AN ASSESSMENT OF THE EXTENT TO WHICH COMPUTERS HAVE BEEN IMPLEMENTED ON THE CURRICULUM IN MBIRE DISTRICT

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The aim of the present study is to assess the extent to which computers have been implemented in secondary schools in Mbire district. The population comprised of all the teachers from all the secondary schools in the district. The sample was made up of 220 respondents comprising of 20 heads of schools and 200 teachers randomly selected. The study employed a quantitative methodology and adopted the descriptive survey design. All the information was collected through a questionnaire. The study revealed that most schools in Mbire district did not effectively implement computer education. Most of the schools had a critical shortage of qualified computer teachers and as a result, pupils were taught by teachers who did not understand the subject themselves. It was also revealed that heads did not supervise the teaching of computers in a way that supported learning of the subject. The study recommends that the Ministry of Primary and Secondary Education should recruit computer qualified teachers and deploy them in all secondary schools. Heads should also prioritise the supervision of teaching of computer studies.

Key Terms
Computers, implementation, district, curriculum, heads, secondary school teachers

Introduction
Every aspect of our lives nowadays is affected by computer technology one way or the other (Oja, 2011). In all fields of work, the use of the computer has become a necessity and not a luxury (Dube, 2013). The introduction of computers which is the major and most influential technology made the impact of technology greater felt in every sector including the education sector (Kangai, 2012). According to Daley (2012), in the education sector, computer technology allows online learning, enables access to internet, helps in presentation of information through word processing, assists in storage of information and provides communication tools. The teaching of computers is closely linked to life problems and situations in the pupils' homes and communities (Lauden and Lauden, 2010). Computer studies is aimed at promoting understanding of basic computer concepts of spread sheet when doing calculations, creation of own websites by

students and access to educational software (Shelly, Cashman and Waggoner, 2010). Important as computer studies may appear to be, particularly in the eyes of the policy makers, its introduction meant that teachers without the proper qualifications are assigned to teach it (Dube, 2013). According to Stair and Reynolds (2012), computer studies are a practical subject and require adequate materials. Heads should take the responsibility of ensuring that these are available to their teachers and pupils. The subject requires adequate computers, electricity or generators, compact discs, memory sticks, computer hardware and computer software (Kangai, 2012). It is against this background that this study set out to assess the extent to which computers have been implemented in secondary schools in Mbire district in Mashonaland Central.

Review of Related Literature

Computers have an economic rationale in that they equip students with information and communication technologies, skills that are necessary to meet the needs of a skilled workforce, as learning is related to future jobs and careers (Nyathi, 2011) Computer training should prepare students for their future jobs and this means that computers make the learners computer literate and thus, preparing them adequately for the industrialised world (Bukaliya and Mubika, 2011). According to Adomi (2012), computer education helps students to become inquisitive and develop confidence and skills in the use of computers that can be later transferred to workplaces. As Reffell and Whitworth (2012) observe, computers in education enhance the learning and teaching process and complements what the great teacher does naturally through taking students' experiences outside the classroom walls. Computers connect students with other students, teachers, schools and professionals around the world, thus breaking the classroom walls and improving the quality of education through broadening of the education community (Nwagu, 2006).

According to Brakel and Chisenga (2003), heads of schools play a very critical role in the developing and implementation of any school curriculum. Heads with a positive attitude towards a particular curriculum usually find it easy to encourage their teachers to implement that curriculum. According to Nyathi (2011), heads of schools and heads of departments play a crucial role in the successful implementation of any curriculum, and thus, the success of implementation of computer studies would hinge upon the attitudes of these officers. Another critical variable in the successful use of computers in the schools is the qualification of teachers (Loucks, 2009). Studies by authorities have demonstrated the relationship of teacher capacity and skills with successful teaching of computers in schools (Oja, 2011, Kangai, 2012; Daley, 2012). Lack of knowledge on computers by teachers has impacted negatively towards successful implementation of computers in schools (Adomi, 2005). As Bukaliya and Mubika (2011) argue, qualifications of most teachers lack exposure to college curriculum that caters for ICT training, which means that most teachers have poor practical skills in ICT usage. As a result, most teachers cannot use even basic software in computers in the delivery of lessons (Bukaliya and Mubika, 2011).

The other factor that militates against full implementation of computer use in schools is the shortage of computers (Adomi, 2005). Issues of computer hardware were the most serious barriers affecting implementation (Goodson, 2002). Where computers are available there was also the challenge of accessing the right kind of software. Hardware and software shortages

emanate from the fact that most schools have budgetary constraints (Ruffell and Whitworth, 2012). Another major challenge experienced by schools in the use of computers is lack of electricity or alternative sources of power. According to Adomi (2005), in Nigeria, most schools are not yet connected to electricity since the government has not been able to connect all parts of the country to the national electricity grid. Consequently, those schools that fall under such areas are left handicapped and may not be able to offer computer studies (Adom, 2005).

According to Daley (2012), computers are still expensive in most developing countries and the majority of individuals and schools cannot afford to buy a computer as they consider it as a luxury item, more expensive than a television set. As Dube (2013) observe, while a good number of schools have benefited from donated used computers, they have not been adequately equipped with the same on maintenance and repair, hence it is very common to see a school's computer lab full of broken down computers, some repairable and some not. On a related issue, Stair and Reynolds (2012) state that the fact that computers are still very expensive in most developing countries make them a target for thieves who usually have ready markets at a much less cost. This has forced many schools to incur extra expenses and this extra expense makes some schools shy away from purchasing computers for their students (Reynolds, 2012).

Statement of the Problem
Computers can play a significant role in equalising opportunities for marginalised groups and communities. But the paradox is that for those groups that are unable to cross the technology divide, ICT is yet another means to further marginalise them. Education has a major role to play in resolving this problem. Thus, unless computers become part and parcel of both the delivery and content of education, the disadvantage will deepen.

Research Questions
The study was guided by the following sub-questions:

1. How are schools implementing the use of computers by teachers and pupils?
2. How adequate are computers to effectively implement computer use?
3. What is the capacity of teachers in teaching computers?
4. To what extent do heads support the teaching and use of computers in their schools?
5. To what extent do students and parents value computer education?

Purpose of the Study

The objective of this study was to assess the current state of computer education in secondary schools.

Significance of the Study

Computer studies in schools are very critical as computers have become part of our everyday life socially and economically. It is therefore, hoped that the findings would help policy makers in identifying the constraints or difficulties faced by schools in the implementation of computers so that mitigatory measures may be put in place. The study also sought to highlight the role of heads

and communities in providing support for the implementation of the computer studies curriculum.

Limitations of the Study

In view of the small size of the sample and sub-samples used, the findings of the study might have limited generalisability. The other limitation relates to the descriptive method that was used in this study. As Kumar (2008) observes, the descriptive method lacks "predictive power", the research may discover and describe "what is" but is unable to predict "what would be". The respondents may also give false responses thereby affecting the validity of the findings (Kelly, 2006). This was mitigated pilot testing the instrument before it was used.

Delimitation of the Study

The study confined itself to the assessment of the implementation of computer studies in 10 secondary schools in Mbire district using a sample of 220 randomly selected heads and teachers. Views from education inspectors, parents and community leaders were not incorporated in this study.

Methodology

The study employed the quantitative paradigm and made use of a survey research design. According to Cohen and Manion (2005), the descriptive survey design looks with intense accuracy at the phenomenon of the moment and then describes precisely what the researcher sees. The questionnaire was used for collecting data. Random sampling was used to come up with a sample of 20 heads of schools and 200 teachers from the ten schools. The researcher personally distributed the questionnaires to the schools under study. The same method was used to collect the completed questionnaires. Data gathered through the questionnaires produced descriptive statistics around the variables and these statistics were computed and inferential implications from them derived, recorded and analysed.

Findings and Discussion

The study set out to assess how secondary schools were implementing the use of computers. The section is presented in two parts, namely, presentation of data and discussion.

Table 1: Category of respondents
(N = 220)

Category	Frequency	Percentage
Heads	20	9
Teachers	200	91
Total	**220**	**100**

Table 1 above shows that the bulk of the respondents were teachers since they constitute the majority of educators in any school set up.

Table 2: Distribution of respondents by sex
(N = 220)

Category	Frequency	Percentage
Male	104	47
Female	116	53
Total	**220**	**100**

Table 2 shows that there were more female teachers than male ones in the sample. The datum was considered to be statistically significant to the extent that it tallies with national teacher gender statistics of 48% male against 52% female (Makoni, 2013).

Table 3: Distribution of respondents by computer qualifications
(N = 220)

Qualification	Frequency	Percentage
Diploma in Computers	12	6
Bachelors Degree in Computers	18	8
No computer qualification	190	86
Total	**220**	**100**

Table 3 above reveals that only 14% of the respondents had recognised computer qualifications. The majority of the respondents (86%) did not have any computer qualifications.

Table 4: Perceptions on the extent to which computer studies have been implemented
(N = 220)

No.	Item	Agree%		Disagree %		Not Sure %	
		Heads N = 10	Teachers N = 100	Heads N = 10	Teachers N = 100	Heads N = 10	Teachers N = 100
1	Our school has a computer room.	20	20	80	80	0	0
2	My school teaches computers.	80	80	20	20	0	0
3	My school has enough computers.	10	0	90	100	0	0
4	Head prioritises teaching of computers	80	40	20	60	0	0
5	Head encourages teaches to attend workshops on computers.	100	50	0	50	0	0
6	Students value computer education	100	100	0	0	0	0

Item I on Table 4 above shows that 80% of the schools under study had no computer rooms. Only 20% of the respondents indicated that their schools had computer rooms. Almost all the schools (80%) one way or the other have introduced the teaching of computer studies with a paltry (20%) having not introduced computers in their curriculum whatsoever. The vast majority of the schools (95%) do not have adequate computers as evidenced by both teachers and heads (100% teachers and 90% heads) who stated that their schools did not have adequate computers. There was incongruence on the question of whether the head prioritised the teaching of computers. Whereas the majority of heads (80%) indicated that they prioritised the teaching of computers, a significant number of teachers (40%) concurred with the heads and 60% disagreed with them. On whether the head encouraged teachers to attend workshops on computers, all the heads (100%) and half the teachers (50%) agreed with the statement. On whether students value computer education, there was convergence of opinion from both heads and teachers. All the respondents indicated that students valued immensely the teaching of computers.

Discussion

Data from the study reveal that the majority of the secondary schools under study do not have computer rooms. According to Bukaliya and Mubika (2011), a computer room is a specialist room where the school keeps its computers and where all students will do their computer studies as well as research. Unfortunately, for most rural schools, the cost of building computer rooms is so inhibitive that they end up keeping these gadgets in ordinary classrooms further reducing the learning space for students (Adomi, 2005).

Information also reveals that all schools had introduced computer studies. This means that the schools realise that computers have an economic rationale in that they equip students with information and communication technology skills that are necessary to meet the needs of a skilled workforce as learning is related to future jobs and careers, (Nyathi, 2011). As Reffell and Whitworth (2012) posit, computes in education enhance the learning and teaching process and complements what the great teacher does naturally through taking students' experiences outside the classroom walls. Computers connect students with other students, teachers, schools and professionals around the world, thus breaking the classroom walls and improving the quality of education through broadening of the education community (Nwagu, 2006).

In spite of the fact that most schools have introduced computers and appreciate the need for their students to learn about computers, evidence from the study show that a large number of the schools have very inadequate computers for effectively guiding students on this subject. As Stair and Reynolds (2012) postulate, computer studies is a practical subject and requires adequate resources. Kangai (2012) concurs and posits that computer studies require adequate computers, electricity or generators, compact discs, memory sticks, computer hardware and computer software. Daley (2012) corroborates this information when he argues that computers are still expensive in most developing countries and the majority of individuals and schools cannot afford to buy a computer as they consider it as a luxury item more expensive than a television set.

Heads were not providing the necessary and adequate support for effective teaching of computers According to Brakel and Chisenga (2003), heads of schools play a very critical role in the implementation of any school curriculum Heads with a positive attitude towards a particular

curriculum usually find it easy to encourage their teachers to implement that curriculum. According to Nyathi (2011), heads of schools and heads of departments play a crucial role in the successful implementation of any curriculum, and thus, the success of computer studies would hinge upon the attitudes of these officers.

Most of the schools do not have teachers with the skills and competencies to teach computer studies. This means that schools are using the ordinary teachers with qualification in other areas to teach computers. As Loucks (2009) advises, another critical variable in the successful use of commuters in the schools is the qualification of teachers. This tallies with observations by Bukaliya and Mubika (2011) who argue that qualifications of most teachers lack exposure to ICT training which means that most teachers have poor practical skills in ICT usage and as a result, most teachers cannot use even basic software in computers in the delivery of lessons.

Information from the study show that heads were not promoting teacher participation in workshops organised to upgrade their skills on computer studies. As Goodson (2002) argues, good teachers become great teachers by going beyond the call of duty and beyond the textbook and to do this, they must continue with their education. There are conferences, workshops and continuing education that could give the teacher that extra help in technology for their students. There are online workshops and classes that teachers could attend as well as on-site workshops and classes (Goodson, 2002). Oja (2011) states that administrators should encourage their teachers to continue their education as well as make opportunities available for them to do so and school administrators should pay for the classes and workshops.

The data from the study also reveal that all the respondents from both teachers and head indicated that students were very keen to learn about computers. This tallies with observations by Adomi (2005) who discovered that incorporating computer education in schools can inspire students to undertake careers in technology and enhance their understanding of how computer technology impacts people's daily lives. Furthermore, computer education provides students with grounding in computer-related software and activities such as using office suite, programming languages and creating data sheets (Adomi, 2005).

Conclusions

The results of the current study show that the situation with regards to the implementation of computer studies in Mbire district is very gloomy. The following conclusions emerge from the study.

- The schools do not have computer rooms where students should do computer studies without any disturbances.
- All schools had introduced teaching of computer studies to their students.
- Most schools did not have adequate computers.
- The majority of teachers did not have qualifications to teach computers.
- Heads were not providing the necessary and adequate support for effective teaching of computer studies.
- Heads were not promoting teacher participation in workshops on computer studies.
- Pupils were very excited about learning computers.
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Recommendations

In view of the foregoing findings and conclusions, the research puts forth the following recommendations:-

- The Government should provide grant-in-aid to rural secondary schools so that they can build computer rooms for the effective teaching of the subject.
- The government should allow schools to import affordable computers without charging them duty to increase the number of computers in schools.
- Teacher training institutions should incorporate computer education into their curriculum.
- Teachers should be supported by schools to attend in-service course and workshops on computers.
- Schools can also charge a token fee to raise funds for procurement of computers.

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