Students’ perceptions on the politics of mobile phones usage among learners

Crispen Bhukuvhani
Bindura University of Science Education
E-mail: cbhukuvhani@buse.ac.zw/ chaukemilo@gmail.com

Abstract

Besides the rapid proliferation of information technologies in the form of mobile communication devices and extensive mobile telecommunication networking and their potential to transform the curriculum, there has been a political and social debate in Zimbabwe as to whether it is good for school children to use mobile phones at school or not. The research study conveniently selected a class of forty-eight students on their views on the usefulness and effectiveness of smart mobile phones as form of educational technologies in their learning of science. The study was carried out at a rural secondary school in Plumtree district in Matabeleland South Province of Zimbabwe. Open-ended questionnaires, standardised semi-structured interviews and a science homework assignment were used to gather students’ views and the effectiveness of mobile phone usage in their science learning. Students with no mobile phone nor access to them were 40% (f=19) whilst 50% (f=24) borrowed from parents or guardians whenever they needed to use and 10% (f=5) only reported that they owned mobile phones. The students also reported that school authorities would confiscate the phones that are found in their possession. This is despite that the students view mobile phones as useful and handy for their science studies as they can access varied and most recent information. They also enable them to share information and collaborate among themselves. This, in part, solved the problem of the very limited information sources in the form of textbooks at the school. Students also felt that the use of mobile phones for learning instills a scientific and technological culture in them. The students were able to cite mobile phone applications and functionalities that could help them in their science learning. The most cited mobile applications were YouTube for accessing science lesson videos, Skype for video conferencing, Office tools for reading documents in Word, Excel, PowerPoint, and PDF, WiFi capability for connecting to the Internet for researching, and social media applications for information sharing. This research found out that mobile phone if used appropriately may enhance students’ learning. However, further research in this may illuminate on pedagogical issues for their effective and efficient use for learning.

Key Words: science learning, mobile devices, educational technologies, science curriculum

Background to the problem

Mobile phones are arguably another revolutionary invention of our time (Mohamed and Woodlard, 2012). Besides computer and Internet technologies, mobile technology is growing worldwide. Mobile phones today go beyond just voice communication and provide a multitude of other features and services, Web browsing, checking e-mails, and using online dictionary. In other terms, mobile phones has become an essential part of everyday modern life (EACE, 2009).

Worldwide, mobile learning (m-learning) is also considering as a new form of
learning. This means learning by correspondence by the use of the latest media technology in education. Mobile phones have considerable potential to enhance teaching and learning and learning across all education subjects. Their impact on student’s behaviour, enthusiasm, motivation, and progress is well acknowledged, especially in the United Kingdom where over two thirds of the students were found to be using electronic media in class (EACE, 2009), studying necessity to use mobile phones in education seems to be inevitable especially in secondary school education.

In Zimbabwe and other African countries such as Rwanda there has been debate in the social and political forums on whether or not to allow secondary school students to use mobile phones whilst at school (Buchana, 2015; Gweshe, 2015; New Zimbabwe, 2015). Some schools as per their policies do not allow whilst others allow students to use mobile phones at school.

Statement of the problem

Pupils have been performing poorly in most subjects especially in science. This is besides the availability of many ICT tools that include mobile phones. However, in Zimbabwe the issue of use of the mobile phones by school pupils has remained contentious. This research aimed at investigating students’ perceptions on use of mobile phones for use in the learning of science.

Research questions

The following research questions were formulated to guide the research:
1. How do students view the use of mobile phones in leaning science?
2. What are the benefits of using mobile phones in leaning science?
3. How effective are mobile phones usage for their use in leaning of science?

Review of related literature

Use of mobile phones as learning aids

Mobile phones are being extensively used by students at all levels. They can be connected to a computer to download information from it or vice versa. Good or bad are the two sides of a coin, but it is up to users to make the best use of mobile phones.

They are useful in studies and business. In both fields mobile phones has become like compulsory gadget we are moving to an era when mobile devices are not just for talking and texting, but also for accessing the Internet and all it has to offer (Mohammed and Woodlard, 2012).

Mobile phones may be used in making video recording information and transmitting it to other phones or computers. Students can discuss their assignment and homework over the phones. The usage of phones is not intended for negative purpose and influence however the attitude and time channelled towards these devices has enslaved students also making them edicts.

Katz (2005) states that smart phones adoption among American teens has increased substantially and mobile access to the Internet. Some studies suggest that mobile learning applications can facilitate students in various ways like not only learning contents easily but also interacting with others anytime and anywhere at his all convenience. Hence, the development of m-learning as a new strategy for education has implications on the way students and teachers within edu-
cational institutions interact. Kinshuk (2003) propounds that mobile phones are helpful for the students can use it for exchanging useful information with their classmates about their studies. Ferry (2009) indicated that modern mobile phones can be used to help students to access web-based contents. They are able to share and collaborate with others and create media rich deliverable for the classroom teachers as well as global audience.

Hartnell-Young and Heym (2008) determined the effect of gender on the students’ perceptions focused on overall positive perception regarding the usage of cell phone technology mainly in secondary education. Therefore, there is interest and potential for educational implementation and use of mobile phones as learning tools in schools students can learn from cell phone by going online and using online textbooks. Mobile phones allow for multi-tasking applications and services. Using mobile phones range from simple text messaging services to increasingly advanced software applications that provide a lot of functions. This shows that mobile phones plays an important role in day-to-day life activities, because they came with different technological features. Therefore it is easy for pupils to learn various things (Hartnell-Young and Heym, 2008).

Students can access the Internet on their mobile phones while on the go, and this can get knowledge of any topic they wish. Mobile phones getting launched nowadays come with supper impressive features related to entertainment. Mobile phones are also complete portable entertainment devices (Ford and Batchelor, 2007).

Regardless of their usefulness mobile phones appear to be disruptive devices in schools because of improper use most schools ban and students from using mobile phones because they spend most of the time chatting, recording fights and violence and watching pornography even with potential negative consequences, it is important to consider the use of mobile as potential learning tools (Ford and Batchelor, 2007).

Mobile phones in science learning

Always connected with mobile phones one is connected to the Internet throughout where students can find more information on science. These devices are convenient to carry around and use them as long as there is network coverage. Therefore, science students can communicate with their teachers that is sending assignments and homework. The education advantage using hand held devices over full-size computer are attractive. A wide variety of devices such as cell phones as used for mobile learning mobile phones are to maintain easy to use (Hartnell-Young and Heym, 2008).

Mobile phone’s offers a lot of advantages but it has also negative aspects. Some students become addicted to these phones. Mobile phones are convenient devices that can be used for a variety of tasks. However, mobile phones can also disrupt a meetings or classes if proper etiquette is not followed. The phone ringing during lesson can disturb the other learners and waste precious time. Sometime some of the students may spend most of their time chatting and recording fights and violence and watching pornography. This is the reasons why they don’t get time for studies. In fact students are more interested in wasting their time on mobile phones rather than spending it on studying (Kinshuk, 2003).

Widespread use of mobile phones by students has provided multiple opportunities to benefit from the mobile learning represent way to address a number of educational problems.

Mobile phones are only used for the welfare of humankind but also its misuse has serious effects on our society worldwide, good or bad are the two sides of a coin, to make best use mobile phones.
Mobile applications that students may use for learning science

Teaching and learning through mobile phones allows learning in no fixed location or time of learning (Kinshuk, 2003). It allows for a male student centred in learning where the student is more responsible for acquiring processing and using information. Mohammed and Woodlard (2012) have examined the benefits of using mobile technologies for pedagogical purposes. These studies describe teaching and learning through the mobile technologies as a very good way of making the students participants in the acquisition and dissemination of knowledge.

Mobile phones come with different technologically advanced features. It is easy for students to be able to learn a lot from the websites. Mobile applications is a piece of software on a portable device such as a mobile phone that enables a user to carry one or more specific tasks that are not directly related to the operation of the device itself. Examples include the ability to access specific information, play games, sending messages and so on. When learning science, students can use Microsoft office applications for recording experiments data and project based learning.

Smart phones can have word processors and Internet-capable can for research. Science students can use PowerPoint to present information and pictures. Students can use the Internet to access and share information through social network Twitter, WhatsApp and Facebook to send and receive information to other students. Youtube demonstrations and videos can be viewed. Video conferencing is afforded through Skype.

Negative impact of mobile phones on students’ learning

The students may be addicted to mobile phones. They can be seen playing games, chatting and talking to their friends on their mobile phones most of the times. This is the reason why they do not get time for studies (Mohammed and Woodlard, 2012). In fact students are more interested in wasting their time on mobile phones rather than spending it on studying. Almost everyone has a mobile phone these days. Mobile phones have completely changed the way people interact. The mobile phones have become part and parcel of many people’s lives (Ferry, 2009).

Strategies of effective use of mobile phones in learning

The schools need to work out to make sure that mobile phones are properly used in education sector to improve learning and teaching as they have legitimate academic uses (Mohamed and Woodlard, 2012) and are significant tools for improving education delivery outcomes and impacts. The ICT policy aims to empower learners and teachers to use ICT judiciously and effectively for expanding learning opportunities and ensuring educational quality and relevance. The effective use of mobile phones offers more opportunities for learning new knowledge and information with others.

However to allow mobile phones in learning requires high supervision which still is difficult to manage. 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 internationalised moral values of individual student rather than forcing them through rules and regulations.

There are strict polices which are stipulated in school rules and regulations which prohibit students from accessing mobile phones. Banning aims at improving pupils’ behaviour. Teachers confiscate these devices. 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.

The teachers need to fore see the problems that may be bought by the use of these
technological gadgets and see to it that the proper monitoring mechanisms are put in place.

Mohammed (2012, p. 408) says that ICT is here to stay and it will be instrumental in the future of both business and education. The desktop that are available at school are not connected to the Internet. With their smart phones pupils says it easy to share with others the new discoveries that would have been found.

According to Mohammed (2012, p. 408), the current level of development of new technology in the field of learning and education offers opportunities for collaborative engagement access to information, interaction with content and individual empowerment. This means that a teacher can be able to get the material one wants to give to the pupils and they can monitor this on the main server as they progress.

Students are to be also given the best exposure to their learning activities because the Internet where they obtain information is updated. This makes the teaching and learning of Science easier.

EACEA (2009, p. 31) states that mobile phones provide a useful and thus far under exploited format in educational terms, and unsurprisingly are the subject of much debate, research and surmising as to their potential. Mobile phones with increasingly sophisticated integrated technologies are a part of modern life. They provide instant access, good usability, and simple system and thereby suit the needs.

**Results and discussion**

**Availability of mobile phones amongst students**

Students revealed that some of them had access to mobile phones because their parents buy for them whilst others did not have. Those who could not afford, could not acquire data-enabled devices for learning purposes. This is besides Hartnell-Young and Heym’s (2008) observation that mobile phones improve students’ learning.

The findings from the interviews revealed that some students cannot afford to own these gadgets. The pie chart below shows the pupils who do have mobile phones, those who use their parent’s mobile phones, those who have phones without Internet and those who do not have any phone.

Fig. 1 below shows that 40% (f=19) of the students had mobile phones, 10% (f=5) did not have mobile phones for researching purposes. However, 50% (f=24) can use their parents phones for accessing information for learning. Therefore, the pupils suggested that they need to be permitted to have these phones at school. They stated that they need them because they are essential learning aids in Science.

**Research methodology**

The study used mixed research methods in which both quantitative analysis through use of descriptive statistics in the form of frequencies tallying and detailed qualitative analytical techniques were used. Convenient sampling was used to select one class of 48 students for participation in the study.

Students’ views were solicited using open-ended questionnaires and standardized semi-structured interviews. A science homework assignment was also used to measure the impact of mobile phone usage on students’ performance in science. Both the school at which the study was conducted and the participants were coded for to preserve anonymity (Leedy, 1987).
students stated that the mobile phones are so helpful for both the leaner and the teacher. This means the use of technologies can be a motivating factor for leaning science.

Students highlighted that when they are using mobile phones at school teachers usually confiscate them and keep them. They said that they need to be given the permission to bring them to school because that is the reason why most of them do not have phones because their parents know that they are prohibited at school.

However, this triggers protests against an unfair leaning environment with the haves and have nots and it makes it difficult for anyone delivering information to attend to the few that have the resources.

**Use of mobile phones by students**

According to (EACE, 2009) mobile phones provide a useful and thus far under exploited format in education terms, and unsurprisingly are the subject of much debate, mobile phones with increasingly sophisticated integrated technology are a part of modern life. They provide instant access, good usability and simple systems thereby suits the need of many. Mobile phones are therefore a blessing instead of a hindrance to leaning (Hartnell-Young and Heym, 2008). It also points out that mobile phones nowadays come with different technologically advanced features. It is easy for students to be able to learn a lot about science from websites. However, pupils emphasized that mobile phones are better used because at school they have desktop computers which are not connected to the Internet.

Mohamed and Woodlard (2012) state that ICTs are here to stay. They are an extremely instrumental in the future of business and education. This means that learning is overflowing from the class to everywhere else where the students will be. Students can easily consult their classmates when they are at home doing homework using these mobile phones. They suggested that instead of confiscating these mobile phones teachers can take advantage of them because society norms are now changing because of the social media platforms (Mohamed and Woodlard, 2012).

**Fig 1: Availability of mobile phones amongst students (N=48)**

[Image of a pie chart showing availability of mobile phones amongst students.]

- 50% Borrowing from parents
- 40% No mobile
- 10% Owning mobile phones
- 10% Available at school
Students perceived benefits of mobile phones usage in science

The 48 students were given a science homework assignment. The pupils performed differently. The students (f=33, 68.75%) who researched the work from the mobile phones at their homes and managed to score better marks. Those who did not have Internet capable phones (f=12, 25%) scored lower marks whilst 3 students (6.25%) failed. They stated that they do not have neither textbooks nor mobile phones to use for the research based task. The pupils hammered that they were using Google to research because at school the text books were inadequate and outdated. Students highlighted that with mobile phones learning science was interesting to them.

The students also use these mobile phones for various purposes such as getting more engaged on social media networks and playing games and at times forgetting to use them for research purposes. Students also cited some mobile applications such as YouTube for accessing science lesson videos, Skype for video conferencing, Microsoft Office tools for reading documents in Word, Excel, PowerPoint and PDF, WiFi as useful for their studies especially in science. The researcher has seen the difference in classroom test performance on students who were exposed to the information technology. Students who are exposed to the different kinds of ICT gadgets for example, in this case, smartphones, improved tremendously students’ performance in the assigned Internet research based homework in science. The students feel they should be exposed to this kind of technology at school. This will enable them to do their homework successfully as well as other work given at school.

However, some schools allow students to use mobile phones during practical lessons, but at school at which the study was carried out, this was not the case. Students stated that they wanted to be allowed to use a variety of ICT tools, and what makes them happy is to be allowed that chance to use what they like most in their science lessons so that they perform well.

The students also stated that ignoring the information and technology era means that the teacher will not be making the students to adopt to this fast changing world. Students said they needed to learn comfortably using the gadgets of the moment so that they remain relevant in this world.

Conclusions

Besides the perceived usefulness of mobile phones use in learning, many rural students have no access to them. Some parents and guardians give their children phones to access the Internet at home. The mobile phones complement the few books and science equipment that are available at the school. The rural secondary school has desktop computers but they are not connected to the Internet. Therefore, the mobile phones become more useful in accessing the Internet through mobile telecommunications data networks available.

The study revealed that the students would rather have technological ways of learning rather than the traditional ways of learning. Students need to be motivated to learn so that teachers will reap good results. Students these days are no longer relying on physical libraries but access information on the Internet.

Recommendations

The government policy should integrate mobile phones use as part of ICT in its education policy where students will learn understand best use of mobile phones. With these new insights, the government has to improve its educational policy and schools have to ensure that students are accessing mobile phones as
learning tools to improve their performance rather than as destructive tools which leads to poor performance. Mobile phones can be used by students as a means of bridging the gap of textbooks and teacher shortage. Further research on this issue is recommended so as to shed more light on underlying pedagogical issues for the effective and efficient use mobile phones by students for their learning.

References


