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Teacher Preparedness of Computer Use in Teaching in Public Secondary Schools in Kenya

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ABSTRACT

Teaching is becoming one of the most challenging professions in our society when knowledge is expanding rapidly and modern technologies are demanding teachers to know how to use these technologies in their teaching. While new technologies increase teachers training needs, they also offer part of the solutions. Computers can provide a more flexible and effective ways of professional development for teachers to improve pre- and in-service, teachers training and connect teachers to the global teachers community. The study sought to address the following objectives; Find out the teacher preparedness of computer use in teaching and assess the schools readiness in computer adoption. The study adopted the technology acceptance model (TAM) by Davis (1989) which expresses how technology is integrated into the instruction process. Other theories include, Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB). A descriptive survey research design was used. Stratified sampling was used to select One hundred and fifty schools; Purposive sampling was used to select the Head teachers and Simple random sampling was used to select the teachers. A total representative sample of 414 respondents was used. Questionnaires and interviews schedules were used as instruments for data collection. Descriptive statistics such as frequencies, percentages and means was used to analyze the data. Data was presented in tables and pie charts appropriately. The study would benefit teachers, school managers, curriculum planners and policy makers, developers and implementers in coming up with the best integration approaches for the use of computers in teaching and learning in Kenyan secondary schools.
Keywords: *Teacher preparedness, Teaching, Assessment.*

1.1 Introduction

According to administrators' and faculty opinion, computers and instructional educational technology have a positive impact on the quality of teaching and research (Lehmann *et al.,* 1999). Students indicate that the availability of electronic information has been helpful in their work (Goggin*et al.,* 1997). Thus, there was agreement among colleagues and students that technology can be a useful tool for a successful teaching and learning environment. Research into the cost of instruction delivered via computer software, distance learning and teleconferencing, indicates that savings (i.e. in money, resources or time) are often achieved with no loss of effectiveness and may even broaden the learning environment (Castellan, 1993).

Although the use of CAI is growing, the research on the topic in the area of physical education is very limited (Gregger& Metzler, 1992). CAI can provide tailored instruction to an unlimited number of students on an individual basis. Given the move by many universities towards larger classes with integrated technology, multimedia instruction and interactive tutorials provide a convenient means to augment classroom instruction (Goggin*et al.,* 1997). Specifically with interactive multimedia tutorials, a single faculty member could teach multiple, large sections of a course while providing convenient and tailored instruction for individual students. Students are likely to respond to the augmented instruction with greater interest, comprehension and engagement. The software that is given to the instructor in order to monitor students, can manage data on student progress and the time spent on the program. The professional literature provides evidence of the superiority of computer based instruction over traditional education methods in terms of fostering higher order learning such as critical thinking and problem solving (Safrit*et al.,* 1988; Bowman, 1995).

Other recent studies indicate that CAI is a viable and effective supplement to physical education instruction. These studies revealed that computer-assisted tutorials were as effective as TI in teaching motor skills (Steffen & Hansen, 1987; Ross, 1994; Summers *et al.,* 1999) and knowledge learning (Kerns, 1989; Guthrie & McPherson, 1992; Deere *et al.,* 1995; Nicol& Anderson, 1999). Computer technology has become an integral part of modern society Loveless (1996). Educators have been optimistic that technology will lead to improved teaching and learning. Naidu *et al.* (2002) poses it that computer application to training and learning has great potential to produce significant changes to educational practices.

Since the 1990s the amount of actual classroom change has not met the expectation of educators who hoped for a revolution in teaching and learning, equal to the change created by technology in other aspects of life. This

raises the question as to why individuals shy to computer technology and how to develop a greater understanding of the variables influencing teacher adoption of computer use. In the education system worldwide, policy makers, researchers', practioners and the public have been concerned about the low rate of adoption and diffusion of use of computers and other forms of modern technology in schools (Catagin & Farris, 2001)

The Kenyan government policy on ICT is to integrate it in education and training systems in order to prepare the learners for the Kenyan economy of tomorrow and enhance the nations ICT skills. For this to be achieved the teacher is "an important resource in the teaching learning process and their training and utilization, therefore requires critical considerations" (Kenya, 2005a). Schools are encouraged to embrace Technology and ensure that they go beyond using textbooks as the solitary point of reference in curriculum implementation. Innovativeness will especially be fostered further by diversifying educational resources to include Multimedia channels.

Despite huge investments, financial and human resource, pre-service teacher education programs do not currently provide prospective teachers with the necessary skills, competences and experiences to prepare them to use ICT effectively in their profession (Durray, 2000;Mehlinger & Powers ,2002). This study aims at assessing the situation in secondary schools to find out the teachers preparedness of computer assisted instruction, adoption for education support in secondary schools.

1.2 Problem Formulation

Many studies conducted across the globe on the use of technology in classrooms have reported that computers can be an effective tool in supporting learning and teaching in class, for example, school net programme in South Africa promotes teaching and learning through the use of computers,(Strydon, 2003) However integration of computers in Pedagogy as a project in 3rd world countries has failed to a large extent than other instructional initiatives in schools (Sanchez &Hueros, 2010).The high rate of failed or in complete ICT projects negatively impacts schools teaching , learning and performance with immeasurable consequences to national development.(Schiiiewaert, Ahearne, Frambach , &Moenaert, 2005), Van Raaij & Schepers, (2008).

Kenya is making a remarkable progress in putting in place ICT policy framework and implementation strategy, complete with measurable outcomes and periods. KICD has made great steps in developing Multimedia educational resources in most subject areas .The institute has developed digital content in 12 subjects from form one to form four at secondary level. At Primary school level content for class three to eight has also been developed in Science and Mathematics, The institute is currently developing content for class one and two in all subjects, The institute has further planned to digitalize content in all subjects,(Republic of Kenya, 2005 a).The ministry of Education developed KESSP in 2005 that featured ICT as one of the priority areas, with the aim of mainstreaming ICT into the teaching and learning process, however universal implementation is quite a problem (Farrel, 2007).

Being a global issue, the programmed process involves a paradigm shift where new insights and information facilitates new forms of understanding. Various studies indicate that success in ICT rests on proactive school teachers who would give support to the integration of ICT in school operations, (Davis, 2002:8, Persand, 2006; 23-24, Bowes, 2003). Over the past years, IT has broadened to become ICT and has become of interest in schools, Hennessey *et al.* (2005),Toarle (2004) reported having embraced computer assisted learning while others were handicapped. Ruthven *et al.* (2004), on factors influencing dissemination and sustainability of ICT integration in schools cited the teachers role in orchestrating mediating computer based activities requiring a lot of background training and time.

Honey *et al.* (2000) on successful integration of learning technologies into classroom showed that success requires understanding the complex interactions in class between teachers and students and technology. Cope *et al.* (2000) on teacher's perception of learning technologies and teachers influence of student's perception ,indicated that the student's perception being influenced by teacher's perception and use in their approaches.

Hennesseys and Deaney. R.(2004) on sustainability and evolution of ICT supported classroom practices indicated that ICT can provide more flexible and effective ways for professional development of teachers ,connecting them to the global teacher community .Teaching is becoming one of the most challenging profession in the society where knowledge is expanding rapidly and modern technology demands teachers to learn how to use them in their teaching .For teachers to use this tools effectively and efficiently, they need visions of

technologies potential opportunities to apply them, training just in time, support and time to experiment .Only then can teachers be informed and be confident in their new technology.(Perraton, Robbinson& Creed, 2001).
The study was guided by the following questions:

i. Are secondary school teachers prepared to use computers in teaching?

ii. Are schools well equipped for computer adoption?

2.0 Teacher preparedness in using computers

Teaching is becoming one of the most challenging professions in our society where knowledge is expanding rapidly and contemporary technologies are demanding teachers to learn how to use these technologies in their teaching. While new technologies increase teachers training needs, they also offer part of the solution (Kinuthia, 2009). Computers can provide a more flexible and effective way for professional development for teachers, improve pre- and in-service teacher training and connect teachers to the global community.

Adoption and implementation of computers in schools requires skilled teaching staff and visionary school leadership. Teachers and school leaders need to be knowledgeable about the potential that computers present during teaching and learning in schools. Where this knowledge is lacking, policies formulated by government and investments made towards implementation of ICT in schools, frequently miss opportunities to realize the desired school reforms (Higgins & Moseley, 2011). Investment and planning for training ICT teachers seems to be treated as an additional cost rather than as an essential level for teaching and school reforms.

How teachers are prepared varies from one country to another. Nevertheless, in order to adapt educational curricula to meet the challenges of the information society, the UIS measures teacher training related to ICT preparedness using the following two indicators:

i) the proportion of ICT-qualified teachers in schools.
ii) the proportion of teachers trained to teach subjects using ICT.

The proportion of ICT-qualified teachers in schools measures the availability of teachers trained, according to nationally defined qualification standards to teach basic computer skills in primary and secondary schools or computing in upper secondary schools. This indicator measures the capacity within the overall teaching workforce but does not provide information on the intensity, quality and effectiveness of the training involved. Since training standards for ICT in education differ between countries, varying in duration from a few weeks to being spread over an entire teacher training programme, this indicator lacks a certain amount of international comparability and, therefore, is perhaps more effective in terms of identifying gaps in the system related to how many teachers require some type of training based on current shares of teachers with relevant instructional responsibilities regarding basic computer skills.

A major challenge identified in many developing countries regarding adoption and use of ICT in schools is that there is no enough staff, and where there are, they are most likely IT professions without any education experiences, skills, and /or qualifications. To effectively harness computers for school purposes requires sustained investments in supporting teachers training in order to create new learning environment. (Jimoyiannis & Komis, 2007). Teachers will play a critical role in implementation and use of ICT as they are at the centre of curriculum implementation and innovation at school level. However, many schools face the challenge of lack of ICT teachers and other IT professional that support adoption and use of it in the classroom.

It is quite unfortunate that even the few trained ICT teachers move to private sectors which seem to pay higher salaries (GOK, 2010), A survey by Kandiri, (2012) on ICT access and use in Kenyan secondary schools shows that, of the 2250 ICT teachers that graduated from universities and tertiary institutions in 2010, 1350 were absorbed in industrial and/ or ICT service sectors and 900 went to teach IT in various educational institutions. Of those in teaching service, they were in technical institutions and 711 were in secondary schools. This displays a relatively small number of qualified teachers of computer in Kenyan schools.
The authors showed that out of the 120 institutions under study, 38% did not offer courses on Educational technology at all and 95% of courses offered did not involve use of computer support learner centered teaching. Therefore in adequate preparation of teacher trainees on how to use ICT in the classroom could be perceived as a reason why teachers do not effectively adopt and use it in practice.
Teacher training institutions need to change strategies on how they train teachers with view to giving them an opportunity to practice using technology before they are posted to schools. There is a likelihood that teachers could adopt and use ICT in the classrooms if professional training provided them with ample time to learn, share,

practice and collaborate with colleagues about technology. According to Higgins, & Moseley, (2011) inability of teachers to understand why they should use ICTs and how exactly they should use them is a barrier to the implementation of computer use in schools.

2.2 Schools Readiness in Computer Use

On the school level, factors such as support, funding, training and facilities influence teachers' adoption and integration of technologies into their classrooms. Teachers' professional development is a key factor to successful integration of computers into classroom teaching. ICT related training programs develop teachers' competences in computer use (Bauer & Kenton, 2005; Franklin, 2007; Wozney et al., 2006), influencing teachers' attitudes towards computers (Keengwe and Onchwari, 2008) and assisting teachers reorganize the task of technology and how new technology tools are significant in student learning (Plair, 2008).

One of the greatest determinants of school readiness to adoption of ICT in mainstream learning is the school vision and plan on ICT integration. Ertmer (1999) wrote, "A vision gives us a place to start, a goal to reach for, as well as a guidepost along the way" . Many researchers have pointed out that a school's ICT vision is essential to effective ICT integration (Anderson & Dexter, 2000). In Kenya most of the educational institutions are far away from implementing ICT into teaching and learning situations. Also, there are few higher educational institutions in big cities that have ICT facilities but cannot integrate it effectively due to lack of a proper vision and plan. So ICT integration is clearly related to actions taken at the school level, such as the development of an ICT plan, ICT support, and ICT training (Tondeur, van Keer et al. 2008) which is absent at most of the educational institutions in Kenya.

Another determinant of the schools readiness in integrating ICT in mainstream learning is the general culture of the school. School culture encompasses the vision, plans, norms and values that are shared by school members (Maslowski ,2001). Focusing on the importance of school culture for ICT integration, Pelgrum and Law (2009) indicated that effective ICT integration depends on the perceptions and vision of school leaders rather than teachers' ICT skills. School culture has a mediating role that influences teachers' actions, beliefs, and attitudes (Chai, Hong and Teo 2009). Therefore, in addition to the external and internal variables mentioned previously, school culture also plays an important role in successful technology integration (Tezci , 2011).

In order to explore teacher perceptions of school culture related to the level of ICT usage, Tezci (2011) examined Turkish teacher perceptions from both the technical and motivational perspectives. The results showed that their perceptions from both perspectives were not positive, because the majority did not believe that they would receive adequate technical and motivational support from their school. However, as the school culture became more positive, the teachers' ICT usage level increased. Ward and Parr (2010) stated that teachers need to feel confident in their ability to facilitate student learning with technology in order to integrate technology into their classrooms. To achieve this goal, more professional development is required with a focus on increasing teachers' skills so that they are able to overcome apprehensions associated with using technology. Further, new teaching approaches and technical support should be offered by schools to allow them to retain control while facilitating learning with computers. Overall, implementing effective teaching with technology integration requires changes in teachers' knowledge, beliefs, and school culture (Ertmer & Otternbreit Leftwich 2010).

Another integral facet of ICT integration in schools is the availability of proper infrastructure, i.e. installation and maintenance of electricity and telephone communication facilities, acquisition and maintenance of computers, and Internet connectivity. Human resources also play an important role since teachers and other educational personnel need to use ICT effectively and impart knowledge and skills to pupils. Implementation plans need to evaluate current needs and future goals and ensure that adequate training and support are provided. The ICT-in-Education Toolkit (http://www.ictinedtoolkit.org/usere/login.php) is an online tool that can help policymakers to plan during various phases of ICT in education initiatives (Haddad et al., 2007).

These older forms of ICT-assisted instruction are being challenged, as well as enriched, by computers and the Internet due to their greater capacity. Computer-assisted instruction (CAI) and Internet-assisted instruction (IAI) have evolved and diversified at an exponential rate, increasingly merging with older ICT tools to create new platforms for learning and teaching. In the 1980s, the approach of CAI was based on programmed learning or "drill and practice" software, whereas both the software and hardware have since evolved. Currently, there are many new devices that have been specifically designed or are being adopted into classrooms, such as laptops (regular and low-cost), interactive whiteboards, tablets, e-readers, smart phones, etc.

One of the hallmarks of both CAI and IAI is the increased opportunity for interactivity with teachers and other pupils that was not possible through one-way radio and television broadcasts. This interaction may enhance educational quality if used appropriately. On the other hand, because of the increased level of technical sophistication associated with CAI and IAI, start-up and maintenance costs are substantially higher than for older technologies. Despite this, it is necessary to consider the gains that CAI and IAI might have in schools, given their potential impact on learning, performance and motivation of both students and teachers, as well as on school management and system-wide organization.

A study by Trucano (2005) had suggested support from school administrators in provision of ICT resources. School Principals should be ICT literate and understand the value and role of ICT use in the instructional process (Laaria, 2013). There was a general agreement among observers in the US that schools attempting to use ICTs need to have on-site technical assistance. These specialists would mentor teachers and students, install and maintain ICTs and assist with integration of ICT into the curriculum. According to BECTA (2004) if technical maintenance is not carried out regularly there is a high risk of technical breakdowns. This discourages teachers from using ICT because it may fail during a lesson and confuse students and the teacher or cause embarrassment.

Research on use of ICTs in different settings over the years shows the barriers to be on the teachers majorly. It is how ICT is used that makes the difference in learning outcomes (BECTA, 2000). Effective adoption of ICT in the classroom takes time. Teachers‟ attitudes, skills, beliefs and practices affect the way they choose to use ICT and how effective they are at using them. Teachers need support to develop both new technical and pedagogical skills. The curriculum should be flexible enough to accommodate this (Higgins and Mosley, 2010).

A study on e-learning readiness in public secondary schools in Nakuru Municipality (Karanja 2011) revealed that secondary schools in Kenya lack adequate ICT infrastructure and connectivity to support effective e learning delivery. In addition, the study says that there are no standardized software application programs and digital content to enhance the e learning process. Teachers lack capacity to integrate ICT tools in education. This particular study focused on whether schools were ready for e learning without specifically looking at the preparation process. This study by Karanja (2011) also focused on computer use for e learning and yet ICT encompasses many other tools which are highlighted in the present study

3.0 FINDINGS AND DISCUSSIONS

3.1 Teacher preparedness of computer use in teaching.

In this subsection the following question items were focused; whether respondents were computer literate, whether respondents attended any computer training, how many teachers were Computer Literate, how many teachers had attended Computer in service courses and whether they had embraced Computer assisted teaching & learning.

3.1.1 Computer literary of head teachers

Table 3.1 shows that with the descending order of the number of the respondents as follows: (do you embrace computer assisted teaching and learning? 26(89.66%), (are you computer literate? 24(82.76%) and (have you attended any computer training? 21(72.41%),) showing that (Do you embrace Computer assisted teaching & learning?) was the most agreed to notion with respect to teacher preparedness of computer use in teaching.

Table 3.1: Computer literary of head teachers

Items	Frequency	Percentage
Are you computer literate?	24	82.76 %
Do you embrace Computer assisted teaching and learning?	26	89.66 %
Have you attended any Computer training?	21	72.41 %

3.1.2 Level of computer training

With respect to question item on level of computer training, Partially computer trained with (Frequency=191, Percentage=49.74%), fully computer trained (Frequency=125, Percentage=32.55%), not trained but with some computer knowledge (Frequency=49, Percentage=12.76%) and not trained with no computer knowledge (Frequency=19, Percentage=4.95%) as shown in figure 1 below:

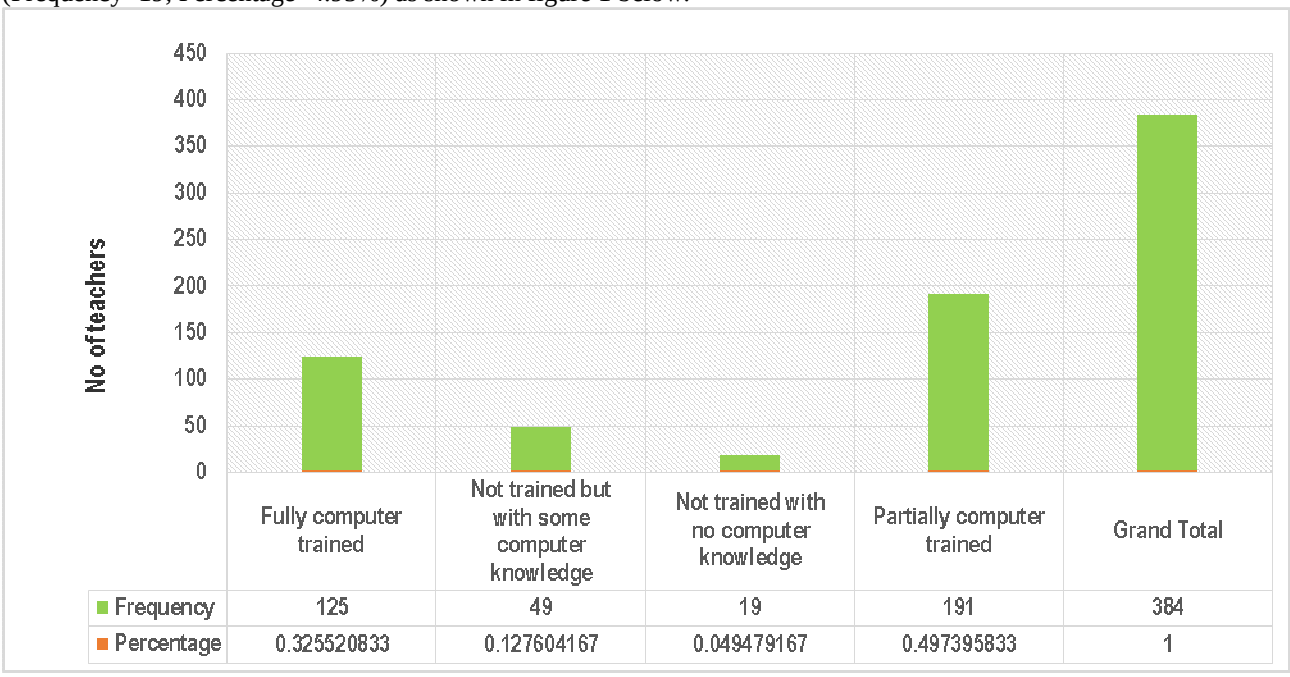

Figure 3.1: Level of computer training

3.1.3 Teacher preparedness of computer use in teaching

Table 3.2 shows that, 378(98.44%), teachers are willing to pursue a computer course aimed at improving their knowledge to use CAI 371(96.61%), teachers are always encouraged to pursue a course that boosts their ability to use CAI 365(95.05%), teachers readily embrace CAI because it is believed to simplify difficult topics while teaching 361(94.01%) and are you computer literate? 355(92.45%) and the least agreed to was the fact that school receives support from the government and other authorities in terms of creating CAI friendly environment 75(19.53%).

Table 3.2 : Teacher preparedness of computer use in teaching

Response	Frequency	Percentage
Are you computer literate?	355	92.45 %
Are you well trained to use computers in teaching?	252	65.63 %
Have you received any in-service in computer training for the past 3 years?	126	32.81 %
I like using CAI because it is a better management of classroom teaching	352	91.67 %
If you have no computer knowhow do you think it is necessary to receive any training on the same?	378	98.44 %
Most teachers have a tendency to try a different approach of class instruction by inculcating ICT	343	89.32 %
Most teachers have acquired knowledge of innovative teaching skills using CAI	342	89.06 %
School receives support from the government and other authorities in terms of creating CAI friendly environment	75	19.53 %
Teachers are always encouraged to pursue a course that boosts their ability to use CAI	365	95.05 %
Teachers are willing to pursue a computer course aimed at improving their knowledge to use CAI	371	96.61 %
Teachers readily embrace CAI because it is believed to simplify difficult topics while teaching	361	94.01 %

3.1.4 Teacher input on adoption and use of computers in curriculum implementation

As shown in table 3.3 addresses question item with respect to What was the teachers' general input on adoption and use of computers in curriculum implementation in Secondary schools and from the study findings integrate computer use 97(25.26%), invest in ICT 91(23.7%), adopt ICT in schools 87(22.66%), change perception about ICT 18(4.69%) and in-service training for teachers 15(3.91%) with a total of 308(80.21%) of the respondents.
These were followed by change perception about ICT 18(4.69%), in-service training for teachers 15(3.91%) and training teachers on how to incorporate ICT in education 8(2.08%), making a total of 41(10.68%) while the responses which were less popular having less than 5 respondents included among others enhance learning 4(1.04%), make work more easier 4(1.04%), schools should prioritize projects 4(1.04%), boost students' knowledge 3(0.78%), easy implementation 3(0.78%), funds to be channeled towards purchase of ICT teaching tools(projector) 3(0.78%), inculcate positive attitude about ICT 3(0.78%), enhance creativity 2(0.52%), enhance learners 2(0.52%), enhance learning of certain concepts 2(0.52%), install Wi-Fi 2(0.52%), it will encourage idleness among students 2(0.52%), limited funds 2(0.52%), partially implemented 2(0.52%), prioritize school projects 2(0.52%), problem solving 2(0.52%), wrong priorities 2(0.52%),

Table 3.3: Teacher input on adoption and use of computers in curriculum implementation

Response	Frequency	Percentage
Administration to acquire computers	1	0.26 %
Adopt ICT in schools	87	22.66 %
Assist learners acquire basic skills and interaction	1	0.26 %
Boost students' knowledge	3	0.78 %
Change perception about ICT	18	4.69 %
Easy implementation	3	0.78 %
Enhance computer use	1	0.26 %
Enhance content mastery	1	0.26 %
Enhance creativity	2	0.52 %
Enhance learners	2	0.52 %
Enhance learning	4	1.04 %
Enhance learning of certain concepts	2	0.52 %
Funds to be channeled towards purchase of ICT teaching tools(projector)	3	0.78 %
Gradual introduction of ICT	1	0.26 %
I am fully equipped waiting for the government to play its part	1	0.26 %
Increase accessibility to ICT by teachers	1	0.26 %
Inculcate positive attitude about ICT	3	0.78 %
In-service training for teachers	15	3.91 %
Install WI-FI	2	0.52 %
Integrate computer use	97	25.26 %
Invest in ICT	91	23.70 %
I sometimes use internet information to teach students	1	0.26 %
It should be speeded up for efficiency learning	1	0.26 %
It will encourage idleness among students	2	0.52 %
Lack of government support	6	1.56 %
Learning made easier	1	0.26 %
Let the management invest in manpower fast	1	0.26 %
Limited funds	2	0.52 %
Limited time	1	0.26 %
Long overdue	1	0.26 %
Low uptake of ICT is caused by limited funds by schools	1	0.26 %
Make work more easier	4	1.04 %
Partially implemented	2	0.52 %
Prepare lesson notes on ICT	1	0.26 %
Prioritize school projects	2	0.52 %
Problem solving	2	0.52 %
Schools should allow free accessibility to computer by other teachers	1	0.26 %
Schools should prioritize projects	4	1.04 %
Student participation	1	0.26 %
Train teachers on how to incorporate ICT in education	8	2.08 %
Use computers to break monotony	1	0.26 %
Wrong priorities	2	0.52 %
Total	**384**	**100.00 %**

Administration to acquire computers 1(0.26%), assist learners acquire basic skills and interaction 1(0.26%), enhance computer use 1(0.26%), enhance content mastery 1(0.26%), gradual introduction of ICT 1(0.26%), I am fully equipped waiting for the government to play its part 1(0.26%), increase accessibility to ICT by teachers 1(0.26%), I sometimes use internet information to teach students 1(0.26%), it should be speeded up for efficiency learning 1(0.26%), learning made easier 1(0.26%), let the management invest in manpower fast 1(0.26%), limited time 1(0.26%), long overdue 1(0.26%), low uptake of ICT is caused by limited funds by schools 1(0.26%), prepare lesson notes on ICT 1(0.26%), schools should allow free accessibility to computer by other teachers 1(0.26%), student participation 1(0.26%), use computers to break monotony 1(0.26%) and all these making a total of 62(16.15%)

The level of computer training was an important aspect to show preparedness and teachers who were partially computer trained were 49.74%, fully computer trained were 32.55%, not trained but with some computer knowledge were 12.76% and not trained with no computer knowledge were 4.95% while head teachers who were computer literate were 82.76 %.

There are also those who said they embrace computer assisted teaching and learning, 89.66 % and those who agreed they had attended any Computer training, 72.41 % while teachers who said they are computer literate were 92.45 %.

3.2 Schools readiness in computer adoption

The study findings the responses with highest number of the respondents included presence of a printer 28(96.55%) and school connectivity to the national grid 22(75.86%).
This was followed closely by presence of a computer centre school 17(58.62%) and presence of a computer lab 17(58.62%), as shown in table 4.15 and apparently one of the key findings from the study after getting responses from head teachers was the fact that there was serious lack of internet connectivity, with only 6(20.69%) of them agreeing that there was internet connectivity.

Table 3.4: School readiness in computer adoption

Response	Frequency	Percentage
Presence of a computer centre school	17	58.62 %
Presence of a computer lab	17	58.62 %
Presence of a computer technician	13	44.83 %
Presence of a printer	28	96.55 %
Presence of an overhead projector	16	55.17 %
Presence of internet connectivity	6	20.69 %
School connectivity to the national grid	22	75.86 %

4.0 Conclusions

The need for embracing technology and more so computing as applied in day to day instruction at school cannot be overemphasized and so this study will make some conclusion on the basis of study objectives
Teachers and head teachers alike need to come up with ways and means in order to ensure that they are well prepared when it comes to use of computer in instruction. The school board and senior management as well as the government need to allocate enough funding for the purpose of making sure that the school is equipped with all the tools and infrastructure geared towards ensuring readiness to embrace CAI.

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