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INFLUENCE OF TEACHERS' PEDAGOGICAL ICT TRAINING ON THE INTEGRATION OF ICT IN TEACHING THE ENGLISH LANGUAGE IN SECONDARY SCHOOLS IN NYANDARUA COUNTY, KENYA

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ABSTRACT

The learning environment has changed where ICT enhances mastery of the content, provides wide-ranging information, and also provides teachers with a variety in the presentation of content. The purpose of this study was to determine the integration of ICT in teaching the English Language in secondary schools in Nyandarua County, Kenya. The objective of this study was to examine the influence of teachers' pedagogical ICT training on the integration of ICT in teaching the English language in secondary schools in Nyandarua County, Kenya. The study used the Constructivism theory by Vygotsky and Piaget. A survey research design was used. The study population was 168 public secondary schools and 392 teachers of English Language in Nyandarua County. Using 30% the researcher arrived at a sample of 50.4 and 117.6 respectively. Hence, a total number of 118 teachers of 50 public schools were sampled using a simple random sampling technique. Data was collected using a checklist and questionnaires. By conducting test-retest reliability of the questionnaire using SPSS version 22, an index of .782 was realized. The obtained data were analyzed systematically using descriptive statistics and presented using frequency tables, and percentages. The study findings from the questionnaire revealed that pedagogical skills affected ICT integration in teaching the English Language. The results of this study were expected to provide insights to the Ministry of Education in Kenya to improve the low use of ICT in teaching English language skills and help in formulating strategies of making teachers blend the traditional method of teaching with ICT which will consequently enhance students mastery of content.

KEYWORDS

Teachers' Pedagogical ICT Training Integration of ICT & Teaching the English Language in Secondary Schools

1. Abbreviations and Acronyms

<u>CL</u>	Cooperative Learning
<u>ELP</u>	English Language Proficiency
<u>ICT</u>	Information and Communication Technology
<u>SPSS</u>	Statistical Package for Social Sciences
<u>KESSP</u>	Kenya Education Sector Support Program
<u>KICD</u>	Kenya Institute of Curriculum Development
<u>ESL</u>	English as a Second Language

2. Overview

Information and Communication Technology can be used as a support mechanism in curriculum delivery. The language teachers are required to use various methods, strategies and also integrate instructional resources among them ICTs to improve the quality of teaching English skills (KICD, 2019).

3. Background of the Study

Due to the unrelenting introduction of ICT in the field of education, its use in enhancing classroom-based instruction to support student-centered education has been widely discussed. As one of its recommendations, the American Psychological Association had encouraged teachers to consider putting into practice appropriate technological and instructional practices to facilitate student-centered learning (Yamaguchi & Takada, 2018). Researchers all over the world have also tried to advocate for a better conversation between pedagogy and technology; practice and research; policy, practice and theory. An understanding of the new pedagogies has also been sought by researchers in diverse studies (Roblyer & Hughes, 2018).

In the United States of America, Roblyer and Hughes were great contributors to the field of educational technology. Roblyer, a retired professor authored or co-authored numerous books, articles, columns, and papers on educational technology research and practice; for example Introduction to Instructional Design for Traditional, Online, and Blended Environments. Roblyer designed one of the early microcomputer software series, Grammar Problems for Practice, for the Milliken Publishing Company while Joan Hughes in her earliest research developed the concept of technological pedagogical content knowledge (TPCK), a theory generated from case studies of English teachers' learning and use of technologies in schools (Roblyer & Hughes (2018). This theory had been adapted and implemented widely. A teacher was positioned as a leader of transformative technology Integration. She affirmed that Educators in the USA used technological resources to build blended or online learning lessons or curricula (Roblyer & Hughes (2018). Hughes' book was committed to technology integration in disciplinary content areas with chapter specific in various content areas for example English and language arts (ELA) and Engineering, and mathematics (STEM). STEM subjects have been given considerable attention in Kenya through SMASSE programs, however, very little has been done in pedagogical ICT training of in-service teachers in the English Language despite flamboyant government policies on ICT integration in non ICT subjects. In Kenya, English is a foreign language and considering its importance as the language of instruction, there is a need to adapt strategies that can motivate learners and help them to master the content. Therefore Roblyer and Hughes's ideas if adapted might assist in English Language learning in Kenya.

A study by Bahrani (2017) indicated that exposure to video materials improved speaking performance for English language students more than the social interaction for ESL (English as a Second Language) students. If teachers perceived technology programs as neither fulfilling their needs nor their students' needs, there was likelihood that they would not blend technology into teaching process (Hew & Brush, 2017). Apparently, teachers' qualification tended to influence ICT integration in teaching of English in classrooms; survey on almost 3000 teachers discovered that the quality of ICT integration was related to the years of teachers' service. Teachers' self-efficacy built confidence in the teacher on the use of ICT in teaching. Lack of ICT knowledge and fear of failure were also cited as some of the reasons for teachers' lack of confidence for adopting and integrating ICT in their teaching (Balanskat, 2016).

Researchers in Asia had also tried to argue for a better dialogue between pedagogy and technology. According to Ali (2018) the lives of young people, commonly known as digital natives have been changed by evolving technological progression and emerging digital environments; the students of today spent a good part of their lives encircled by and using computers, videogames, smart phones, and other similar tools of the digital age. His paper suggested that since digital natives were technologically savvy, technological tools could be used to enhance digital literacy and numeracy leading towards a vibrant digital economy. According to Morrison (2015) digital native generation had a great desire for technology and enjoyed playing games on their mobile phones and other digital devices. The study was meant to enlighten the students through relevant curriculum so that they became more aware about better usage of online learning applications. With adequate pedagogical ICT training, teachers were better placed to create awareness.

There seem to be a general know-how of the existing technologies changes in the industrial and Education sectors; however, adoption of ICT in teaching and learning English in public secondary schools appears to be inadequate. In addition, there is a literature gap since most of the studies reviewed were carried out in different geographical location and were not subject specific. It is against this background that the present study sought to establish ICT integration in teaching and learning of English in public secondary schools in Nyandarua County, Kenya.

4. Statement of the Problem

The significance of pedagogical integration of ICT in Kenya is manifest in ICT policies in Education. The investment program No.25 in National Education Sector Plan (MoEST,2014) focused greatly on improving learning outcomes through ICT, however, there is very little in terms of research to understand teachers of English pedagogical practices and technology in Nyandarua County. According to the KNEC Report (2018) most of the questions attempted were performed poorly by candidates in the KCSE English language papers and that this could have been attributed to the inappropriate teaching and learning of the subject. KNEC (2018) recommended that English needed to be taught using activities that made it interactive and engaging to enhance learners' enjoyment. Contemporary settings are also in support of curriculum that promotes competency and performance. Hence innovative pedagogical practices are necessary. Currently, the results in Nyandarua County are below standard; this shows a critical problem in the county yet the TSC is very strict on deployment of qualified teachers in all schools in Kenya. Evidently, the overall performance in the English subject for the five years falls short of the ideal mean of 50% (KNEC, 2018). In 2016 and 2017 the mean scores were 3.636 and 4.01 respectively (County Director of Education Office Nyandarua,

2019). In 2018 Nyandarua County registered a mean score of 3.765 a negative deviation of 0.243 from the previous year. Performance and teaching strategies are synonymous. It is evident through research that technological resources can be used by instructors to build blended learning lessons or curricula to produce positive outcomes (Roblyer, 2015). In this study the researcher investigated pedagogical ICT training ,teachers' ICT knowledge, teachers' frequency of ICT use and teachers' expectations on ICT integration in teaching which to some extent may affect the blending of ICT in teaching English language in Nyandarua County.

5. Objectives of the study

This study was guided by the following objectives:

1. To examine the influence of teachers' pedagogical ICT training on ICT integration in teaching English language in secondary schools in Nyandarua County, Kenya.

6. Research Questions

The study attempted to answer the following research questions:

1. How does secondary school teachers' pedagogical ICT training influence ICT integration in English language teaching in Secondary schools in Nyandarua County Kenya?

7. Research Hypotheses

The following hypothesis were used in this study

1. There is no relationship between teachers' pedagogical ICT training and ICT integration in teaching English language in secondary schools in Nyandarua County, Kenya

8. Literature Review

8.1. The Concept of ICT Integration

According to UNESCO Institute of Statistics, ICT refers to diverse set of technological tools and resources used to transmit, store, create, share or exchange information. They include computers, the internet, live broadcasting technologies, recorded broadcasting technologies and telephony (UNESCO,2015). The role and applicability of ICT in Education. Some literature on ICT was cynical about the capability of ICT by itself to improve outcomes. Piper, Jepkemei, Kwayumba, and Kibukho (2015) recognized the fact that Kenya was investing in information and communication technology (ICT) to improve children's learning outcomes. However few ICT programs were in place to effect instructional change necessary to increase learning. Vrasidas (2015) was also unconvinced about the use of ICT. He argued that despite being equipped with computers and internet services, time for lesson preparations and unsupportive curriculum design may pose a challenge. He reiterated that availability of the resources did not imply that ICT could be easily implemented but other supportive factors were needed for example teacher readiness and presence of sufficient ICT resources with suitable infrastructural support. Shaibou, Moluayonge and Park (2017) were also in agreement that integration of ICT also required a steady supply of electricity and access to internet. This was a genuine concern since teachers played a critical role and if they were not provided with the necessary ICT equipments and pedagogical ICT training the government's effort would go to waste. ICT policies will keep on being reviewed without realization of the set objectives. ICT in schools, colleges and universities curriculum for non-ICT subjects. In this study English is one of the non ICT subjects. However, the government formulated robust policies of ICT in education but somehow lacked effective implementation. Such policies needed to prioritize empowerment of marginalized sections

of society through technology, rather than marginalize them further. The policy on universal access to ICT services was limited to a few leaving out the majority especially in the rural areas of the country where most Kenyans live. Nyandarua County is a rural county where ICT in Education is still at the infant stage. The policy also talked of Trained ICT teachers capable of enhancing teaching of primary and secondary school children with technology and development of digital content for all education levels using multimedia technologies in 2014-2017 ICT Master Plan (MoEST,2014).

8.2 Teachers' Pedagogical ICT Training and ICT Integration in English Teaching and Learning

Teachers' Pedagogical ICT Training and incorporation of ICT has been reported in studies across the world. Hughes (2018) in her most recent edition reflected fresh outlook on use of technology in teacher learning. He emphasized on transformative technology integration in the classroom and content-based technology integration. A teacher was position as a leader of transformative technology Integration. She affirmed that Educators in USA used technological resources to build blended or e-learning lessons or curriculum. Her book was dedicated to technology integration in disciplinary content areas with chapter specific to the following content areas: special education; English and language arts (ELA); second and foreign languages; science, technology, Engineering, and mathematics (STEM); social studies; music and art; and physical and health education. She went further than describing the technical features and abilities of 21st-century technology tools to focus consistently on the research-based teaching and learning approaches that ICT resources could support in content areas (Hughes, 2018).

On teacher professional development, STEM subjects have been given considerable attention in Kenya through SMASSE programs .Nevertheless, very little has been done in integration of ICT in Teaching English Language in Kenya despite pompous government policies on ICT integration in Education. In Kenya, English is a foreign language and considering its importance as the language of instruction, there is need to adapt strategies that can motivate learners and help them to master the content. Therefore Roblyer and Hughes ideas if adapted might assist in English Language learning in Kenya. Teachers may integrate ICT into their teaching when training programs concentrate on subject matter, and the technology. Pedagogical ICT training at school level is extremely important. Likewise, research has revealed that teachers required experts in technology to give them ideas on the way to integrate ICT to assist students learning (Plair, 2018).

A study by Almekhlafi (2016) investigated the effects of interactive multimedia as ICT tools on students' achievement in English as a foreign language. One of the results was that technology integration could enhance student-centeredness changing the role of the teacher. Similarly, a number of developing countries like India had conducted research on the perceptions of teachers about ICT integration in teaching and learning. According to Li, Yamaguchi and Takada (2018) not only did ICT integration benefit students, it also provided a learning platform for the teachers by enabling them to take ownership and practice knowledge renewal on their own. Fryer and Bovee (2016) cited a number of researchers postulating that a number of studies established the role of the teachers as important in facilitating eLearning in the sense that they support technological value, facilitate content understanding, promote engagement in collaborative learning, and overcome technological limitations.

Integration of ICT in teaching and learning in education requires pedagogical ICT training of teachers for effective performance. In a study by Roblyer (2015), teacher's needed fresh pedagogical skills to

take full advantage of ICT to improve learners learning. Training that equipped teachers with the required knowledge on how to develop an appropriate and effective lesson could bring meaningful teaching and learning of English language. Consequently, in implementing ICT integration in teaching of English language, the teacher needed to be extremely innovative to create suitable environments and learning situations required.

A study by Kay (2016) indicated that the traditional manners of teaching, till to date were proving to be useful. On the other hand Birch & Irvine (2017) argued that teachers had to use ICT in more innovative and helpful ways in order to create more engaging and rewarding activities resulting to more effective lessons. Therefore, this called for blended learning methods for example ICT could be used to enhance traditional classrooms for positive outcomes. In a research conducted by Kay (2016) on teacher's attitudes on ICT, He observed that quality preparation on technology can help lessen gender inequalities. His findings were that male teachers had comparatively higher levels of ICT attitude and ability before implementation, but there was no disparity between males and females regarding ICT attitude and capability after the implementation of the technology. Conversely, Markauskaitie (2016) study discovered major differences between males and females in technical ICT capabilities. Pedagogical ICT training should not be gender based. What matters is the kind of training provided by the government for in service and preservice teachers regardless of age and gender.

During their in-service training teachers need to be given opportunities to practice using technology so that they can see ways in which technology can be used to augment their classroom activities. They also need to be given opportunities to practice using technology during their teacher training programs so that they can see ways in which technology can be used enhance their classrooms activities. Teachers are more likely to integrate ICT in their course, when pedagogical ICT training provides them time to practice with the technology and learn, share and collaborate with colleagues. Similarly, research has revealed that teachers need experts in technology to give them ideas about the way to integrate ICT in English language teaching (Plair, 2018).

According to Kidombo, Gakuu and Ndiritu (2015) the proficiency of the school principal is key for sustaining a learning environment attuned with student centered approaches to English teaching and learning with ICT. They are also seen as curriculum and pedagogy leaders and are considered by stakeholders as essential figures in leading the process for creating the conditions to teach and learn with ICT and also spearhead capacity building in teachers' pedagogical skills. Finally, technical issues are an aspect of lifelong learning subject through which teachers update skills with hardware and software as new generations of technology emerge (UNESCO, 2018). The above information from UNESCO (2018) implies that all institutions wishing to integrate ICT in teaching and learning need to equip the teachers with the four competencies either through pre-service or in-service training and keep them updated on technological or social change through capacity building as need arises.

9. Research Methodology

9.1 Research Design

The researcher used survey research design. Surveys attempt to describe and explain the state of affairs as they exist at the present. Evidently, Jesse (2015) adopted survey research design in his study about the usage and the effects of Smartphone on student's social lives, education lives, and physical activity. Having considered previous procedures, a survey using assorted Likert type scales in the

survey was used to determine the influence of teachers' ICT knowledge; demographic characteristics; teachers' expectations on ICT use and frequency of teachers' ICT use in English language teaching and for different purposes. McKenney & Reeves (2018) suggested that it is a useful fact finding method, which determines and reports on things the way they are, describes behavior, attitudes, opinions, perception and characteristics the way they are presented.

9.2 Target Population

According to Borg and Gall (2007) a target population is all members of real population or set of people, events or objects to which a research wishes to generalize the results of the study. By the time the study was being carried out Nyandarua County had 168 public secondary schools. This translated to a study population of about 392 teachers of English Language in secondary schools in Nyandarua County.

9.3 Sampling Procedures and Sample Size

Kothari (2014) argues that if a sample size is too small, it may not serve to achieve the objectives and if it is too large the researcher may incur huge costs and waste resources. Simple random sampling was used this type of sampling also referred to as chance sampling gives every item in the population an equal chance of inclusion (Kothari, 2014). A random sample may be chosen in a number of ways depending on the size of the population. A sampling frame which lists all the population elements are necessary since all must have a chance of being included. If the population is small all the names can be put on pieces of paper which are shaken up in a bowl and a sample is drawn (UNCRD, 2004). Using 30% the researcher arrived at 118 teachers of English, 50 schools and 50 Heads of Department as shown in the table below;

Table 1: Sample Size

Category	Population	Sample	%
Teachers	392	118	30
Schools	168	50	30
Heads of Departments	16850	30	

Source: CDEs office Nyandarua (2019)

9.4 Research Instruments

Teachers' questionnaire was employed to gather data from the respondents. The researcher designed a questionnaire for teachers. A questionnaire is ideal instrument to gather descriptive information from a large sample; it can also be answered at the convenience of the respondent and picked at a later time (Kothari, 2014). Closed questions which involved offering respondents a number of defined response choices were used. The questionnaire consisted of five sections with four of these sections each representing an independent research variable based on teacher factors influencing ICT integration in teaching and learning English Language. The Four-Likert Scale questionnaires was administered through drop and pick later method to the respondents. The observation schedule entailed preparing a checklist prior to data collection. An observation checklist was preferred to supplement the questionnaire. Heads of English Department were instrumental in taking the researcher around for observation on availability of ICT facilities.

9.5 Validity of the Research Instrument

According to Mugenda and Mugenda (1999), validity of instrument is the extent to which it does measure what it is supposed to measure. Validity refers to the quality that a procedure or an instrument used in the research is accurate correct meaningful and right (Kasomo, 2006). Validity therefore implies that we want to obtain what we are supposed to measure. The research instrument was validated in terms of content and face validity. The content related technique measures the degree to which the questions items reflect the specific areas covered. The researcher consulted experts and supervisors and for validation of both instruments. Therefore whatever was used in this study enabled the researcher to get the information she wanted for this study.

9.6 Reliability of Research Instruments

Reliability is the degree to which a test consistently measures whatever it measures (Mugenda, 2003). It is the degree to which a research instrument yields consistent results or data after repeated trials. The test-retest reliability of a scale is assessed by administering it to the same people on two different occasions, and calculating the correlation between the two scores obtained. High test-retest Correlations indicate a more reliable scale. The researcher used test retest reliability test. This type of reliability is based on stability of the instrument over time (Kasomo, 2006). To test reliability using test retest, the researcher gave the same questionnaire twice to the same respondents at different times to see if the scores were the same. The response on the two occasions was correlated using the Pearson Correlation coefficient. Coefficient of stability varies between 0 and 1. By conducting test retest reliability in SPSS version 22, an index of .782 was realized. George and Mallery (2010) indicate that a correlation coefficient greater or equal to 0.7 was acceptable. Therefore, the researcher assumed that the characteristics that were being measured by the instrument were stable.

9.7 Data Analysis Techniques

According to Kombo and Tromp (2006), data analysis refers to examining what information has been collected in a survey or experiment and making deductions and inferences while Orodho (2008) observes that data analysis involves some manipulations of data collected through use of statistical tools in order to compute a number or a percentage. On completion of data collection the researcher checked for completeness of the filled questionnaire and coded them. Data collected for this study was analyzed based on inferential and descriptive statistics. One sample t-test was carried out when analyzing the data. Checklist Analysis Strategy was used for data collected by checklist. Data was sorted, coded and keyed into Statistical Packages for Social Sciences (SPSS) version 22. Closed questions were converted to the numerical format required for SPSS.

10. Data Analysis, Interpretation And Presentation

10.1 Teachers' Pedagogical ICT Training

As the researcher sought to establish the pedagogical ICT training of the sampled teachers, other aspects like gender, teaching experience and I.C.T training were considered important in comprehending the respondents' responses in view of integrating ICT on enhancement of English Language. The researcher used frequencies and percentages in describing the findings and presented the results in tables.

10.2 Teachers of English ICT Training/Courses on Pedagogical ICT Use

The findings of whether teachers of English had undergone any ICT training/pedagogical ICT training at whichever level during pre-service or in service training were presented in table 6 and table 7.

Table 2: ICT training

Factors	Category	Frequency	Percentage (%)
Undergone ICT Training	Yes	59	60.8
	No	38	39.2
	Total	97	100

Table 3: Pedagogical skills/training

Factors	Category	Frequency	Percentage
Undergone any course on pedagogical ICT use	Yes	30	30.9
	No	67	69.1
	Total	97	100

Based on whether the respondents have undergone any ICT training; the findings indicated a frequency of 59 (26 males and 33 females) that is 60.8% had undergone ICT training. These findings disagreed with Kamau (2012) who reported that most teachers lacked basic computer training. The findings based on whether the respondents had undergone any courses on pedagogical use of ICT in teaching and learning the data shows that 30 (18 males and 12 female) participants which is 30.9% had some experience on pedagogical skills for ICT implementation as practicing teachers. This implied that those who had experience on pedagogical skills were the minority; hence, the figure seemed inadequate given the importance of appropriate ongoing professional development for effective and pedagogically sound ICT implementation. This study concurred with the findings of Shaiboui (2017) that the utilization of information and communication technologies in teaching in Cameroon secondary schools were low due to formal resistance by teachers to employ pedagogical tools that they believed they were not pedagogically trained to utilize in a professional way. Also, teachers in rural area were disadvantaged in ICT use compared to those in the urban areas. There was low teachers' support: both pedagogical and technical which had considerably led to low teachers' use of ICTs in the teaching and learning process.

Table 4: One Sample t-test on pedagogical training

	Mean	Std. Deviation	t-value	Df	p-value
Undergone course on pedagogical use of ICT	1.6907	.46460	-6.556	96	.000

The first hypothesis which stated that "there is no relationship between teachers' pedagogical ICT training and ICT integration in teaching English language in secondary schools in Nyandarua County, Kenya was tested using a one sample t-test. The analysis gave a t-value of -6.556 at a df of 96 and a p-value of .000 at an alpha of .05. Based on the teachers' responses, there was a relationship

between teachers' pedagogical ICT training and ICT integration in teaching English language in secondary schools in Nyandarua County, Kenya. $T(96) = -6.556, p < .05$ on pedagogical ICT skills. This result led to the rejection of null hypothesis 1.

11. Summary

This section provides a summary of the study based on the research objectives and suggestions for further study.

11.1 Summary of findings of the study

The purpose of this study was to determine the influence ICT integration in enhancement of English language teaching in public secondary schools in Nyandarua county Kenya. To establish this the researcher sought to determine the teachers' of English pedagogical ICT training, ICT knowledge, frequency of ICT use and expectations of ICT use as key factors in response to research questions. The summary of the research findings was based on the following study objectives: To examine the influence of teachers' Pedagogical ICT training on ICT integration in teaching English language, to examine the influence of secondary school teachers' ICT knowledge on ICT integration in teaching English language, to determine the influence of teachers' frequency of ICT use on ICT integration in English language teaching ,to assess the influence of teachers' expectations on integration of ICT in English language teaching.

Survey design was used in this study targeting a sample population of 118 teachers of English. An observation schedule was carried out in 50 schools in Nyandarua county. 108 questionnaires were completed and returned to the researcher. 11 were incomplete hence not used for data analysis. Of the 97 respondents, 43 were males and 54 were females. The instruments used in collecting data were teacher questionnaire and a check list. In analyzing data, frequencies and percentages were used and findings were presented in tables. On observation schedule of the 50 sampled schools, the researcher was able to gather valid information from 40 schools.

The following were the summary of the research findings based on study objectives upon which the conclusion and recommendations of the study were made. These results seem to show that the sample participants saw themselves as sufficiently capable in terms of their ICT skills. It was more difficult to say if they felt the same way about implementing ICT in a pedagogically sound manner according to the standards outlined in the MOE policy and curriculum which suggests the sustained inclusion of pedagogically sound strategies or method by the teacher to engage the class in the subject matter using ICT as a tool to complement their teaching platform. The responses to demographic information question 4 (ICT training) seemed to differ much from responses to question 5 (pedagogical skills). This could indicate lack of clear understanding of the meaning of pedagogical use of ICT which is contradictory given the high proportion of participants expressing high confidence in their competency in Question 4. The data also shows that the clear majority of participants had no experience of ICT implementation strategies in their teacher training. From the responses in table 8 teachers seemed not to have been given proper training on ICTs and their application in teaching in their respective subject areas. Hence, the study concurs with Jones (2015) who cited that teachers felt reluctant to use computer if they lacked confidence. 'Fear of failure' and 'lack of ICT knowledge' had been cited as some of the reasons for teachers' lack of confidence for adopting and integrating ICT in their teaching. The growth of the ICT sector has challenged teachers to prepare for effective use of the new teaching and learning tools in their teaching profession.

(UNESCO, 2015) argue that there are significant benefits of using ICT as part of teaching and learning process as long as teachers recognize the relationship between the use of ICT and overall curriculum. Teachers' self-efficacy builds confidence in the teacher on use of ICT in teaching. The findings were also in agreement with a recent study byFebriani and Hafifah (2019)which revealed that most teachers did not have the ICT pedagogy that they could implement in their classroom even though they had positive attitude towards the development of technology for Language Learning.

12. CONCLUSION

From the findings of the study the researcher came up with the following conclusions; that effective integration of ICT in teaching of English language can improve mastery of content. Hence, administrators should understand that we are living in a digital age; work, education, entertainment, and social connectivity are all experienced in ICT. As such, this calls for its integration in formal education where blended learning and teaching can effectively take place with the use of ICT tools. Teachers' expectation towards ICT was a major factor towards effective ICT integration for it determines the extent to which the teacher utilizes ICT in classroom. In service training in ICT related courses for capacity building equipped teachers with appropriate pedagogical skills on integration of ICT despite other prevailing factors. This may increase focus on interaction between teachers and their students leading to improved quality of education and this translates into better performance in this subject. Appropriate training and access to effective Professional Development is an important element in ICT implementation effective in helping students achieve desired learning outcomes. It is a fact that Information and Communication Technologies (ICTs) changed the way of accessing and utilizing learning, teaching and research resources (Eligi & Mwantimwa, 2017). ICT is being integrated and part of curriculum as a tool for improving or discovering quality education. Hence, ICT has a complex role in recent societal transformation, either at home or at school or in society.

13. Recommendations of the Study

In light of the findings and conclusions of this study the researcher has recommended that the following measures be undertaken;

1. Teachers' level of ICT pedagogical skills; before infusing ICTs in teaching and learning, proper infrastructure need to be laid down; teachers need to be given proper training on ICTs and their application in teaching in their respective subject areas. One way to develop teachers' ICT skills and promote ICT integration in their teaching is the provision of ICT-based training environments at the county and sub county levels where on-demand access to materials, expertise advice can be obtained. Therefore, the ministry of Education should intensify the training of teachers of English to ensure that they have the right skills to integrate ICT in their teaching and learning activities. Teachers need to be given proper training on ICTs and their application in teaching in their respective subject areas; proper decentralization of county- based framework for integrating ICTs in teaching and learning in secondary schools is required. Each county education office should develop its own curriculum for capacity building of all teachers on ICT integration and not to focus on science and mathematics only as it has been the case. Science and mathematics teachers have always been provided with in service courses and are well equipped with skills on ICT utilization in these subjects through SMASSE programs this should be extended to teachers of languages and humanities especially in secondary schools.

The county education office should use the Quality and Standards Assurance Department to evaluate the usage of ICTs in schools. This will help the County ICT Training Centre to organize for further refresher courses for the teachers. Software and hardware are continuously evolving hence new learning software should be availed. Teachers, therefore will need a periodic retraining at the County ICT resource Centre. The office should also come up with the best method of ensuring that teachers actually use ICTs in teaching. The office should also be responsible of advising school administrators and managers on the best infrastructure, hardware, and software and e-content to be acquired by schools for example, make use of resources which are well researched by KICD.

15. References

- Ali, W. (2018). Influence of Evolving Technology in Emerging Online Lives of the Digital Native University Students. *Asia Pacific Journal of Contemporary Education and Communication Technology*, 4(2), 141-155.
- Almekhlafi, A. G., & Almeqdadi, F. A. (2016). *Teachers' perceptions of technology integration in the United Arab Emirates school classrooms. Educational Technology & Society*. New York: Free press.
- Bahrani, T. (2017). *Speaking fluency: Technology in EFL context or social interaction in ESL context?*, 2(2), 162-168. Retrieved from *Studies in Literature*
<http://www.cscanada.net/index.php/sll/article/download/1758/2092>
- Balanskat, A. (2016). The Act Impact Report: A review of Studies on ICT Impact on Schools in Europe; European School net the framework of European Communities ICT Cluster.
- Birch, J. K.S . (2017). *Toward a Theory of Instruction*. . Cambridge: Belknap Press of Harvard University.
- Gall, M., & Borg, R. (2007). *Educational Research: An Introduction* (8th ed.). New York, NY: Pearson Education.
- Carmen, D. (2018). *Spss for windows step by step: A simple guide reference. 11.0 update (4th ed.)*. Boston: Allyn & Bacon.
- Eligi, Innosencia, and Mwantimwa, Kelefa (2017). ICT accessibility and usability to support learning of visually-impaired students in Tanzania. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 2017, Vol. 13, Issue 2, pp. 87-102
- Fryer, L.K.; & Bovee, H.N. (2016). Supporting students' motivation for elearning: Teachers matter on and offline. *Internet and Higher Education*, 30, 21-29.
- Jesse, G. R. (2015). Smartphone and App Usage Among College Students: Using Smartphones Effectively for Social and Educational Needs. Retrieved from <http://proc.iscap.info/2015/pdf/3424.pdf>
- Gakuu C.M. and Kidombo, H.J. (2015). Pedagogical Integration of ICT in Selected Kenyan Secondary Schools. *Journal of Continuing Studies*.
- Hew, K & Bush, Y. (2017). Leadership challenges in the implementation of ICT in public secondary schools Kenya. *Journal of Education and Learning*, 2 (1) 32-43.
- Kamau, G. K. (2012). Constraints in the use of ICT in teaching-learning processes in secondary schools in Nyandarua South District, Nyandarua County, Kenya. Master's thesis, Kenyatta University, Nairobi.
- Kasomo, D. (2006). *Research Methods in Human and Education; Statistics, Measurement, Evaluation and Testing*. Nairobi: Egerton University Press.
- Kay, R. . (2016). Addressing gender differences in computer ability, attitudes and Use. 'The Laptop effect'. *Journal of Educational Computing Research*, v34.
- Kenya, R. (2015). *National Information & Communications Technology (CIT) Policy*. Nairobi: Government Printer.
- Kombo, D.K. & Tromp, D.L. (2006). *Project and thesis Writing* Nairobi : Paulines Publication Africa.
- Kothari, C.R. (2004). *Research Methodology: Method and Techniques* (2nd Ed.) New Delhi: New Age International Publishers Ltd.
- Kothari, C.R. & Gaurav, G. (2014). *Research Methodology, Third Edition*, New Delhi: New Age International Publishers Ltd.
- Kenya Institute of Curriculum Development. (2019). *Grade 4 Volume One-March 2019*. Available at <https://kicd.ac.ke/cbc-materials/curriculum-design/#G4vol1> on January 5, 2021.
- Li, S., Yamaguchi, S., & Takada, J.-i. (2018). Understanding factors affecting primary school teachers' use of ICT for student-centered education in Mongolia. *International Journal of Education and Development using Information and Communication Technology*, 14(1), 103-117
- Malley, G.D. (2010). *SPSS for windows step by step; a simple guide and reference 17.0 update tenth edition*
- Markauskaite, L. (2016). Gender issues in preservice teachers' training: ICT literacy and online learning. *Australasian Journal of Educational Technology*, 22(1), 1.
- Martin, W., & Lundstrom, R. (2015). Examining the role of teachers experience as a factor for the integration of computers in schools.
- McKenney, S., & Reeves, T. C. (2018). *Conducting educational design research*. Routledge.

- Ministry of Education (2019). Report on the County Government of Nyandarua on Kenya Certificate of Secondary Education Results (RCGNKCSE). (Ol Kalau, Kenya).
- Ministry of Education . (2015). *Task Force on The Realignment of the Education Sector to the constitution of Kenya 2010*. . Nairobi : Government Printer.
- MOE. (2015). *KESSP 2005-2010*,. Nairobi : Ministry of Education.
- Ministry of Education, Science and Technology (MoEST). (2014). National Education Sector Plan. Volume one. Basic education programme rationale and approach 2013/14–2017/18. Nairobi: MoEST.
- Ministry of Education, Science and Technology (MoEST) & Ministry of Information and Communication (MoIC) [Kenya]. (2006). National ICT strategy for education and training. Nairobi: MoEST and MoIC. Retrieved from <http://www.education.go.ke/ICTFund.htm>
- Morrison, K., 2015. Report: Digital Natives Do Everything From Mobile Devices. [Online] Available at:<http://www.adweek.com/digital/report-digital-natives-do-everything-frommobile-devices/>[Accessed 14th May, 2017]
- Mugenda, O. M., &Mugenda, A. G. (2003). Research methods: quantitative and qualitative approaches. Nairobi: Act Press.
- Ndiritu A.W, Mburu D., Kimani G. (2017). *ICT integration in Early Childhood Development teacher training Curriculum: Need to start from the beginning*. Nairobi: K.I.E.
- Newhouse, C.P. (2015). *A Framework to Articulate the Impact of ICT on Learning in Schools*. . Australia : Western Australian Department of Education.
- Orodho, A.J. (2006). Essential of Educational and Social Sciences Research Methods. Nairobi: Masola Publishers.
- Orodho, J. (2008). Techniques of writing Research proposals and Reports in Education and Social SciencesMaseno: KeneziaHp Enterprises
- Piper, B., Jepkemei, E., Kwayumba, D., &Kibukho, K. (2015). Kenya’s ICT Policy in Practice: The Effectiveness of Tablets and Ereaders in Improving Student Outcomes. *FIRE: Forum for International Research in Education*, 2(1). Retrieved from <http://preserve.lehigh.edu/fire/vol2/iss1/2>
- Plair.D. (2018). A Large Scale Study of the Effectiveness of Multi-Sensory Learning Technology for Learning English as a Second Language. *Journal of Distance Education*, 1(2), 21-30
- Republic of Kenya (2006), National Information and Communication Technology (ICT) Policy, Nairobi.
- Republic of Kenya (ROK) (2013) Kenya National ICT Master Plan, 2014-2017
- Roblyer, M. D. and Hughes, Joan E. . (2018). *Integrating educational technology into teaching : transforming learning across disciplines , Nova Southeastern University and The University of Texas at Austin*. New York : Pearson Education.
- Rodgers, E.M. (2015). Diffusion of innovations. New York: Free Press.
- Shaibou A. H. (2017). Teachers' Use of Information and Communications Technology in Education: Cameroon Secondary Schools Perspectives .Turkish Online Journal of Educational Technology – July 2017, volume 16 issue 3
- UNESCO. (2018). *Positioning ICT in education to achieve the education 2030 agenda in Asia and the Pacific: Recommendations for a regional strategy*. Retrieved from <https://unesdoc.unesco.org/ark:/48223/pf0000261661> [Google Scholar]
- UNESCO. (2018). *Report of the Experts’ Meeting on Documenting Experiences in the use of ICT in Education and Schoolnet Operations*. Bangkok: UNESCO.
- UNESCO. (2015). *World Education Report . Teachers and Teaching in a changing world*. Paris: UNESCO.
- World Bank, (2017).Contributions of ICTs Economic Growth.Washington DC: The World Bank Institute
- World Bank. (2004). *Contributions of ICTs Economic Growth*. . Washington : World Bank.