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Teachers Attitudes and Perceptions on the Use of ICT in Teaching and Learning as Observed by ICT Champions

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Abstract

The government of Kenya rolled out the ESP – ICT project in which it aimed at equipping 1050 schools with ICT infrastructure and capacity building of teachers in the area of ICT integration. It was expected that the current and future inventions will inject the much needed infrastructure, skills and attitudes necessary to spur ICT integration in teaching and learning in schools.

To support this, the government also appointed technical support teachers referred at as ICT champions. Since the ICT champions were in touch with teachers throughout the implementation of this programme, this study sought to find out their views on teachers' perceptions and attitudes on the integration of ICTs and their use schools.

A questionnaire was emailed to 20 randomly selected Champions on their Google groups' forum; ten men and ten women. In order to triangulate the data, five ICT Champions from one county were also interviewed and another five teachers, non-Champions from five different schools in one district were interviewed. The findings reveal that although teachers were enthusiastic about ICT integration, there were several challenges that were still holding them back from fully utilizing the ICTs. Issues such as inadequate infrastructure, lack of knowledge and skills on how to integrate ICTs, their own attitudes and beliefs and the curriculum, were challenges that the teachers seemed to point out as major impediments to the smooth integration of ICTs. The paper therefore recommends an overhaul in the teacher ICT training curriculum which would deeply address some of the issues raised by the teachers.

Keywords

ICT Champions, attitudes, perceptions, integration

INTRODUCTION

Many governments and institutions are continually becoming aware of the important part that teachers play in the implementation of ICTs in teaching and learning. The governments in Africa and elsewhere are emphasizing on teacher development as the key in implementing ICT in teaching and learning hence improving the standards of education (Hennessey, Harrison and Wamakote 2010). The teacher factor is an important fact that the Kenya government has paid attention to while implementing ICTs in teaching and learning. Indeed, as noted in earlier studies by Keengwe, (2007); Rockman, (2004); Becker, (2001); and Allen, (2001) among many other reasons for the lethargy in the uptake of ICTs in teaching, is the negative teacher attitudes towards technology which stands out as one of the main reasons. This literature points out that just like in the earlier attempts of integrating ICT in

teaching and learning, the process would be bound to fail if teachers are not put in the lime light.

Teacher training and support essentially becomes the epicenter of ICT integration hence an important component that needs to be given attention if ICT integration is to be realized. Indeed literature has proved beyond any reasonable doubt that when used appropriately by teachers, ICTs can have positive impact on the way teachers teach and the way learners learn thus improving pedagogy (Hennessey et al 2010). Suffice it therefore to say that teaching is increasingly becoming a more challenging profession where knowledge is rapidly increasing and technology changing enormously. This therefore demands that teachers have to learn how to use these new technologies in their teaching. Although integrating ICTs in teaching and learning is yet to be fully achieved in teacher training institutions, teachers who are already in the profession face a bigger challenge because they are expected to learn on the job.

It is probably due to this reason that the Kenya Government took up the issue of teacher training and support as very important in its attempt to integrate ICTs in education. Unlike in the earlier failed attempts, teacher training and support was given prominence. In 2010 the Kenya Government under the Ministry of Education released funds under the Economic Stimulus Programme (ESP) for equipping 1050 secondary schools, at least about five schools in every district, with ICT infrastructure and capacity building of teachers. This was in line with the Vision 2030, and it was expected that the adoption and integration of ICT in education would play a critical role in the transformation of Kenyan society into a knowledge based economy. The programme's sole aim was to enable teachers to use modern technologies in their preparation and delivery of curriculum in order to enhance access and promotion of quality of education (Ang'ondi 2012).

In order to support teachers, the ministry recruited teacher mentors who would be in charge of mentorship, training of teachers, and provide the needed support. These teacher mentors were to be referred to as ICT champions and were recruited through a rigorous interview exercise done in all the districts in the country. The ICT champions were not necessarily computer science teachers, but men and women who had adequate knowledge of using ICTs and above all had a passion for supporting other teachers in the use ICTs (Ang'ondi 2012). The shortlisted ICT champions were trained at the Kenya Institute of Education (KIE) and the Kenya Education Management Institute (KEMI). Their role was to oversee the implementation of the ESP programme, provide technical support to schools, train teachers and provide mentorship as the teachers embarked on using the ICTs in their lessons.

As would be expected implementing this program was not to be as smooth because there were several unexpected milestones ranging from law quality equipment, delays caused by the disbursement of funds, unsupportive school heads, teacher attitudes among others. Although it was easier to deal with the issue of law quality equipment by ICT champions simply giving them what has popularly come to known as the 'red card', it was more challenging dealing with the issues of unsupportive heads and teacher attitudes.

LITERATURE REVIEW

Several factors have been pointed out in literature as barriers to ICT integration in teaching and learning. These barriers include but are not limited to, lack of appropriate software, lack of time for training and the use of ICTs, Lack of technical support, lack of competence to use ICT, lack of follow up for new skills, lack of differentiated training programmes, technical faults with ICT equipment. Literature indicates that teachers are already burdened people and when they are confronted with factors such as these, they tend to avoid integration all together so that they are not burdened further (Hew and Brush, 2007).

Teachers have been pointed out in literature as an important component in the integration of ICT in teaching and learning. They are expected to adopt and use ICTs appropriately in their teaching hence implement the changes expected in pedagogy. However as Dawes (2001) notes, this potential may not easily be realized because problems arise when teachers are expected to implement changes in what may well be adverse circumstances. Some studies have further shown that successful implementation of ICT depends mostly upon staff competence in the integration of ICT into instruction and learning. For example Venezky and Davis (2002) in their study, noted that technology by itself may not be any useful as a catalyst for any meaningful school change, but can be a potent lever for planned change implementation.

Research reveals several obstacles that teachers face in the course of implementing ICT integration. Chief among the obstacles are the teachers themselves. Although the majority of teachers believe that ICTs have the ability to improve classroom learning, an almost equal number of them still find it difficult to understand ICTs' specific benefits or how it can be used so as to achieve maximum results (Oldfield, 2010). Studies by Korte & Husing (2007), Oldfield (2010), Blanknskat et al (2006) and Becta (2008) have tried to bring to the fore these contrasting perceptions of teachers and even revealed that despite the continuous hype of the advantages of ICTs in teaching and learning, there is still a small group of teachers who do not see any considerable benefit to learners while using ICTs.

Studies indicate that investment in new ways of learning and teaching is not the same as investment in technology and infrastructure, the balance seems to tip towards the later. As pointed out by Ofsted (2001, 2002), there is need for teacher motivation to develop their pedagogy and practice; clarification on what pupils should learn using ICT and how teachers should facilitate this. However without proper guidance and taking into account the teachers own theories about teaching and learning which are recipes for integration, then the much desired change will most likely be limited (Mumtaz 2000). In addition to this, studies show that another major impediment is the teachers reluctance to abandon their existing pedagogy which Rodgers (2002) views as an obstacle to teacher development in classroom use of ICT than even limited resources.

Literature further points out that teachers' beliefs about their own efficacy (Ertmer & Ottenbreit-Leftwich, 2010) play an important role in integrating technology into instruction. These according to studies by Bruce & Rubin, (1993); Clark & Peterson, (1986); Ertmer, (2005); Hughes et al, (2005); Windschitl & Sahl, (2002); Zhao et al., (2002) , play a predominant role in how they conceptualize and use ICTs in their teaching. Indeed this proves that unless teachers see the connection between technology and the subject content they teach, they are unlikely to develop a technology-supported pedagogy.

To this end and as purported by Bingimlas (2009), the importance of ICTs in the future of education cannot be underrated, therefore identifying the possible obstacles to the integration of these technologies in schools would be an important step in improving the quality of teaching and learning. However as noted elsewhere in this paper these difficulties most of which affect teachers, continue to be encountered during the process of adopting these technologies (Balanskat, Blamire, and Kefala (2006).

Purpose of this study

This study aims at assessing ICT champions' views on the attitudes and perceptions of teachers during the training and mentoring period as the teachers attempt to implement the use of ICTs in their teaching. The Champions are mentors, support personnel and are always on call whenever teachers need help or would like to showcase their achievements. This paper therefore consolidates their observations on what teachers view as difficulties and therefore impediments in their endeavour

in integrating ICTs in their lessons. The study attempts to bring to the fore - according to the teachers - what works and what doesn't, what motivates them in using or not using ICTs, what demotivates them and what needs to be improved if integration is to be done smoothly. It is expected that the findings of this paper will provide insights into training manuals for future training in ICT integration.

METHODOLOGY

An email survey was used in collecting data. The online survey was used because of its ability to connect with low-incidence respondents spread over a large geographic area at one time,(Maritz, 2008) and the decreased need for the researcher to travel hence drastically cutting down on costs (Couper, 2000). A questionnaire was sent to randomly selected Champions on the Google group's forum where ICT Champions exchange ideas and reflect with each other. A total of 16 participants responded to the questionnaire. Since most of the ICT champions communicate regularly on this forum, it was expected that the selected Champions would respond to the questionnaire. The questions were qualitative in nature and sought to reveal the ICT champions views on the teachers strictly perceptions and attitudes. Additionally some of the ICT Champions reflections on the Google groups were analysed and this provided some insight on what teachers were going through in the integration process.

To triangulate this information five ICT Champions from one County were interviewed, first on one on one basis and finally in a focused group discussion. Noting that individuals' perceptions may be difficult to understand from another person's perspective, the researcher who is also an ICT champion observed teachers in his own district of jurisdiction, interviewed at least one teacher from all the five schools and documented in a reflective journal some of the fears and anxieties that teachers had during the training period and the implementation period. All the queries that teachers raised were noted down together with the answers or solutions to the challenges they presented. The source of the solution was also noted that is if the solution was from the area champion, from the teachers themselves or from the other ICT champions on the Google groups.

The questionnaire was emailed to 20 ICT champions on the Google group's forum 10 men and 10 women randomly selected but representing all the counties, this was after necessary permission was sought from the forum administrator. 16 participants responded to the questionnaires and emailed them back.

As the researcher awaited the return of the questionnaires, various discussions on the Google forum were keenly analysed and information which touched on teachers recorded in a reflective journal. Interviews of the five ICT champions were also done during this period.

The data collected was carefully coded, analysed and put into four themes that will be discussed in the next section.

FINDINGS AND DISCUSSION

All the teachers sentiments presented were categorized into four themes that seemed to emerge from the data collected. Although the sentiments were numerous, most of them were related hence fit in the four themes presented.

ICT infrastructure

Most of the teachers noted that the ICT resources were not adequate and this was the reason why most of them did not have a chance to use the ICT room. The resources provided by the government, 11 computers, 1 laptop, one LCD projector and 1 printer, were few and this did not give the teachers ample time for practice and use noting that even students wanted to use the same equipment during their free time. The ICT champions pointed out that the issue of inadequate infrastructure

was an issue that the teachers kept bringing up whenever asked if there was any problem. Indeed many teachers are said to have bought their own personal computers to try and curb this problem. Simple as it may sound, this challenge spirals to other challenges also mentioned by champions as bedeviling teachers: Lack of time for extended personal training which therefore means that teachers do not even get a chance to be supported because they do not know really which post training areas they are weak in. Literature by Mumcu and Demiraslan,(2007, Çakır and Yıldırım, (2009) clearly brings to the fore these challenges or fears as presented by the teachers. The authors seem to agree that for effective use of these ICT tools, teachers, who have ICT competence and ICT usage plan in the schools, are needed and therefore each school needs to have their ICT policy and budget well laid out. Other studies by Kay, (2006), Doering, Hughes & Huffman, (2003) have summarized this argument in a subtle way thus: insufficient access to ICT is an obstacle that has prevented successful implementation of technology.

Knowledge and Skills

According to the data presented by ICT champions, many teachers kept on thinking that they are not knowledgeable enough to use ICTs competently. They also feel that they lack the skills to manage an ICT integrated class sufficiently. During the ICT training for teachers, Champions noted that many teachers kept on expressing fear of the limited knowledge they thought they had about technology use. They kept on whining that ten days training was not enough to make them competent in the use of ICTs. These complaints went on even after the training because many of the Champions pointed out that a majority of the teachers still felt the need for further training. This is a fact that also came up during the one on one interviews. Literature by Usluel, Mumcu and Demiraslan,(2007, Çakır and Yıldırım, (2009) indicate that effective technology integration requires teachers to obtain learning experiences within the context of their teaching so that they can practice, reflect, and modify their practices (Glazer, Hannafin and Song, 2005). Indeed other studies have shown that if teachers feel that they are not adequately prepared, then there is a high likelihood that they will not use the technologies or will view them as an unfair additional challenge (Bullock,2004).

Attitudes and Beliefs

ICT Champions also observed that although a sizeable number of teachers were motivated to use ICTs, many other teachers felt that it was an additional bother to their already so huge burden. These are the teachers who would make technical appearances during the training sessions, come late for the training and sometimes even fail to show up completely for training. No amount of coercion would bring them round to believing that ICTs were an important component in the process of teaching. After the training ended, these teachers would be seen in the ICT room but only reading the local daily on the internet or playing games on the machines. Other teachers who would be willing to integrate ICTs would be discouraged because of the lack of commitment from the administration. Many champions reported of how school administrations would keep the ICT room under key and lock and sometimes even accuse teachers of vandalism. This seemed to irk many teachers and when confronted with the Champions as to why they do not use the ICTs, they would quickly point to this fact. Many of these teachers therefore resigned in the belief that they were good prior to ICTs and so there was no need for confrontations with the administration or for extra work. Literature sums up this challenge as fear for change. Many teachers would not want to mess with the status quo thus they would rather do things the way they have been used to. As pointed out in Kula (2010) if teachers were indeed interested in using ICTs, then they would do so effectively, the author goes further to say that the school managements should try as

much as possible to support the teachers because anything contrary to this would automatically put off the teachers from using ICTs.

The Curriculum

The challenges presented by the teachers as regards to the curriculum are multi-faceted. First is the realization that although teachers were expected to use ICTs in teaching their subjects, none of these would be examinable at the end of the school period. This according the Champions dealt ICT integration a serious blow in a system where everything done in class must have an examinational implication. Many teachers do not see why they should waste their time using ICTs when this was not an examinable subject anyway. They argue that this should be left for the discrete ICT subject or better still for commercial colleges. Secondly is the fact that the school curriculum is loaded with too much work against the backdrop of little time allocation to the extent that teachers have to find extra time to complete the syllabus. This naturally discourages the teachers from using ICT which they claim is time consuming. They argue that with ICTs the syllabus will never be completed and therefore their learners will be disadvantaged. Thirdly the Champions noted that the teachers think that the curriculum should offer direction on how subjects should be taught. Given that ICT is a relatively new concept, the teachers' fears may be valid from a layman's point of view. On the flip side however, ICT is simply a medium for teaching hence how a teacher decides to use it is entirely based on their own discretion.

As clearly pointed out by Kula (2010), the curriculum should be reorganized in a way that it supports ICTs in the classroom. The author further argues that schools should be equipped with technology and teachers should have technological pedagogical content knowledge (TPCK). Indeed this was one of the components that were missing in the training that went on for teachers in schools. Although the training was based on integrating ICTs in the classroom, some of the facilitators, ICT Champions, did not know the TPCK model. In the ICT Champions' training that took place at the KIE and KEMI, there was no mention of TPCK and so there was no way the teachers would have heard about it. Some literature like that of Bingimlas (2009) identifies lack of effective training as a major barrier to ICT integration. As noted by Becta (2004), the issue of training is complex because one has to consider several components to ensure the effectiveness of the training. It would therefore mean that lack of training in digital material, pedagogic and didactic training in how to use technology in the classroom and particularly in subject specific areas was truly an impediment in the integration of ICT in teaching and learning.

CONCLUSION / RECOMMENDATION

The aim of this paper is to provide information on some of the attitudes and perceptions of teachers as seen by the ICT Champions. The Champions spend most their time mentoring teachers as they attempt to integrate ICTs in their teaching. It would seem therefore that the Champions have heard it all suffice it to say that the sentiments expressed in this paper are actually the real issues derailing successful integration of ICTs. It would however be early to say that ICT integration in Kenya has been successful or unsuccessful. Some of the issues raised by the teachers such as inadequate infrastructure, lack of knowledge and skills on how to integrate ICTs, their own attitudes and beliefs and the curriculum, as reported by the ICT Champions are quite simple but indeed serious and need to be addressed if this noble project is to be fully realized. It is not the amount of dollars that the government has spent on the state of art equipment that matter, but the right attitudes and positive perceptions the teachers have in using the ICTs meaningfully. Splendid equipment without the right attitude is meaningless. Therefore the government needs to pay more attention on intensive training for both teachers and school administrators. Funds need to be pumped into training so that the right attitudes can be

developed by both teachers and administrators. The new enhanced ICT curriculum should thus be able to provide a paradigm shift from exam based teaching to provision of skills in managing ICT classes, and the knowledge of integrating ICTs without reliance to the curriculum. These indeed are facets that proper ICT training should impart in teachers.

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Biography

Enos Kiforo Ang'ondi is a Master Trainer (English) at the Aga Khan Academy Mombasa and a Professional Development Teacher, Aga Khan University. He has facilitated in numerous workshops and seminars for teachers in Kenya and other East African countries. He has conducted research in the area of ICT integration in teaching and learning in which he has authored and co-authored several papers.