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Reactions of Schools' Headteacher Toward Computer Use in Teaching and Learning in Secondary Schools in Tharaka-Nithi County in Kenya

Dr. Mercy Wanja Muthomi[1], Prof. Zachariah Kariuki Mbugua[2] and Prof. Bernard Nyingi Githua[3]

[1]Ph.D., Chuka University, Kenya.
[2]Ph.D., Director Quality Assurance, Karatina University, Kenya.
[3]Ph.D., Director Examinations and Timetabling, Egerton University, Kenya.

Abstract

Technology innovation has become a common-place phenomenon with widespread use of computers in society. The use of computer in Kenyan classrooms is still in its infancy and the perceptions and experience of head teachers do play an important role in promoting computer use in schools. However reactions of schools head teachers toward computer use in secondary schools has not been established. The purpose of the study was to investigate the reactions of schools head teachers toward computer use in teaching and learning in secondary schools in Tharaka-Nithi County. The study sought to find out the reactions of head teachers toward computer use in teaching and learning. The study employed descriptive survey research design. The research was carried out in 31 secondary schools in Tharaka-Nithi County. The subjects were head teachers in secondary schools that were randomly sampled. The sample size was 31 head teachers. The research instrument used was a questionnaire. The reliability coefficient of at least 0.7 was used in the study to test the degree of internal consistency of research instrument. The data obtained was scored, coded and analysed using descriptive statistics that included frequencies, percentages and graphics. From the study it was found out that the head teachers exhibit positive reactions toward computer use in teaching and learning. The findings of this study may help to reveal the significant role of the head teachers as technology leaders in meaningful integration of computers in teaching and learning.

Keywords: Computer, Learning, Teaching & Use.

Background of the Study

The emphasis on computer integration in education is growing year by year. Computer use provides a new learning environment and a wealth of instructional possibilities to students. According to Teo, Lee and Chai (2007) the success of any initiative to integrate technology in an educational system depends strongly upon the support and attitude of educators. Administrators in school such as head teacher act as a mediator to integrate technology into education system by playing a key role in encouraging, supporting and helping the teachers to use computers in the teaching and learning process. The success of integrating information and technology into teaching and learning interaction depends on the support provided by the head teacher of the school (Samuel & Zaitun, 2006). Then the disposition of head teacher can either be a hindering factor or a facilitator for computer integration in education. Due to inadequate preparation of head teachers for their new role as technology leaders, integration of computers in teaching and learning process in Kenyan schools is still not streamlined properly.

Dinham (2005) asserts that leadership is important in developing effective, innovative schools and in facilitating quality teaching and learning through computers. The role of the head teacher is crucial in providing the guidance, encouragement and conditions necessary to enhance the use of computers in the teaching profession. According to Schiller (2003), school leadership has a responsibility for initiating and implementing change through use of computers to facilitate decisions about integration of computers into learning and teaching. The vision of getting the school ready and up to date with use of computers in classroom cannot be accomplished without the commitment, willingness and readiness of head teacher. Walsch (2002) posits that technology integration could be achieved in school only if head teachers are totally committed over a period of time, actively supports it and learns as well. Head teacher who take an active approach and has positive disposition to innovation can foster an environment that has greater benefits for their students and staff. Thus efforts of integrating computer use in schools are seriously threatened unless head teachers become active technology leaders in school.

Information communication and technology can motivate students, increase their self-confidence and self-esteem, stimulate their interest, increase their attainment, allow greater inter-activity and individualization, enhance the pupils' critical thinking and increase their creativity (Newhouse, 2002). Despite the fact that use of technology help students work collaboratively and develop high-order thinking skills, encourage students to be engaged in the learning process, assist students who have various learning styles and special needs and expose students to a broad range of information there is no wide use of computers in schools. Diffusion of technology innovation, head teachers attitude, disposition and concerns are indispensable to make significant changes for instructional innovation. Thus the current study aimed at investigating the head teacher reactions toward computer use in teaching and learning in secondary schools.

Statement of the problem

Though today the computer use has brought enormous advantages to students, resistance to employ such technology in schools remains high. This has been attributed to many factors that range from shortage of computers due to budgetary constraints, inadequate time to use computers, lack of professional development for technology use, insufficient technical knowledge and skills, lack of suitable software, no electricity supply, lack of technical support for effective use of computers and head teachers factors that limit the computer usage in teaching and learning in secondary schools. The head teachers' factors are like reactions of head teachers towards computer use. However, the knowledge on the head teachers' beliefs, attitudes, inclinations and concerns related to computer use is limited. Hence there was need to investigate the reactions of head teachers towards computer use in teaching and learning in secondary schools. The following objective guided the study:-To investigate the reactions of head teachers towards computer use in teaching and learning in secondary schools. The research question was:-What are the head teachers' beliefs, attitude, inclinations and concerns towards computer use in teaching and learning in secondary schools.

Methodology

The study adopted descriptive survey research design as it is used to describe systematically the facts and characteristics of a given population or area of interest, factually and accurately. It is also used to obtain information concerning the current status of the phenomena to describe what exists with respect to variables or conditions in a situation (Faulkner & Faulkner, 2009). The actual sample size used in the study was 31 head teachers from 31 schools that were randomly selected. The instrument used was questionnaire for head teachers which had two sections. The first section included head teacher demographic and experience with computer while the other section was a five point likert scale for measuring head teachers reactions. A quantitative approach was used to design and analyse questionnaire on a Likert scale, Strongly Disagree (SD) to Strongly Agree (SA). The pilot study was conducted before the actual data collection in five schools in county that did not participate in the study to ascertain the reliability of the instrument. The reliability of head teachers' questionnaire was tested using Spearman-Brown formula. The coefficient of the split-half value of 0.91 was obtained, showing that the instrument was reliable. The questionnaire was administered to the head teachers by the researcher. Data analysis was done quantitatively. The results were tabulated and summarized in graphs and tables.

Results and Discussion

This section presents the research findings in line with objective that guided the study. A total of 31 head teachers from 31 secondary schools responded to the head teachers' questionnaire. The head teachers' reactions were categorized into four major themes of attitude, beliefs, inclinations and concerns. Head teachers attitudes are thoughts and

feelings that are positive or negative emotional disposition toward use of computers. Head teachers beliefs are perceptions of the value or role of computers and personal opinions based on their experiences in using computers. Head teacher inclination is the readiness and commitment to use computer in improving instruction and learning. Head teachers concerns are the challenges that head teachers may face when implementing usage of computer on activities. Data analysis involved finding the frequencies and percentages of responses falling in each of the 5-point Likert scale, Strongly Agree to Strongly Disagree (Hobson, 2003). The conclusions made in this study are based on the majority of teachers' responses in the Strongly Disagree (SD) and Disagree (D) or Strongly Agree (SA) and Agree (A) category.

Demographics and Experience with Computer

The 31 principals who participated in the study, 55% were male while 45% were female. About the number of years the head teachers have been teaching, 47% have been teaching 20-24 years while 23% have been teaching 15-19 years. This implies the head teachers may be 44-49 years of age, which means they are not advanced in age and may find use of computer a worthwhile skill and be ready to integrate computer in teaching and learning. This agrees with the findings of Dawson and Rakes (2003) who asserted that the age of the principal is critical factor affecting technology integration in schools, with older principals (ages 41-55 years) influencing technology integration more than younger principals.

Regarding the highest academic qualification, 55% are holders of bachelor degree and 45% are holders of master degree. About the length of time that the principals have been using computer, majority (57%) have four years and less while 43% have 5 or more years of experience. This implies that head teachers have little experience but it does not necessarily mean that they have less level of expertise with computers. About 79% of head teachers have received in service education and training course for personal purpose while 21% did not receive. Around 52% of head teachers have not received any training course on computer use in teaching and learning. This implies that majority of head teacher may not be informed on how computer can be integrated in teaching and learning. From the findings of Dawson and Rakes (2003) it appears that in-service training is a crucial factor that can improve principals' attitude towards computers and facilitate principals' efforts to integrate computers in schools. More than half of head teachers (52%) have not received training on administration and management while 48% have received. This implies that many head teachers may not have found the value and the role of the computer in administration and management.

Availability of computers

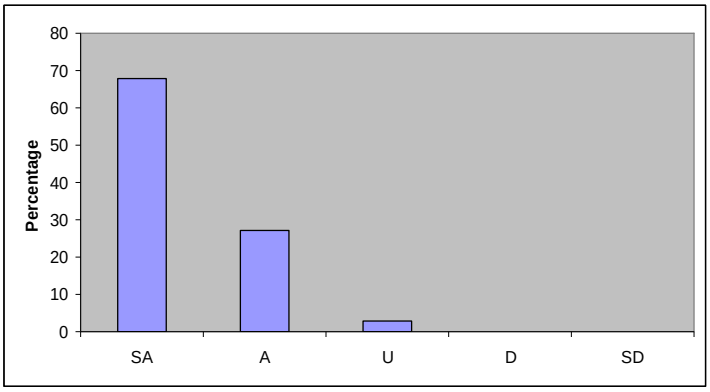
About 84% of schools have reliable electricity supply while 16% do not have. Around 60% of schools have computers while 40% do not have computers. This indicates that there was inadequate provision of computers in secondary schools. The schools that have no computers, 56% is because there is no electricity supply and 44% is due to inadequate funding. Regarding the availability of computers in head teachers office,

63% of them have and 37% do not have while 67% of head teachers have computer at home and 33% do not have. This indicates that even though majority have access to computers still a large number do not have access to computers at school or at home. The highest percentage of schools, (74%) does not have computers in the staffroom while 26% of schools have. This implies that the availability of computers to teachers may be limited yet the teachers are expected to integrate the computers in teaching and learning. The study is consistence with the findings of Odera (2011) who found out that there was inadequate provision of computers in secondary schools.

Beliefs and Attitude toward Computer Use

All the head teachers believe it is very important for them to learn how to use computers. About 28% agree and 72% strongly agree that computers usually saves time and work. Around 97% of head teachers believe that they are better principal with technology. When the head teacher were asked whether using computer is very boring and frustrating 74% strongly disagreed and 26% disagreed. All the head teachers (100%) expressed views that using computer in class leads to increased achievement among students. This implies that majority of head teachers valued the use of computers in learning and can help to bring about student responsibility for learning.

Head teachers were asked whether computers are valuable instructional tools for improving the quality of student education. The head teachers' responses are given in Figure 1.



The results on Figure 1 shows that the largest proportion, 68% of the head teachers strongly agree that computers are valuable instructional tools for improving the quality of student education while 27% agree and 3% are undecided. This implies that head teachers believe that use of computer is helpful in improving instruction and learning. This agrees with Woodrow (1994) who found out that the use of computers provides new instructional strategies which the teacher and students can use.

There was a 100% consensus when head teachers were asked whether using computers in school management will improve the operation of most schools that is 65% strongly agreed and 35% agreed. About 73% of head teachers strongly agreed and 27% agreed that knowing how to use computer is an important skill. This

indicates that head teachers had positive attitude towards computer use and accept the usefulness of computer in teaching and learning. The findings are consistent with Charalambous and Ioannou (2008) who found positive attitude towards computer use as a teaching and learning tool amongst Cypriot primary school principals. The results also agree with findings of Empirica (2006) that Cyprus educators teachers and principals held very positive attitude towards computer integration in the curriculum.

Inclinations and Concerns toward Computer Use

Around 59% of head teacher strongly agree and 41% agree that they would like to learn more about computers as a teaching aid. When the head teachers were asked whether they would like to take part in a computer course to learn more about computer use 53% agreed and 47% strongly agreed. Around 80% of head teachers strongly disagree that they will probably never learn how to use computers and 20% disagree. Approximately 52% agree and 41% strongly agree that they try to keep informed about technology changes in education while 7% disagree. This implies that head teachers are willing and committed to use computers in instruction.

The head teachers were asked whether student may use computers for fun and not for learning activities. The head teacher responses are given in Table 1.

Table 1: Use of Computers by Students for Fun and not for Learning.

	Frequency	**Percent**
Strongly Disagree	0	0
Disagree	2	7
Undecided	2	7
Agree	21	70
Strongly Agree	5	16

The results on Table 1 show that 70% of head teachers agreed that students may use computers for fun and not for learning activities. When head teachers were asked whether when students use computers they will be exposed to undesired sites that will lead to moral degradation, 48% agreed while 48% disagreed. This indicates that head teachers have concern that the students may use computers for wrong purposes which will not benefit them academically. This is parallel to findings of Al-Mekhlafi (2004) who asserts that teachers have the responsibility for monitoring students' computer use in the classroom through direct supervision or through censorship software program to ensure that students are involved only on learning activities.

The head teacher were asked whether use of computers will bring financial constraints to the school administrators, 38% strongly disagreed and disagreed while 52% strongly agreed and agreed. When they asked whether use of computers may be limited due to costs on maintenance, 79% agreed while 14% disagreed. This implies that head teacher face the monetary challenge when integrating computer in teaching and learning due to the high costs involved.

Conclusion

The head teachers believe that computers are valuable tools for improving the quality of a student education. The head teacher also believe that computer play a vital role in school management and in improving instruction and learning. They also believe that knowing how to use computer is an important skill and make them better principals. The head teacher leadership and support are important for the success of implementation of computer use in teaching and learning. To have widespread use of computers in instruction the head teacher should provide just-in-time support, assistance and encouragement to the teachers. The head teacher should be able to integrate computer into their daily practice and provide consistent and positive leadership for technology use in the teaching and learning process.

The head teacher have expressed views that they would like to take part in a computer course to learn more about computer especially in integrating in teaching and learning. There is inadequate provision of computers in school. The head teacher then should provide continuous funding for purchasing and maintenance of computers. The head teacher showed positive attitude and willingness to computer use and this is important because their attitude determine if the innovation will succeed or fail. The head teachers can then inspire their teachers by being lead learners in integration of computers in teaching and learning.

Generally, the head teachers had positive reactions toward use of computer in teaching and learning. The head teachers are in favour of using computers in teaching and learning. The positive acceptance and willingness among head teachers found in this study reinforced the importance of considering the role they play since their views might influence their decisions of whether or not to integrate computers in teaching and learning.

Recommendations

The continuous and extended in-service education and training to equip the head teachers with necessary computer skills ahead of implementation of computer use in teaching and learning should be conducted. A well- planned, ongoing professional development program for head teachers that is based on school curriculum goals and sustained by adequate finances is essential. The head teachers and stakeholders should support the integration of technology into the curriculum. Computers are still very expensive and many schools are unable to purchase so the government should provide funds for purchasing and subsidize the prices. Through the workshop the head teacher should be introduced to interactive educational software that support student-centred learning and be demonstrated to how computers can be integrated in the curriculum.

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