

## Assessment of Teachers' Challenges in Integrating ICT in Teaching Geography in Nyamira North Sub-County

<sup>1</sup>.Omwoki Kennedy Moga,ME.d<sup>2</sup>Dr. Enock Obuba, PhD

Department Of Curriculum, Instruction and Media, Faculty of Education and Human Resource Development  
Kisii University, Kenya

---

**ABSTRACT:** The study sought to assess teachers' challenges in integrating ICT in Teaching Geography in Nyamira North Sub-County. The target population was 39 principals, 117 Geography teachers and 195 form four Geography students, the total target population was 351 respondents. The study utilized a mixed method approach by employing the use of three questionnaires which were responded to by the principal, geography teachers and geography students the qualitative part was used to analyze the statements made in some sections of the instruments that have open responses. The responses produced common themes that describe differently certain challenges. They also represent the weight of such challenges in different schools. The quantitative part used descriptive statistics like percentages, ratios and frequencies of common challenges, and themes arising from the qualitative data collected. It included the levels of correlation between the number of challenges, schools and teachers and, the schools' performance in KCSE for the last five years. Number of challenges associated with integrating ICT in teaching generally surfaced in the teaching of geography. It also showed that the challenges were not of equal magnitude in all the schools, and might not be described the same way, hence the use of mixed methods approach. The study will pave way for further research to address the solutions to the challenges unearthed. The researcher used questionnaires to collect the information gathered by using descriptive survey design, which were carefully selected from the 39 secondary schools in Nyamira North Sub-county for the purpose of the study. The collected information was calculated and the mean average score for five years was 5.010 (C-), And mean standard deviation for the five years was 0.888161. The researcher concluded that the performance of Geography was still low, as compared to other humanities. The findings of the study showed that the schools are missing basic gadgets and prerequisites for ICT implementation, basically the schools lack teacher, administrative and curriculum motivations for the implementation of the ICT in teaching. From the research the researcher concluded that, the non-use of ICT affects the performance of Geography at KCSE, the schools do not have ICT prerequisites in its integration hence teacher administrative and curriculum challenges must be looked into. From the study the researcher made the following recommendations, schools to provide required facilities for ICT, some portion of FSE to construct ICT rooms, Geography teachers to be in-serviced, enough technical staff for ICT to be employed, electricity to be supplied in schools and KICD to make a curriculum that involves ICT in teaching. The performance of Geography with the integration of ICT can improve the subject enrollment in public secondary schools in Nyamira North Sub-County to embrace the changing trends in education.

**Keywords:** Challenge, Geography, Information Communication Technology, Integration, Learners

---

Date of Submission: 16-10-2017

Date of acceptance: 04-11-2017

---

### I. Introduction

ICT is an integral part of learning in most institutions, even in any other economic sectors of Kenya's economy, according to Zhang and Aikman (2007). These scholars have given a meta-analysis on how computers have played a major role in the schools in developed countries as early as 1980's, where they have suggested that ICT will be an important part of education for the next generations in order to achieve any remarkable contributions to our schools and our economy in general. According to Kothari (1985) and Grimes (2000) technology offers many means of improving teaching and learning in the classroom, these researchers further supported by other two scholars, Lafebrare and Dawes (2001), gave a view of the use and importance of new technologies which make learners have a potential support in education and the curriculum developers to provide opportunities for effective communication between teachers and students to be possible, ICT has a great potential of bringing change to our ways of teaching and handling learners in a learning situation even though it is not easy to achieve these as stated by Dawes (2001), where he argues that when teachers are expected to use ICT in teaching most of them see it as a problem due to non-commitment in the process because the use of ICT has so many stages before proper implementation is done. Difficulties continue to be encountered during the

adaptation of new technologies because most educators appear to shy off due to non-commitment in its integration to give a proper teaching and learning as stated by Preston and Cox (1999).

Many studies have been conducted to investigate the challenges to the ICT integration in education, particularly in science education, by many scholars who have argued the importance of use of ICT in STEM subjects, according to al-Adwani, (2005) Osborne 2003 and Hennessey 2003, have stated the importance of ICT in STEM for technological advancement while they have not taken their emphasis to social sciences like geography where the researcher is now doing a research to see how the use of ICT can improve its performance and develop the educational gap in the two departments, it is claimed by many organisations that if ICT is not incorporated in preparing students for their future lives in this 21<sup>st</sup> century then in Kenya the educational sector cannot improve, this argument is being supported by Grimus (2000) where he pointed out that when teaching is done by use of ICT, students are prepared to face future development based on proper understandings (pg 362) Bransford (2000) also suggested that the use of ICT in teaching and learning in learning institutions provides important guidelines for uses of technology, which helps important guidelines for uses of technology and in turn helps students and teachers develop competencies needed in their respectful areas of work and study in these fast developing technologies in the 21<sup>st</sup> century (p.206). Bransford (2000) had carried out several studies on the use and importance of ICT in teaching and learning and he has noted the achievements made when teachers and students are enhanced by ICT in their learning and teaching situations, technology can play a part in face to face teaching and learning in classroom. When computers are used they help students to become knowledgeable, reduce the amount of direct instructions given to them and give teachers an opportunity to help those students with other desired needs, as asserted by many scholars, this has been asserted by many scholars and theorists on the importance of ICT in teaching and learning. Almohaissini (2006).

Korte and Hussing (2007), emphasized the stages taken to improve ICT usage and the new technologies on how it can help teachers enhance their pedagogical practices and assist students in their learning as it is being emphasized by other scholars like Grube and Grude (2007), technologies can play a role in student skills, motivation and knowledge in ICT when used to present information to students in a learning situation and can help them complete learning tasks in time when assigned by teachers Al-Oteawi (2002). According to Zittrains (2008) he has mentioned five major factors that can interfere with the likelihood of the good ICT learning in our institutions and develop opportunities for school in ICT integration they include, ICT resourcing, ICT leadership, ICT teaching and general teaching, these theory was supported by other scholars who indicated that the success of the integration of new technologies in education varies from curriculum to curriculum, place to place, class to class because ICT integration depends on one countries curriculum implementation stages and on how it can be used and applied to the learners, Branskat, Blasmire and Kefalas (2006).

Scholars like Osborn and Hennessy (2008) have suggested that teachers have several challenges which confront them in the integration of ICT into teaching and learning process and its complexity, where these challenges included, schoepp (2005) defines a challenge as any condition that makes it difficult to make progress to achieve a defined objective in any research, the researcher wanted to fill the gap by looking at geography and its ICT usage compared with performance as a social science where more research has not been carried out in Nyamira North sub county and other areas of STEM where research had totally been done.

In the implementation of ICT in most countries varies even though many studies have been done on the use of ICT in classroom hence showing a lot of challenges in the use of ICT is very important in the classroom because it is essential to provide opportunities for learners operate in an age of new technology (Yelland 2001) also as the importance of new technology which gives learners a platform from where they can get the needed information for use of learners in classroom situation, David (1968).

According to Schlepp (2005), new technology provides an in depth material for the learners when he compared advanced countries like Australia which started the ICT age many years ago in adventives it is done a lot of constructive progress as compared to our African countries where ICT is now being embraced but is very slow pace.

Over the past 25 years, a series of research has been done in the use of ICT in education but the results have never been enough here, Cox, Rhodes hall (1998) have asserted that the new technology has a positive effect to our learners if properly used in our teaching in the classroom situation. Also there are other scholars who supports the idea of use of ICT in our school that are hooted that many of the studies have shown that in spite of teachers training programs an increase in ICT reserves still the result are discouraging these how needs the use of ICT in schools has to be incorporated by the KICD in the curriculum and even a lot of enough time because without doing it there will be a slow pace and uptake of ICT in schools, Downess (2005).

Fullan (1991) asserted that in advanced countries like Canada and America, ICT and new technology have contributed in the promotion of education change because in their classrooms learners use new technologies in teaching and there enable learners to do some experiments on their own technologies, and this now shows how teachers can ignore and resist change, in developing countries it is more worse

because learners and teachers are not ready for change because they have been adopted on their traditional teaching pedagogy. These was also supported by Underwood (1997) where he talked of ICT integration in teaching and learning and looked at different versions of pedagogical practice and technical skills that a teacher in college was thought on methods of handling students in class and not the use of skills. Other teachers have no basic skills in the use of ICT in class because they are not well versed and even trained on how to use them in teaching and learning situations in class. Underwood (1997) also he continued to assent that the implementation in few of the let in our schools can be successful if only one country is ready for change in our education system and in corporate ICT because the government under the ministry of education the KICD plans the curriculum the teacher are that to implement it secondly the teachers to be professional treasure in ICT to handle over changing curriculum in the schools three teachers approach in schools should be change to meet the new pedagogies in teaching and for the school administrators would take an incitement to buy more ICT because most schools so not have enough resources and lack of ICT rooms in school here are argues that there is no institution of learning which can have a good base for ICT use without the use of the construction of ICT rooms and buying of enough resources in those rooms which will be used for teaching. In many inches which have been done the two scholars that is underwood (1997) and Preston (1999) they have all agreed that the stated factors to be followed strictly to make the system of education be dynamic in ICT integration.

Preston (1999) he has also asserted that some of the factors which can make ICT usage in schools easy he took a theory of study by Ajzen theories of attitudes and behavior in (ajzen 1988) where he emphasized the idea of attitudes and behavior presently the young generation wants new gadgets of ICT and they even get more information on their social media we want to extend this attitudes to our educational sector. When he worked at the technology acceptance model he have it as an issue of time and other factors to assist it in usage presto (1999) also noted that the ajzen (1988)'s acceptance model needs to be supported by several variables for it to work efficiently.

## **II. Statement Of The Research Problem**

In Kenya, education is believed to be major factor in the country's development because it contributes positively to our economic, political and social development. With the introduction of free secondary education (FSE) in Kenya some years away of attaining millennium development goals (MDGs), the issue of quality education is paramount for vision 2030. ICT has been embraced in the teaching of science, technology, engineering, and mathematics (STEM) more than in other subjects. This is probably the reason these areas are emphasized by not only the political system, but also in higher institutions of learning. Studies on ICT use in the said STEM subjects have been done, but little has been done on the use of ICT in other areas like humanities and social sciences. This study focused on the use of ICT in teaching one of the subjects (Geography). The issue of integration of ICT in the teaching and learning of Geography in Kenya is crucial and worth serious investigation too. The little studies that have been done are not enough to enable the education sector to move into greater heights, therefore, of great interest is to investigate the factors affecting the integration of ICT in the teaching and learning of geography in Nyamira North Sub-county, Nyamira County, Kenya. This study is therefore timely.

## **III. Teachers' Challenges In Integrating Ict In Teaching Geography**

One of the scholars Greenfield and Zueller (2008) have elaborated the many challenges that face teachers when the want to integrate ICT in teaching and learning of geography, these challenges have been known not only interferes with the use of ICT but also choice of the ICT resources most teachers lack confidence, it is benefit that the learners of today because of advanced technology they might be more knowledgeable in the resources than the teachers themselves, some scholars like Greenfield p (2008) have emphasized that the most challenge to use of ICT in teaching and learning in our classrooms dates back to teachers lack of confidence.

Dawes has also gone further and clarified that lack of confidence to the teachers in the usage of ICT in their teaching has made the stages of internet age. The practitioners (1968) has asserted that lack of confidence in the area of specialization can attract questions are well answered he was supported by Beggs (2000) where he also asserted that teachers fear of failure when using ICT in their classrooms cause lack of confidence Beggs concludes that many teachers who do not consider themselves to be well spelled in using ICT feel anxious using it in front of a class of students who perhaps know more than the teacher do (pg.7) most teachers fear to go to class due to limited knowledge in the ICT area with their students knowing that lack of confidence and experience with technology interferes with teachers motivation to use ICT in the classroom. Few teachers who have resumed use ICT in classroom teaching because they understood the usefulness of ICT in their teaching and personal usefulness of ICT in their teaching and personal work which they need to extend their use further into the future, Fane (2002).

The second challenge is teachers competence in integrating ICT into pedagogical practices as explained and put forward by one scholar Beggs (2000) both have given a comprehensive research done by Australian researchers which stated that most teachers lack the knowledge and skill to use computers and were not ready for change to supplement learning with the integration of ICT in their schools to bring ICT with new technology for teaching practices. Pelgram (2001) Alwali (2000) have emphasized that the major challenge to ICT integration in pedagogical practices is caused by lack of technological practices is caused by lack of technological competence as a main challenge for teaching to accept and adopt it for use. Empirica (2006) produced a report on the use of ICT in European schools where he stated that no country is educational advancement can be achieved without the integration of ICT in teaching and learning in our institutions in Kenya the research which has been done shows that teachers who do not use computers in classrooms claim lack of competence as it restricts them from adding new technologies in education Preston and Watson (1999) have analyzed and found that most teachers resist to change and these become a major challenge to the integration and use of new technologies in education, Watson (1999) an Australian researcher asserted that setting of required charge and teachers are two different things to be handled differently, according to Watson (1999) he considered different teachers attitude to change as a very important challenge. According to Empirica. (2006) teachers who are not using new technology see computers as an option which does not have a future benefit to them and the use of computers or ICT gadgets have unclear benefits to teachers who are of age nearly retirement age, Ertner (1999).

Resistance to change occurs in many areas as it is being asserted by one scholar Richard. (1999) where he stated that the change from present level to a desired level of performance is facilitated by encouraging forces such as power of new development, creativity, internet access and ease of communication and these again can be delayed by some factors as being stated by Korte and Hurssing (2007) as lack of technical staff, teacher experience time planning and here he states that most teachers believe that using computers in class does not have significant learning benefits for students, Gillspine (2006).

#### **IV. Research Methodology**

The researcher used a mixed method approach in conducting this study. The aim was not only to find out the number of challenges and their frequencies, but also to qualitatively infer from statements and responses in the questionnaires the extents to which identified challenges influence the integration of ICT and consequently performance. Therefore the quantitative part is mainly presented in terms of frequencies, percentages and ratios of, challenges, respondents and ICT gadgets and resources. Furthermore the relationship between challenges and performance were inferred through a quantitative calculation of correlation coefficients of frequencies of challenges in schools and schools' averages of KCSE mean points for the last five years.

The qualitative data, mainly from the statements to open response questions in the questionnaires, derived themes identified by the researcher. These included the weights and emphasis put on the various challenges that may not only be enumerated but their importance inferred from how they describe them. Deeper meaning of the statements was particularly important because the sample sizes were not necessarily large enough, especially those of head teachers. Furthermore geography is the one subject with low enrolment and even teacher number was low because the subject is optional from form three as stipulated in the national school curriculum according to the ministry of education under Kenya Institute of Curriculum Developers.

Thirteen secondary schools were randomly selected from the 39 public secondary schools comprising more than 30% of the total population as recommended by Borg and Gall (1996). The principals of the 13 schools selected comprised the total sample representative of the 39 school principals. The geography teachers of the 13 schools were automatic representatives of the teachers who were 39, three from each school and 65 geography students, five from each school.

#### **V. Results And Discussions**

##### **Teachers' challenges in integrating ICT in teaching geography in Nyamira North sub-county**

The researcher was interested to know some of the basic problems facing the integration of ICT in teaching of Geography, he came up with the following findings as tabulated below;

*Table 1 showing challenges facing ICT integration in Schools*

<b>Challenges facing ICT integration in schools</b>	<b>Frequency of Respondents</b>	<b>Percentage of Respondents</b>
Lack of confidence	10	25.64
Lack of teacher competence	8	20.52
Resistance to change	15	38.46
Lack of teacher attitude	6	15.38
<b>Totals</b>	<b>39</b>	<b>100</b>

According to the research the following information was revealed during the study, 10 teachers (25.640%) felt that there is lack of confidence among Geography teachers, 8 teachers (20.512%) said that there was lack of competence in using ICT during teaching their Geography lessons, 15 teachers (38.460%) felt that most teachers were resistant to change and 6 teachers (15.380%) lacked attitude for the use of ICT in teaching because they feared they will be replaced by the gadgets hence hindered the integration of ICT to the teaching and learning of geography.

The researcher further wanted to know the effect of not using ICT in teaching geography and its performance. Most of the respondents indicated that the performance will still be low due to students lacking attention because geography as a social science subject needs more practical approach for it to be performed better because our country without practical approach, we cannot realize vision 2030 and our millennium development goals.

Most geography teachers who were the respondents to the questionnaire indicates that most students can be motivated with the use of ICT in teaching, hence ICT can improve performance. The future of ICT integration is bright hence leading to achievement of better results and higher enrollments in the subjects.

**A) HOW IMPORTANT IS THE INTEGRATION OF ICT IN TEACHING AND LEARNING IN YOUR SCHOOL**

From the findings most teachers indicated that performance will improve in their schools if the integration is done because most students prefer practical approach in teaching.

**B) DOES ICT PLAY A ROLE IN ACADEMIC PERFORMANCE**

According to the research findings most respondents indicated that ICT plays a pivotal role in performance and improvement in enrollment in the schools, so to the researcher's findings ICT should be embraced in schools.

**C) WHAT IS THE FUTURE OF ICT INTEGRATION IN YOUR SCHOOL**

It has been revealed from the research that most schools which can do well at KCSE in Geography should have ICT lab. If the ICT integration challenges are addressed adequately, ICT can solve many problems in schools.

## **VI. Conclusion**

Based on the findings of the study, it was concluded that the challenges in the integration of ICT in teaching of Geography affect the performance of geography at KCSE in Nyamira North –sub-county Kenya. Majority of the schools missed the basic items and pre-requisite in the integration of ICT into teaching Geography hence affecting its performance at KCSE level the factors include teacher level challenges, school level challenges and curriculum implementation challenges.

It was also concluded that the schools in the sub-county had a big shortage of teachers which affect teaching and learning the study also concluded that administration plays a big role into the challenges and the outcome of Geography performance at KCSE, the majority of the respondents stated that ICT is not necessary to their schools because most basic facilities are missing to implementation of ICT gadgets in the teaching and learning of geography.

## **VII. Recommendations**

Based on the findings, it was recommended that:-

The schools should be provided with the required facilities to facilitate proper learning in Geography so that practical part of the subject should be practical in teaching.

- i. The Government through FSE should set aside some small portion of money to buy gadgets and build ICT labs in every school in order for students to have enough time so that they can fully participate in learning.
- ii. The principals should ensure that the teachers handling geography have been in-serviced in usage of ICT in their classrooms.
- iii. The principals should have enough technical staff in the school that can even assist students when the subject teachers are away or before the lesson starts in an ICT lab as they can prepare everything ready for the teacher to use during the lesson.
- iv. The Government should make sure all public secondary schools are supplied with power (H.E.P) for use and easy lesson plans even at night and any extra time available for use.
- v. The government under KICD should make a curriculum which is inclusive of computer hours or practical geography in their curriculum after consulting the geography specialist in schools.
- vi. School principals should not give priority to other projects and forget the most important portion of ICT in schools for teaching which can improve performance in all ways for vision 2030 and millennium development goals to be realized.

### References

- [1] Almohaissin, I. (2006). Introducing computers into Saudi Arabia Secondary School science Teaching some problems and possible solutions, unpublished paper.
- [2] Al-Oteawi, S., (2002). The perceptions of administrators and teachers in utilizing information technology in instruction administrative work, technology planning and staff development in Saudi Arabia. Unpublished doctoral dissertation, Ohio University, Ohio
- [3] Beggs, T., (2000). April 9-11-200), Inferences and barriers to adoption of instructional technology, paper presented at the proceedings of the mid-South instructional technology conference murfreesboro, T.N
- [4] Black, E. (1995) Behaviorism as a Learning Theory
- [5] Bransford, J., Brown, A., & Cocking, R.R. (Eds), (2000). How people learn, brain, mind, Experience and School (2<sup>nd</sup> Ed) Washington, D.C. National Academy press.
- [6] Cox, Preston, M., & Cox, K., (1999a). What factors support or prevents teachers from using ICT in their classrooms? Paper presented at the British Educational Research Association Annual conference, Retrieved from August 2, 2008.
- [7] David H., (1968). The ice handbook for primary teachers
- [8] Dawes, L., (2001). What stops teachers using new technology? In M. Leask (Ed), issues in teaching using ICT (pp. 61-79). London: Root lodge.
- [9] Downess, S., (2005). E-learning Exam Magazine, retrieved September 3<sup>rd</sup> 2015.
- [10] Empirica, (2006). Benchmarking access and use of ICT in European schools 2006. Final report from head teacher and surrey in 27 European countries German: European commission.
- [11] Grimus, M., (2000). ICT and multimedia in the primary school. Paper presented at the 16<sup>th</sup> conference on Educational users of information and communication technologies, Beijing, China
- [12] Osborne, J., & Hennessey, Y., (2003). Literature review in science education and the role of ICT promise, problems and future directions London, Future-lab
- [13] Pelgram, W., (2001). Obstacles to the integration of ICT in education: Results from a worldwide educational assessment. Computers and education, 37, 163-178
- [14] Richard, W., (1993). The Silver bullet from ICT in Education.
- [15] Schoepp, N., (2005). Information Communication Technology (ICT) is a major challenge
- [16] Watson, H. and White, G., (2006). M-learning in education, a summary, Education unlimited, Adelaide, retrieved August 30<sup>th</sup>, 2015.

.Omwoki Kennedy Moga Assessment of Teachers' Challenges in Integrating ICT in Teaching Geography in Nyamira North Sub-County." International Journal of Humanities and Social Science Invention (IJHSSI), vol. 6, no. 11, 2017, pp. 17-22.