STUDENT PERCEPTIONS ON USE OF ICT IN LEARNING: A CASE OF ONE SCHOOL IN MOMBASA

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Abstract
The aim of this paper is to present the findings of a qualitative study carried out on perceptions of high school students on the use of ICT in learning in a secondary school in Mombasa Kenya, involving 18 students in the 11th grade (form three). The students took part in three focused group discussions and six one-on-one interviews over a period of two weeks. Several themes on the learners’ understanding of and reaction to ICT were identified. It was revealed that learners had a sound understanding of the various types of ICTs and could even define them while explaining the uses of these ICTs. Findings also revealed that the learners were generally motivated while using ICTs and that ICTs encourage student-centered learning leading to better understanding and performance in their studies. All in all, the findings from this study reveal that learners are aware of the importance of ICT in their learning and that at the moment the use of ICT in school is no longer a luxury but a necessity that has taken long to materialize.

Key Words: Information and communication Technology; Access; Students' perceptions; Kenya; Integration

INTRODUCTION

Kenya’s Vision 2030 envisages Kenya as a globally competitive and prosperous nation with a high quality of life by the year 2030. According to the Kenya Vision 2030 final report of 2007, the vision was reached after a consultative and inclusive stakeholders’ process carried out between October 2006 and May 2007. Specifically, the process involved international and local experts, ordinary Kenyans and stakeholders from all parts of the country. Between July and August 2007, the contents of the Vision 2030 were again subjected to open consultations in all districts in Kenya, before the finalization of the document.

This vision is motivated by a collective aspiration for a much better society than the one we are in today and aims at transforming Kenya into a newly industrialising, middle income country providing a high quality of life to all its citizens in a clean and secure environment. The vision is built on three pillars, namely:

- the Economic pillar in which it is expected that the country will maintain a sustainable economic growth of 10% p.a. over the next 25 years,

- the Social pillar which details a just and cohesive society enjoying equitable social development in a clean and secure environment

- and finally the Political pillar in which politics should be issue based, people centred, result-oriented, in an accountable democratic political system.
These pillars are anchored among others, on science technology and innovation, macroeconomic stability; infrastructure; energy and human resources.

It should be noted here that an integrated socio-economic and political development takes into account many areas which can benefit from faster access and enhanced productivities by using ICT in each of them (Hameed 2005). In other words we may never achieve the vision to its fullest if we do not enhance the use of ICT between the rich and the poor, rural and urban areas, men and women, skilled and unskilled citizens and large and small enterprises, and above all encourage the use of ICT not only in most, but all our educational institutions irrespective of their status. The author suggests that there has to be an even diffusion of technology and equality in access to technologies for there to be significant social, economic and political consequences.

Research has shown that the rate of ICT diffusion is correlated to the general level of socioeconomic development. Most recent findings show that ICT plays a vital role in advancing economic growth and reducing poverty. A survey of firms carried out in 56 developing countries found out that firms that use ICT grow faster, invest more, and are more productive and profitable than those that do not (Global Trends and Policies 2006).

However, although the developed and developing worlds are accepting ICT as an important tool in life generally, education has been slow to adopt it as an integral tool within the classroom (Cuban, 2001), yet education is the sole producer of manpower into all sectors of the economy. Indeed there has been a general agreement among researchers that the introduction of Information and Communication Technology (ICT) in learning environments is likely to have a positive impact on learning outcomes, creating access to information and creating change in learning approaches and hence improving the quality of education (Wegerif, 2004; Mumtaz, 2000 and Watson, 2001).

Why the slow infusion of ICT in education? Many reasons for this lethargy have been proposed in the literature, ranging from limited sources of funding, inadequate professional development opportunities for teachers, negative teacher attitudes towards technology and, lack of information about students’ perceptions and therefore their ICT needs (Keengwe, 2007; Rockman, 2004; Becker, 2001; Allen, 2001). This last point is indeed the basis of this paper. The BECTA (2007) report on Harnessing technology review: progress and impact of technology in education, refers to learners as key stakeholders and that in order to implement successful student centred learning and teaching environments, students’ involvement and awareness is crucial. Students’ views, if sought, would provide the stakeholders and the governments with valuable end-user insights into what learners are using ICT for in informal settings, and the ways in which they would want to use ICT in the school in future to support and facilitate their learning.

In the Kenyan context for example, it is not clear what the students’ attitudes and thoughts are about the idea of introducing ICT use in learning probably due to limited literature in the area of students’ perceptions as observed by Wabuyele (2003).
Conceptual framework

It has been argued that the option of computer technology is neither remedy for educational challenges nor a panacea for educational reforms, but it is a tool that can be used to support learning and enhance the quality of education (Keengwe, 2007; Tyak and Cuban, 1995; Sandholz, Ringstaff, and Dwyer, 2000).

Evidence from the literature shows that technology has the ability to improve learning in the classroom and that it has the potential for changing the way teachers teach and students learn (Thomson, Schmidt and Davis, 2003). This relationship between the quality of teaching and learning and ICT may have been the cause for countries such as Australia, the United Kingdom, USA and the Netherlands to integrate ICT into their curriculum (Richardson, 2000; Tearle, 2004). In Kenya, the Ministry of Education (MoE) supports the idea that technology can be a vehicle to improve teaching and learning and this is clearly evident in its ICT strategy of 2006 and the KIEs production of e-learning material. The ministry, in the strategy, observes that the quality of teaching and learning will improve considerably once ICT has been fully incorporated into teaching and learning. In recognition of this fact, the MoE with the help of New Partnerships for Africa’s Development (NEPAD) has put up measures to equip schools with appropriate ICT facilities; the project was then rolled out in six pilot schools within the country.

According to Willis and Mash (2003), it is important to find out from students how they perceive their own needs, a view that puts the learners at a focal point in the use of ICT. This means that the ICT curriculum should be able to maximize the learners’ sense of control of the technology; that even though researchers and stakeholders have well intentioned ICT plans for learning, learners’ perceptions should be sought (Kennewell, Parkinson and Tanner, 2000).

Indeed, technology should be connected to the learning contexts of the learner and should be needed by the learners themselves (Glatthorn, Boschee and Whitehead, 2006). Making their contribution to this argument, Deaney, Ruthven and Henessy (2003) are of the opinion that learners are an important part in the social system and that their perspectives play a crucial role in the formation of the activities that take place in school. It is important for the stakeholders to tune in to the learners voices as noted by Keys & Fernandes, (1993); Blatchford, (1996) and Rudduck et al (1996), and listen to their views keenly. This would help in understanding what the learners think about their experiences and what they perceive to be of importance in their learning, which in turn would lead to their overall good performance.

This evidence from the literature therefore suggests that learners are an important cadre within the school system and that their perceptions play a crucial role in providing feedback to teachers and stakeholders. This feedback could in a way, play a role in providing end-user insights in the integration of ICT. In addition, stakeholders need to consider learners’ perceptions in the process of integration so as not to lead to what Jain and Visser (1996) referred to as ‘stunted growth’. This resourcefulness of students’ perceptions coupled with the fact that the few studies available have largely been conducted in the developed countries, provided a basis for this study in the Kenyan context.

METHODOLOGY

In order to obtain data on the students’ perceptions, this study was conducted using the case study design. Case study provided a rich opportunity to understand better what the learners thought about ICT in their own perspectives thus, “...understand real people in real
situations..." as observed by Cohen, Manion and Morrison (2000: p.181). There was also need for detail rather than scope as noted by Silverman (2005), hence this design not only helped to understand the outcome but also the processes that led to this outcome through the detailed accounts.

Data were collected through focused group discussions and one-on-one interviews. A total of 18 participants were interviewed, first in three groups of six participants each followed by six one-on-one interviews. These interviews took a period of two weeks. The data yielded were first grouped into broader themes and then categorised while carefully identifying the connections among the different categories.

FINDINGS

The focus of the study was to find out students' perceptions on the use of ICT in supporting learning. In order for this to be possible, it was necessary to find out what the use of ICT meant to the learners; whether and when the participants obtained access to ICT, and if this access - be it early or non-early - influenced their perceptions on the use of ICT in learning. The findings of the study were presented under the following themes:

- Learners' definitions of ICT
- Enhanced motivation
- Redefined learning
- Improved attainment

Learners' definitions of ICT:

This theme was highlighted through the participants' definitions of ICT. The participants seemed to understand ICT through its use. For some, ICT was not only a source of information, but could also provide one with any kind of information. However, for others, ICT went beyond just being a source of information to some form of 'advanced technology which supplements what a user already knows with current up to date information'.

The learners seemed to have a broad understanding of ICT, going on their knowledge of the different kinds and forms of ICT that came through in their definitions. The definitions fell into three categories: the first category was the computer and its components, the second category was the media, and the final category as defined by the learners was communication gadgets. In the first category, the learners identified ICT to be the use of the computer (both desktop and laptop), internet, email, flash disk, blue tooth, infrared and compact disk (CD). In the media category they mentioned the radio, television, newspaper and magazine, while in the communication gadgets ICT was seen to include the phone (both fixed line and mobile phone), fax machine, telefax and pager.

Enhanced motivation: The participants were of the opinion that ICT would enhance their motivation for learning. The ability of ICT to offer colourful pictures and near to life images would, in their opinion, make learning interesting and fun. The participants expressed the idea that colourful presentations provided by ICT would be very necessary for their learning and that this would make them want to continue learning. According to the participants, ICT would make the lessons more enjoyable, through the use of music, puzzles, and even games. The
participants were of the opinion that learning should be more ‘enjoyable and fun’, and that ICT
could provide this.

**Redefined learning:** It was apparent from the participants’ responses that ICT would redefine
learning from the traditional teacher centredness to learner-centredness. According to the
participants, most of the work would be done by the learner while the teacher mostly offered
guidance and scaffolding. The learners would be expected to manage their own time in
accordance with the teachers' expectations thus taking charge of their own learning; switching
off the machine when one is tired, and switching it on when one is ready to continue. In this
case, therefore, ICT would be able to grant the learners the ability to manage their learning and
therefore make the learning more student-centred.

**Improved attainment:** The participants pointed out that ICT would improve learners'
performance due to the motivation and inspiration that promotes the urge to search for more
knowledge. In their perceptions on ICT use, the learners seem to agree with the notion of
attainment. According to the participants, the learners’ urge to keep on task, their ability to work
independently and the presentation of vivid near to life illustrations and pictures which are
enhanced by the use of ICT, would lead to learners’ improved performance.

**DISCUSSION**

Learners in this study perceived ICT in terms of use and the various components that
constitute it thus in a way painting a bigger picture of what they viewed ICT to be. Tinio’s (2003)
definition of ICT seems to agree with the learners. She defined ICT as a diverse set of tools
and resources used to communicate and to create, disseminate, store and manage information.
The first theme, *learners’ definitions of ICT*, is in line with Tinio’s views on what ICT is. To some
learners the definition went ahead to include other forms of ICT such as the radio, television and
even newspapers, which Tinio refers to as a diverse set of tools. This explains the fact that
contrary to the general belief, ICT is more than just the use of computer and Internet.

The second theme, *enhanced motivation*, goes further to explain how these tools,
identified by learners as ICT, would make their learning ‘fun based’ and therefore motivate them
in their learning. This theme, which cuts across the views of those learners who had access to
ICT while much younger and those who started interacting with ICTs much later in life, is
consistent with the findings of Deane, Ruthven and Hennessy (2003). Their study pointed out
that pupils associated using ICT with difference, fun, enjoyment, challenge and the removal of
constraints associated with manual tasks. As pointed out by Cox and Abbott (2003), when
working with ICT, learners are generally motivated and this motivation is largely attributed to
ICT. The learners have shown improved commitment to learning tasks, greater interest in the
subject, and pupils taking more responsibility for their learning and making sustained efforts in
difficult tasks (ibid).

The third theme, *redefined learning*, points to pupils’ knowledge of ICT as a means of
attaining knowledge rather than an end in itself. It provides the learners understanding of ICT as
being a tool to be used for learning. Indeed, this attests to the observation made earlier by
researchers, of the power of ICT to support learning, over and above learning about ICT
(Keengwe, 2007; Tyak and Cuban, 1995; Sandholz, Ringstaff, and Dwyer, 2000). It is this nature
of ICT as a tool to support learning that provides a clear departure from the traditional teacher
centred approach and redefining it to learner centred learning. Further evidence from the
literature shows that ICT has the ability to improve learning in the classroom and that it has the
potential for changing the way teachers teach and students learn (Thomson, Schmidt and Davis, 2003). As with the previous themes, the learners seem to agree here that learner centred learning has led to motivated learning and hence improved attainment as discussed in the following paragraph.

The fourth theme, improved attainment, revealed the learners’ response towards passing their exams with better grades because of ICT. This theme expressed how learners perceive the improvement of their performance grades through constant interaction with the ICT tools in the learner-centred environment. This was based on factors such as the urge to remain on learning tasks, their ability to work independently and the presentation of vivid near to life illustrations and pictures by the use of ICT. Indeed, Leask and Pachler (2005) in their study also observed that learners perceived ICT as being able to provide a positive effect on their learning of different concepts, strong skills in word processing, problem solving skills and improved scientific reasoning. In this study, the participants were able to relate the use of ICT to good performance; this was largely attributed to learning with ICT rather than learning about ICT. According to the participants, ICT equips them with the skills to prioritize, plan and manage assignments and projects with little assistance from their teachers.

These themes seem to suggest that learners view ICT as an important component of quality education, not as a discrete subject locked up in a Laboratory and studied by a few, but as vehicle or language in which all subjects should be taught. They seem to agree that ICT should be diffused into school en masse to maximize the benefits of economic growth. For this reason ICT should focus on people, particularly the young people who will be the actual players in 2030. For this to happen therefore, there is need to develop the vision of ICT and strategy with the young people in mind and with involvement of this same people. Unfortunately though, Vision 2030 barely mentions ICT in learning as one of its objectives and fails to locate ICT as a vehicle with which that very vision will be achieved. Whereas it is implied that by 2030 technology should be at an all-time high, it should not be forgotten that this very technology, should be diffused through the young people in schools, as they will be the principal drivers if indeed any meaningful development is to be reached by 2030.

**Recommendation for future research**

This study has focused on learners’ perceptions on the use of ICT in learning, and how early access and non-early access has influenced their views on the use of ICT. Recommendations for further research therefore are based upon the findings that emerged from these learners’ perceptions. According to the MoE (2006) ICT strategy, one of Kenya’s government priorities is to encourage as many schools as possible to integrate ICT into their teaching and learning process. However, from the findings of this study, it emerges that there is a need for more research of this kind to be carried out on learners’ perceptions on the use of ICT in Kenya and how their perceptions would positively or otherwise affect the implementation of Vision 2030. Indeed, learners, as shown in this study, provide rich and healthy contributions on the impact of ICT that stakeholders may find useful. It is also important to note that this study was based on learners’ perceptions only. In the future, research should also be focused on the teachers’ perceptions, since teachers interact with learners regularly and their input is also crucial.
CONCLUSION
This paper has given an overview of Vision 2030. It has also attempted to define ICT and it has shown why it is important that learners' perceptions in using ICT in learning should be sought. The paper also provides a conceptual framework in which the study was located, starting generally from a global view and zeroing down to the local context. This study concludes that learners are generally aware of the importance of using ICT in learning and that they are one step ahead in its use though ICT has not yet been rolled out in many institutions of learning. The study therefore suggests that since learners are important stakeholders in Vision 2030 (they will be the principal players by then), they do need to be given a chance in shaping their own destiny. However the paper also notes that ICT should not merely be seen as a goal in Vision 2030, but as an important component in achieving it. Consequently, the learners' major suggestion that mass usage of ICT in all subjects in schools should be promoted rather than limiting it to a subject for a selected few students, should be taken seriously.

REFERENCES


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