The Perceptions of Teachers, Parents and Students on the Effects of Mobile Phone Use on Student Learning in Tanzania

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Abstract
The use of mobile phones enables learners to interact with vast resource materials to facilitate learning. Yet in Tanzania, mobile phones are strictly prohibited in many schools. This study examined parents', teachers' and students' perceptions of the effects of students' access to mobile phones on students learning performance. It was conducted in four selected secondary schools in Dodoma municipality. Both qualitative and quantitative research methods were employed as data were collected from 280 respondents through questionnaire, interview schedule and documentary review. Cross-tabulation and Chi-square tests were among data analysis techniques employed in the understanding of different perceptions of respondents. The findings show that, parents and teachers agree that students with mobile phones perform poorly and misbehave more often than students without mobile phones. Also, in order to have value-based control system for appropriate use of mobile phones, providing proper education on mobile phone use and re-introducing censorship board to control the quality of contents on websites are recommended.
Keywords: mobile phone use in school, effects of mobile phone use on academic performance, school mobile phone use policy in Tanzania.

1. Introduction

Since their emergence in 1950's, mobile phones have spread more in the last decade to a larger part of the world especially in Africa. Currently, mobile phones are highly used not only as a means of accessing communication services but also as a reliable source of knowledge through its ability to access internet.

Mobile phone is one of the Information and Communication Technology (ICT) tools which are potential for improving access to information for learning and teaching (Aguero, 2009). In Peru, efforts have been made to enhance the use of mobile phones in formal education because they have proved to be a reliable way of accessing information as they have helped to improve other sectors such as agriculture and marketing business (Aguero, 2009). The usage of mobile phones in India has improved fishing business and wholesale merchants as a result of low cost of using mobile phones (Jensen, 2007). With the use of mobile phones, consumers and traders welfare have improved due to reduced cost of using mobile phone across the market (Aker, 2008).

Successful use of mobile phones in agriculture, trade, fishery and consumer sectors, have forced research to be done to integrate and extend its use to formal education sector. Most successful pre-service teachers use mobile phones as video recording devices or as digital camera capturing episodes of their lessons that illustrate the impact of their teaching on students' learning (Ferry, 2008). This helps teachers to reflect on and improve their teaching sessions by learning from their own recorded lessons.

In United Kingdom, at the time of joining secondary schools, 91 percent of 12 year old students have mobile phones which allow users to read PDF files, spreadsheets and word-processed files (Hartnell-Young and Heym, 2008). In Pakistan, mobile phones are used by both teachers and students in sharing information and consulting dictionaries, thesaurus for educational purposes (Javid, Malik and Gujjar, 2011). Malaysian education stakeholders see the opportunity that mobile phones can become one of the applications for teaching and learning in secondary schools (Mohamad and Woollard, 2010). Thornton and Houser (2004) note that, 95% of Japanese population age 15 to 24 years own web-enabled mobile phones which they use in communicating with friends, receiving and sending emails and reading news.

In African context, the number of mobile phone users was expected to reach 600 million by 2012 (Danis, 2010). Mobile phones have penetrated the African rural and remote areas to poor communities than desktop computers (Eagle, 2005). The quick spread reflects their usefulness and importance in simplifying communication. South Africa is looking for an opportunity to introduce mobile phones to facilitate teaching ICT though many areas lack electricity and infrastructure for ICT. In Kenya, the University of Nairobi is preparing to introduce mobile phone programming class to empower students to build applications that will enable them to

help solve the needs of their communities (Eagle, 2005).

In Tanzania, the government has liberalized communication sector with several operators covering large areas of the country (URT, 2003). While there were below three million mobile phone users in 2003, the number has doubled to six point five million subscribers in 2007 (Reuters, 2007, Jan 23). Information and Communication Technology (especially mobile phones in this context) has to be part of larger national development strategy mainly for a country like Tanzania, which aspires to become a knowledgeable society. ICT has to be a key pivot in the production, transfer and use of knowledge (Swarts and Wachira, 2010), and mobile phone is the basic tool for ICT in the country with constraints of electricity availability.

The countries need to work out to make sure that mobile phones are properly used in education sector to improve teaching and learning as they have legitimate academic uses (Shaw, 2009) and are significant tools for improving education delivery, outcomes and impacts (Swarts and Wachira, 2010). The national report of the United Republic of Tanzania on the Development of Education (2008) states, "the ICT policy aims to empower learners, teachers, education managers and leaders to use ICT judiciously and effectively for expanding learning opportunities and ensuring educational quality and relevance". The effective use of ICT offers more opportunities for learning new knowledge through interaction, sharing knowledge and information with others.

Students with mobile phones that can access internet, use them to search definition of concepts and references; also extract materials relating to their study (Katz, 2005). Others use features such as clock, games and calendar (Hartnell-Young and Heym, 2008) which help them in planning their studies. However, to allow mobile phones in education setting requires high supervision which still is difficult to manage (Ford and Batchelor, 2007). The appropriate use of these instruments can be encouraged through value-based principles instead of managing it through rule-based system. In other words, the effective use of mobile phones depends much on internalized moral values of individual student rather than forcing them through rules and regulations.

Regardless of their usefulness, mobile phones appear to be disruptive devices in schools because of improper use and limited supervision. In many countries including Tanzania, most of the schools ban the use of mobile phones in school environments. There are strict policies which are stipulated in school rules and regulations which prohibit students from accessing mobile phones. Banning aims at improving pupils' behavior (Barkham and Moss, 2012). The consequence of breaking school rules and regulations include confiscating the device and suspending or expelling a student from school. According to Barkham and Moss (2012), it is not wise for schools that cannot afford modern ICT facilities to ignore powerful ICT gadgets in every pupil's pocket.

Whereas most schools ban students from using mobile phones because they spend most of the time chatting, recording fights and violence and watching pornography (Ford and Batchelor, 2007), parents provide mobile phones to their children to allow them to access useful information and communicate with friends and classmates on educational matters. Given such situation of mobile phone restriction by teachers, while parents provide students with mobile phones, the study sought to examine parents', teachers' and students' perceptions on the effects of students' access to mobile phones on students' learning performance. Even with the potential negative consequences, it is important to consider the use of mobile phones as potential learning tools because the devices do not permanently depend on electricity connection, are easy to maintain, easy to use audio and text interfaces, affordable and accessible (Valk, Rashid and Elder, 2010).

The purpose of the study was to explore the perceptions of teachers, parents and students on the effects of accessing mobile phones on students' learning performance. Understanding the perceptions of teachers, parents and students set a foundation for developing value-based control system of using mobile phones among students, instead of the current system of rule-based control which proves to be ineffective. Such perceptions are discussed in order to reach a consensus on how the device could be used in learning setting as a part of ICT policy implementation in improving students' learning performance. The specific objectives were to test three guiding hypotheses: first, students who have mobile phones in school perform poorly compared to those without mobile phones; secondly, students who have access to mobile phones tend to break school rules compared to those who have no access to mobile phones; and lastly, developing value-based control system for proper use of mobile phones would minimize discipline problems and improve students' learning performance compared to the current rule-based control system.

1.1 Methodology

The study employed both quantitative and qualitative research approaches to test the above listed guiding hypotheses. A cross-sectional survey research design was found suitable in studying teachers', parents' and students' of the effects of mobile phone access on students' learning (Owens, 2002). The study took place in Dodoma Municipality where many secondary schools have policies which restrict students from owning or using mobile phones in school surrounding. The target population included parents, teachers and students. A sample of 41 teachers, 36 parents and 203 students was obtained from selected secondary schools. Both purposive and simple random sampling techniques were used to select study participants. Data were collected using interview

schedule, documentary review and questionnaire. Chi-square, cross-tabulation, graphs and percentages were among data analysis techniques employed for better understanding of different perceptions of respondents.

1.1.1 **Results**

The study found a relationship between socio-demographic factors and students' access to mobile phones, especially age, sex, location, family status, and culture of the area. From the findings, 81% of respondents believe that, students from town have access to mobile phones than those from villages and 80% of the respondents believe that, parents should be blamed for providing mobile phones to students. Sixty eight percent of students who had mobile phones were given by their parents or guardians because they trusted them as mature enough to have self control in using the devices. Some respondents believe that, female students are not supposed to get mobile phones as they are more likely to be influenced into having sexual relationships as one respondent put it:

> "We caught two girls using mobile phones in toilets around 11PM while others were sleeping.
> They were appealing to the man on the other side not to leave her fellow. When the phone was
> taken, it had 112 messages of which only two were from brother and mother. The other 110
> were purely romantic messages; you can imagine how serious it is"

This finding was corroborated by responses from students, which showed 64% agreement on girls being vulnerable to effects of access to mobile phones. Other students counter-argued that, mobile phones are not the cause of poor performance, but may accelerate poor performance. See figure 1.

These findings indeed show that students disobey school regulations, which restrict them from having mobile phones in school environment. Eighty percent of the respondents said that many students from wealthy families have mobile phones or have easy access to mobile phones. According to these findings, most of the students who were caught with mobile phones in school, especially boarding schools, performed poorly in their internal and final examinations. In the years 2009, 2010, and 2011, the total number of students caught with mobile phones in the four selected schools was 72 (29, 11 and 32 respectively). Their overall form four performance was as follows: two got division II , 11 division III, 39 division IV, 14 failed and the remained six did not even sit for the examination. The records show only those who were caught. However, many with mobile phones were not caught and it was possible that many shared those mobile phones with others.

Chi-square test determined the relationship between owning mobile phones in school setting and learning performance. See Table 1. At the significance level of 0.05 and three degree of freedom, the critical value 7.815 is greater than 0.000, hence there is enough evidence that there is significant relationship between access to mobile phones and poor performance of students. Parents, teachers and students agree that mobile phones cause chaos in schools particularly in concentration on learning. A single mobile phone in schools may be used by several students as one teacher observed:

> "One mobile phone in school is used by more than five students, because they know who has it
> and when they want to use it they get it. Some of them have mobile phones but have not been
> caught yet. Therefore, students who have mobile phones offer other students access through
> borrowing"

Mobile phones are good as they perform various functions. They can bring great revolution and development in education if they are properly integrated and used in teaching and learning setting. However, mobile phones are misused in recording violence, searching uncensored contents like pornography (Ford and Batchelor, 2007), taking photos and posting them on websites, listening to music and chatting. Students with mobile phones are busy with their phones than studies. All respondents agreed that establishment of value-based control system should replace the existing rule-based control system which is ineffective. The question was how that could be done if parents and teachers do not seem to collaborate in curbing the seeming harmful effects of mobile phone use on students' learning performance.

It is undeniable that mobile phone is the simplest and easiest technology for communication and interaction (Shaw, 2009; Swarts and Wachira, 2010). Mobile phones are helpful in constructing knowledge through surfing and sharing that knowledge with other people. Mobile phones have penetrated into the interior part of our country due to its usefulness. Mobile phones have a number of advantages depending on its proper use.

The study revealed that, there is a close relationship between students accessing mobile phones and poor performance. Today in schools most of the students have access to mobile phones. Some students have bought them; others have gotten them from their parents or friends. It does not matter where they got them; the issue is how those mobile phones are used to the extent of affecting students' learning. Students are affected because access to mobile phones automatically exposes them to misbehaviours including cheating in examination, which ruins their integrity and interrupts their concentration on studies.

Mobile phone is perceived as an accelerator to students' poor performance as it is not properly used and controlled. However, not all students who have access to mobile phones perform poorly. Currently in schools,

the situation is controlled by enacted strict rules which do not allow students to own or have mobile phones. The rules have proved failure as there is great number of students who have mobile phones. It is clear that, rules cannot succeed to address the problem of mobile phone use in school environment because most of the schools are not boarding, so students always have access to mobile phones after school.

From these findings, students are spending much time dealing with phones than with studies. Other school regulations are broken; learning concentration is shifted away from studies. Owning mobile phone while school rules restrict is a sign of misbehavior; and often leads to further misbehaviors like being at a wrong place in order to get space to use the phone secretly. Although some students say that mobile phones are not the only cause of poor performance and misbehaviours in schools, they acknowledge it is a catalyst that accelerates poor performance and indiscipline among students. Whether it is a source of failure or it only accelerates students to fail and misbehave is not an issue, what matters is that, it affects students' behaviours which later affect their learning.

It is true that, before mobile phone era, students had other means of communicating including writing letters and visiting their friends or lovers physically. So, when students do not have mobile phones it does not mean that no student will misbehave or fail in final examinations. There are other things which might contribute to students' failure, but mobile phones have worsened the situation. To rescue the situation, there is a need to find some ways of complementing school rules.

Finding a suitable way which will work efficiently and effectively in controlling students' mobile phone use is inevitable. Value-based mobile phone use control system is the best proposed way. This is the means by which students are socialized on the best ways of using mobile phones, which will be helpful in their studies without requiring close supervision or monitoring from elders as they would control themselves. The best ways of developing values-based control system include teaching them about advantages and disadvantages of mobile phones, having clubs and seminars which would involve guest speakers from other institutions to address them, to initiate and sustain friendly relationship with students and the last option should be the use of punishment. Re-introduction of censorship board to control and monitor online contents from service providers which students are accessing will be extremely helpful. This can be done through collaboration with internet service providers to block contents which involve pornography, violence and inappropriate language.

Schools represent features found in the larger society. Schools should prepare students for the later life in their particular societies. Schools should not alienate students from their real societies, rather to make them fit and adaptive to their societal values. Therefore, it is ideal to teach students about things which they will find in the society including appropriate use of mobile phones. Restricting mobile phone use is not helpful to students as it only postpones the problem. Students have to be prepared to understand advantages and disadvantages of mobile phones through enforcement of value-based control system. This will help them to develop the desired discipline to improve their behaviours and learning.

To overcome students' poor performance in their learning, mobile phone use has to be controlled. Value-based control uses are important since mobile phones have access to the internet, which resembles the basket that contains all kinds of information and contents. The internet is sometimes considered as a bin where everything is posted in it whether good or bad. Containing such huge and diverse kinds of contents and information, students have to be supervised when they are accessing such contents just as they are guided in life. The best way to supervise them is to have value-based control whereby students will use mobile phones according to their values and avoid negative effects.

The government efforts should be to integrate mobile phone use as a part of ICT in its education policy where students will learn and understand best use of mobile phones. There has to be a unit or topic in ICT subject where appropriate mobile phone use will be taught. Students agree that mobile phones accelerate poor performance in learning, but do not cause students' failure because lack of success was seen even before mobile phone era. They are adamant that banning, confiscating or destroying mobile phones will never be a sound solution since students will continue using them after school. With these new insights, the government has to improve its educational policy and schools have to work to ensure that students are accessing mobile phones as learning tools to improve their performance rather than as destructive tools, which lead to poor performance.

1.1.2 Conclusion

Based on these findings, misinterpretations between the perceptions of teachers, students and parents are apparent. The collective effort, if worked out well, will help to address the issue of mobile phone use in schools. Mobile phones have to be used in teaching and learning in secondary schools due to their usefulness. Students have to be more educated on the proper use of mobile phones so as to reduce the consequences of their improper use. Teachers need to inform students why they ban mobile phones in schools and parents need to inform why they allow their children to access mobile phones. Teachers and parents have to work collaboratively in ensuring that students are using mobile phones appropriately. This will foster development of value-based mobile phone

use control system. Students should not be reluctant in receiving instructions and guidance from elders.

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Notes

Note 1. This is an example.

Note 2. This is an example for note 2

Table 1: Chi-square Test Statistics

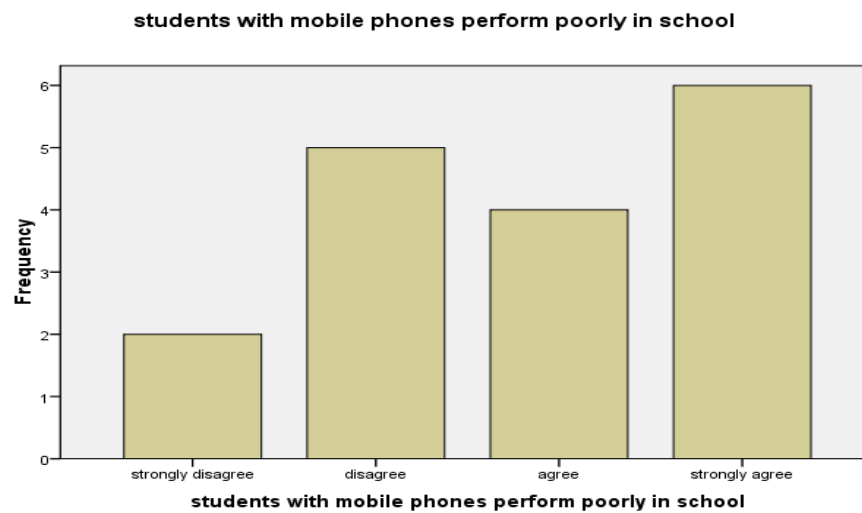|	students with mobile phones and poor performance in school
Chi-square	29.429[a]
Df	3
Asymp. Sig.	.000

Source: Field Data, 2012

Figure 1: Students' perception about access to mobile phones and poor performance
Source: Field Data, 2012

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