teaching procedure have a favourable view of the perceptions of ICT in the classroom. Additionally, they show that the ICT application makes the class more intriguing interestingly instructing without utilising any instructive devices. For sure, the technology is convenient as it can promote them in educating English. However, ICT adoption can never substitute teachers since teachers are the living role model that can offer service to students.

Additionally, (Afunde, 2015) study noticed that the tutors appear ICT as the instructing devices that could help them to educate and make the ideas clearer to the students. In this way, demonstrate that the incorporation of ICT gives an option of instructing method that made teaching and learning an enjoyable for both teacher and students. Teachers perceptions on ICT regarded as the essential components among instructors' preparation to incorporate ICT into the classroom educating (Qasem & Viswanathappa, 2016). Likewise, the investigation of Al Bataineh and Anderson (2015) viewed that teachers who have not possess an individual PCs and had little access to the internet have negative perceptions toward school ICT use in the challenge with those claimed an individual PCs and had access to the internet.

Then again, Sani, Tasisa, and Panigraphi (2013) explain some teachers they have claimed that ICT can substitute them and make the educators lazy and consequently, decrees the instructors outstanding in the class. Nonetheless, a few teachers trusted that some ICT devices like plasma TV and radio course are an instant that can provide the education quality demand.

3. Analytical Framework

Numerous policies have formulated without guideline of the implementation process. It, therefore, generates a gap for policy implementers to manage. In managing such arrangement gaps, implementers dependably have the way during the implementation procedure. The conflict theory clarifies this situation (Iddrisu, Islamjanova, Bombaes, & Bekbauova, 2017). Many policies have the legislative statement of goals lead the vague or conflicting (Winter, 1986). The policy documents use the statutory language that not easy to recognise the concept. The policy language does not explain the implementation mechanism for implementers to take after. It in this way given the room for the policy implementers the adaptability to join their particular thought into the implementation procedure.

On the other hand, a multitude of case studies with fluctuating conceptual frameworks exist, there no commonly accepted theory to offer guidance to research on policy implementation. Scholars have not yet settled a typology for reviewing policy implementation, a significant step toward theory structure (Carr Copeland & Wexler, 1995). Refer to Iddrisu et al. (2017) gives way for policy implementers to have the approach to the implementation procedures. To overcome this gap during the implementation process, policy implementers develop their mechanisms to accomplish the policy. The integration of ICT in secondary school education

needs to have the real policy that mentions how the policy should be implemented in the education environment. However, the existing of the government documents that emphases the use of the ICT in the administration system included in all educational level (Suleiman et al., 2017). The emphases of the incorporated of the ICT use was essential to the educational development. The education policy of 2006 has more emphases the use of ICT in the education (MoEVT, 2006).

However, there a need for a real mechanism to be fully implemented in this government plan. According to Mazmanian and Sabatier (1980) and also, Paudel (2009) prove three sorts of factors influencing the success of legitimate of policy goals through the whole process. These elements can be extensive as (i) tractability of the problem(s) to be tended to (ii) the capacity of the state to favourably structure of the implementation process, (iii) the net impact of a variety of political factors on the adjust of help for statutory objectives. Simultaneously with three mechanisms of the implementers' reaction may influence the capacity and eagerness to complete the policy: (a) cognition of the policy (b) direction of response; and (c) the power of that response (Van Meter & Van Horn, 1975).

4. Methodology

This study involved six public secondary schools selected from the main districts (Chake and Urban district). The participants were chosen randomly, and 205 completed filled questionnaires received, which approximately to 95.34% of the total 215 questionnaires distributed by the teachers. The current missing values (five per cent) from some questionnaires replaced by SPSS. The survey included demographic information of the respondents; gender, age, marital status, educational level and teaching experiences.

A closed-ended type of questions deployed whereas five Likert scales like strongly disagree, disagree, no idea, agree and strongly agree (1, 2, 3, 4 and 5) respectively used. The high scale expectation depends on the question have asked in the questioners. The primary goal of this study has six statements which involved in the evaluation of the achievement of the research goal of the study. Make the consistency of the data collection; the Cronbach's α reliability test was tested to identify the internal consistency of all items in the questionnaires. The results of the Cronbach's alpha evaluated by SPSS was 0.83; it is statistical recognised in social sciences (IBM, 2011). According to Al Mofarreh (2016), α-value of above 0.90 has measured excellent, between 0.9 to 0.80 subjected to be very good and between 0.8 to 0.70 as satisfactory value.

5. The Purpose

The primary purpose of the research was to evaluate the perceptions of the secondary teachers on the applying ICT in secondary schools in Zanzibar.

5.1 The Research Questions

1) What are the teachers' readiness on ICT uses?
2) Do the teachers being challenging to embarrass ICT use? Is it because of cost more time and money?

3) Does the teacher have lack of free time for learning new development of technology?

4) Is it challenging to learn ICT, so undoubtedly remain them to the old way?

5) Do some teachers are ignorant of sensitive innovative of ICT?

6) Do the computer requires highly skilled personnel to operate them?

6. Findings

The data in Table 1 show that majority of the respondents were female 121 (59.0%) while male 84 (41.0%), with age range less than 35years, around 60%, means the majority of respondents were a young age. For the education level, the data clarify that majority of respondents have a degree level 148(72.2%), the master was about 29(14.1%), and the last group diploma was very few around 28 (13.7%). The data indicated highly educated respondent in the survey. On the other hand, results reveal around 72(35.1%) of respondents have teaching experiences of between 1 to 5 years.

Table 1. Demographic characteristics of the respondents

		Gender			
Variables	**Year/level**	**Male (%)**	**Female (%)**	**Mean**	**SD**
		84(41.0)	121(59.0)	1.59	0.493
	≤ 30	59(28.8)			
Age	31-35	69(33.7)			
	36-40	33(16.1)		2.43	1.329
	41-45	18(8.8)			
	≥46	26(12.7)			
	Diploma	28(13.7)			
Education level	Degree	148(72.2)		2.0	0.529
	Master	29(14.1)			
	1-5	72(35.1)			
	11-20	55(26.8)			
Teaching experience	21-30	43(21.0)		2.23	1.169
	31-40	28 (13.7)			
	≥41	7(3.4)			

Note: % = percentage, SD= standard deviation; no responses of the age range 6-10 years of teaching experience

6.1 What Is the Teachers' Readiness on ICT Use?

The results in Table 2 display that 65(31.7%) of the total respondents "strongly agreed" the question while 55(26.8 %) of the respondents also "agreed" the question. About 37(18.0%) of the respondents "strongly disagreed" the question. Besides, about 27(13.2%) of the respondents "disagreed" the question. On the other hand, 21(10.2 %) of respondents neither agree nor disagree with the question. Thus, make mean and SD equal to 3.41 and 1.494 respectively. Inconclusively, the average of the majority of respondents accepted the question 120 (58.5%) while 64 (23.4%) of respondents rejected the issue.

6.2 What Are Teachers Challenging to Embarrass ICT Use Because It Cost More Time and Money?

The data in Table 2 clarify that the majority of the respondents 56(27.3%) "strongly agreed" to the question. About 51(24.9 %) of the respondents "agreed" the question which makes more than 50% of respondents support the item. On the other hand, 42(20.5%) of the respondents "strongly disagreed" the question. Also, about 37(18.0%) of respondents "disagreed" the statement, which makes the rejection of the question to be (38.5%). Indeed, about 19(19.3%) of the respondents neither support nor reject the question. The overall response rate for this item resulted in 3.20 mean and 1.52 SD.

6.3 Lack of Free Time for Learning New Development of Technology

The data in Table 2 revealed that the majority of the respondents 56(27.3%) "strongly disagreed" with the statement. Indeed, around 54(26.3%) of the respondents "disagreed" the item. On the other hand, 51(24.9%) of the respondents "strongly agreed" the question. Besides, around 36(17.6%) of the respondents "agreed" the statement. However, about 8(3.9%) of the total respondents do not decide to the statement (neutral). The response rate of the item resulted in 2.86 and 1.588 of mean and SD. The majority of respondents rejected the question 110 (53.6%) in contrast to 87(38%) of respondents accepted the question.

6.4 It Is Challenging to Learn ICT, so Undoubtedly Teachers Remain the Old Way

The results in Table 2 revealed that the majority of the respondents 64(31.2%) "strongly disagreed" the question. Indeed, around 39(19.0%) of the respondents also "disagreed". On the other side, 57(27.8%) of the total respondents "strongly agreed" the question. Also, 35(17.1%) of the respondents "agreed" the question. However, few respondents 10(4.9%) neither supported nor rejected the question. The response rate resulted 2.91 mean and 1.652 SD. In summarising, the majority of respondents 103(50.2%) rejected the statement in contrast with 92 (44.9%) accepted the question.

6.5 Some Teachers Are Ignorant of Sensitive Innovative of ICT

The results in Table 2 identify that the majority of respondents around 72(35.1%) "strongly agreed" the statement. Indeed, about 50(24.4%) of the respondents "agreed" the question. On the other hand, respondents around 43(21.0%) "strongly disagreed" the question. Besides around 34(16.6%) of the respondents "disagreed" the question. Moreover, about 6(2.9%) of respondents have no idea about the question. The question has a response to (Mean=3.36 and

SD of 1.592). Inconclusively, numerous of the respondents 122 (59.5%) accepted the question while 77(37.6%) of the respondents rejected the question.

6.6 A Computer Requires Highly Skilled Personnel to Operate Them

The data in Table 2 concluded that about 60(29.3%) of the respondents "strongly agreed" the question. Indeed, some respondents around 66(32.2%) "agreed" the statement. On another hand, about 46(22.4%) of respondents "strongly disagreed" the question. Besides, around 24(11.7%) of the respondents "disagreed." the statement. In contrast, some respondents about 9(4.4%) of the total respondents do not support or reject the question. The response rate shows (Mean =3.34 and SD of 1. 550). Overwhelmingly, the average majority in this request 127 (61.9%) accepted the question while 66 (32.2%) of the respondents rejected the question.

Table 2. Descriptive Statistics of Study Findings

Item Statements	Frequency of Responses					**Mean**	**SD**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**		
	N (%)	**N (%)**	**N (%)**	**N (%)**	**N (%)**		
Teachers readiness on ICT use	37(18.0)	27(13.2)	21(10.2)	55(26.8)	65(31.7)	3.41	1.494
Teachers are difficult to embarrass ICT use because it cost more time and money	42(20.5)	37(18.0)	19(9.3)	51(24.9)	56 (27.3)	3.20	1.520
Lack of free time for learning new development of technology	56(27.3)	54(26.3)	8 (3.9)	36(17.6)	51(24.9)	2.86	1.588
It is difficult to learn ICT, so definitely remains them to the old way	57(27.8)	39(19.0)	13(6.3)	35(17.1)	61(29.8)	3.02	1.636
Some teachers are ignorant of sensitive innovative of ICT	43(21.0)	34(16.6)	6 (2.9)	50(24.4)	72(35.1)	3.36	1.592
Computer require highly skilled personnel to operate them	46(22.4)	24(11.7)	9(4.4)	66(32.2)	60(29.3)	3.34	1.550
Average (%)	**22.8**	**17.4**	**6.1**	**23.8**	**29.6**		

Note. SD = standard deviation, % = percentage of each sub group, N = number of respondents of each group, 1= strongly disagree, 2 = disagreed, 3 = no idea, 4 = agreed and 5 = strongly agreed.

7. Discussions

The results assessed above an insight the perceptions of the ICT use in secondary school. It is evident from the results about 58.5% approved that teachers' readiness on the ICT use. Teachers had the considerable role in ICT application into teaching and learning process in the classroom setting (Baş, Kubiatko, & Sünbül, 2016). The finding based on the study of Copriady (2015) who validates that teachers on the positive attitudes can stimulate the use of

more instructional technology tools to make learning more interesting as well as more attractive for the students (Charles & Issifu, 2014). However, teachers with negative states of mind towards technology integration in education cannot benefit from this area nor productively integrate technology into the education system. Even though there are some factors like insufficiency of learning resources, course curricula and other educational materials that incorporate ICT practice (Hennessy et al., 2010), but the findings show that teachers difficulties to embarrass ICT due to the time cost and money was about (48.8%). The results are consistent with the study of Bingimlas (2009) reveals that in his study the lack of time constraints disturbing the application of ICT in Saudi Arabia because of a busy timetable.

In Zanzibar, many secondary schools, especially in town, have two shifts due to the large numbers of students. The teachers are working from 7:00 a.m. to 12:55 pm for the morning session and from 1:00 p.m. to 5:55 p.m. for an afternoon. The average number of periods taught in the week, not more than 20 periods with the range of 35 to 40 minutes. However, sometimes the number of periods exceeds due to the shortage of teachers in the schools. So, the teacher needs to have more time for preparation and incorporate into the new way of technologies into teaching to avoid continuous uses of the traditional idea of using textbooks strategies.

The teachers are the one who supposed to be up to date with any changes to the educational development in the world. So, the development of science and technology the teachers are not supposed to be away from that. Hence, this approved by the survey data whereas the teachers rejected the statement “it is difficult to learn ICT, so definitely remain them to the old way” (42.5%). The result shows that the teachers are ready to learn and have time to learn the new approach emerges at any time. Copriady (2015) regularly, prevalent for teachers’ to be confident in adjusting to changes and tolerating innovations. Due to the spread of this technology in every corner of the world, the teacher also has identified the importance of this technology. Hence, the survey finding rejected the statement (50.2%). The results have attributed to Baş et al. (2016) study demonstrate that if the educators have a disposition towards ICTs in the instructive process, they will not struggle to the utilise these techniques in the classroom. Therefore, the advancement of teachers’ attitudes toward ICTs is viewing as a critical factor for improving technology integration into teaching and learning process at school.

The teachers have agreed that they do not have this knowledge (59.5%) that apply to the implementation of ICT in education. It is critical for the teacher to be more active. Indeed, the school administration should motivate them to innovate different approach that can help them in apply ICT in education. For example, Krumsvik explains that the ordinary and secondary teachers innovated the CRL web and the Theme web in Norway as the internet portal resources for the pupils. The primary goal of the CRL web was the distinction part and including ICT content in the subject (Krumsvik, 2012). The computer as the other machine needs to have at least necessary skills on how to use it for the better existence for so long.

The survey findings affirmed the question that the computer requires highly skilled personnel

to operate them the complex issues (61.9%). To corroborate of this result study, Aworanti (2016) demonstrate that high skills personnel of computer was one of the emerging challenges for the integration of ICT in education.

8. Conclusion

The prominent conclusion of this study shows that the teachers have the positive perceptions towards the adoption of ICT use. It is, therefore, the technology utilisation encourages their teaching and learning. The results elucidate that the teachers are ready and also have enough time to learn any new teaching approach emerges at any time. However, the time barriers and also even sometimes the cost of ICT services was the one that impediment teacher to embrace ICT use in the teaching process. Indeed, most of the time teacher has the confidence and adjusting to change and tolerating innovations.

We have noted that the advancement of teachers' attitudes toward ICTs was viewing as a critical factor for improving technology integration into teaching and learning process at school. The findings also observed that some teachers are ignorance in insensitive of ICT skills. Hence the teacher should be very active, and the school administration has to take responsibility to motivate them to innovative, different pedagogical approaches that can help them in their teaching. It is noted that from the survey finding the computer needs high skills personal to operate them. Therefore, it leads the difficulties for the teacher to integrate the ICT in the teaching in secondary schools.

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10. Conflict of Interest

The authors declare no conflict of interest to disclose this study.

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