INFLUENCE OF TEACHER TRAINING PRACTICES ON UTILIZATION OF ICT IN TEACHING ACTIVITIES IN PUBLIC SECONDARY SCHOOLS IN NAKURU EAST SUB-COUNTY, KENYA

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Abstract: *Many educators have shown interest in the incorporation of Information Communication Technology (ICT) into teaching practices. Nevertheless, the successful utilization of ICT in the Kenyan education system remains a challenge. The purpose of this study was to investigate the influence of teacher training practices on utilization of ICT in secondary schools in Nakuru East Sub-County, Kenya. The theoretical framework for this study was the Model of Acceptance with Peer Support (MAPS) developed by Skykes (2009) and Unified Theory of Acceptance and Use of Technology (2003). Descriptive Survey Design was used for this study. The study included 469 teachers and 19 principals from 19 secondary schools in Nakuru East Sub-County, Kenya, using census sampling. In the pilot, 2 principals and 46 teachers were selected. The final sample consisted of 423 teachers and 17 principals. Data was collected using closed-ended questionnaires, initially piloted in Nakuru East Sub-County, and validated by field supervisors and subject matter experts. Reliability was assessed via the test-retest method. Data analysis involved descriptive (percentages and means) and inferential statistics, including correlation and regression coefficients. The findings show that there is a statistically significant relationship between teacher training practices and ICT use in teaching activities (r=0.59; p<0.01). The study concludes that strengthening teacher training, especially in ICT integration through seminars. Therefore, the study suggests that school management explore additional effective ways to train teachers in ICT utilization for teaching. This will notably affect teaching activities. School management should create ICT policies to bolster teacher ICT use. The study is valuable for school boards to improve ICT utilization, potentially increasing teacher productivity.*

Keywords: *Selected School Management practices, Utilization of ICT, ICT resources, Teacher Motivation practices, Teacher Training Practices, ICT Resource Allocation practices, school ICT Policies, Public secondary schools*

1. INTRODUCTION

The integration of Information Communication Technology (ICT) into educational settings has shown great potential in improving teaching methodologies, access to quality education, and overall efficiency (Singh, 2019). However, in many Kenyan schools and universities, traditional teaching methods still prevail, characterized by textbooks, blackboards, and limited technology use (Dostal et al., 2017). Teacher training is identified as a critical factor for the successful adoption of ICT in education. Teacher training is recognized as a pivotal factor in the effective integration of Information Communication Technology (ICT) into education. The rationale behind this recognition is that teachers need to develop the skills, knowledge, and confidence

required to harness the potential of ICT tools and methods for teaching and learning. Inadequate training often results in a lack of familiarity with ICT resources and an inability to maximize their benefits in the classroom. Well-trained teachers not only become proficient in using ICT but also gain the pedagogical insights necessary to leverage technology as an educational tool, aligning it with the curriculum and enhancing students' learning experiences. (Sang, Valcke, Van Braak, & Tondeur, 2017). Continued training, such as e-learning and blended learning, is essential for effective management in schools (Sahoo & Mishra, 2012).

In Africa, a shortage of ICT resources and a lack of confidence among teachers in using ICT hinder its utilization in educatio*n (Michura, 2019; Qureshi, 2014). The* limited availability of Information Communication Technology (ICT) resources, which encompass both hardware and software, combined with a pervasive lack of confidence among teachers in effectively utilizing ICT, presents significant barriers to the successful integration of technology in education. The shortage of ICT resources can include a lack of computers, internet connectivity, educational software, and related infrastructure in schools, making it difficult for teachers to access and incorporate technology into their teaching practices *(*Soe-Lin et al., 2014).

While the Kenyan government recognizes the positive impact of ICT in education, efforts to integrate ICT into teaching have not met their intended goals, with many schools lagging in adoption (Quality Education and Training for Vision 2030). According to Nyakowa (2014), teachers will only feel comfortable using ICT in teaching if they are trained in basic ICT skills, an area where they often lack proficiency (Mingaine, 2013). Despite these challenges, the influence of school management practices on the utilization of ICT in teaching activities has not been thoroughly investigated. In Nakuru County, it's observed that ICT implementation in teaching, especially in public secondary schools, has not been effective, partly due to a lack of school ICT policies and limited support from education managers (Mbugua, 2014; Nyaga, 2014; Gitonga, 2013). However, prior research by Gitonga, K. A. (2013) and Nyaga (2014) did not explore school management practices or their relationship to ICT resource utilization. Given the evolving nature of ICT, its effective utilization is paramount for improving teaching skills and student performance. This study aims to investigate the influence of school management practices, including teacher motivation, ICT resource allocation, teacher training, and policies, on the utilization of ICT in secondary schools in Nakuru East Sub-County, Kenya, where the full potential of ICT in education has yet to be realized.

Statement of the Problem

In an ideal scenario, ICT use in education should enhance teaching methodologies, accessibility, quality, and efficiency, as seen in developed countries (Singh, 2019). However, Africa, including Kenya, lags behind in ICT adoption despite global advancements (IST-Africa, 2016, 2018). Effective ICT utilization is vital for improved teaching skills and learner performance. Understanding how school management practices impact ICT use is crucial for addressing the underutilization of ICT resources in Nakuru East Sub-County, Kenya. In this region, ICT adoption remains low, even with government ICT policies and resources in place (Gitonga, 2013). Only 14 out of 19 schools possess ICT resources, which are underutilized, leading to reduced productivity and academic performance (County Director TSC Nakuru, 2019). Teachers' limited ICT skills and reliance on traditional methods hinder the benefits of ICT (Mingaine, 2013; Mutwiri, Kafwa & Kyalo, 2017). Furthermore, integrating ICT into teaching and boosting teachers' confidence is challenging due to insufficient training and support (Soe-Lin et al., 2014). The influence of school management practices on ICT use in Nakuru East Sub-County has not been comprehensively explored. This study aims to bridge that gap in public secondary schools in Nakuru East Sub-County, Kenya.

Purpose of the Study

The purpose of this study was to determine the influence of teacher training practices on utilization of ICT in teaching activities in public secondary schools in Nakuru East Sub-county, Kenya.

Research Hypotheses

H_{O2}: There is no statistically significant influence of teacher training practices on utilization of ICT in teaching activities in public secondary schools in Nakuru East Sub-County, Kenya.

2. LITERATURE REVIEW

Use of Information Communication Technology in Schools

The global use of Information Communication Technology (ICT) in education is recognized as a means to enhance teaching quality, accessibility, and efficiency (Tosuntas, Karadag & Orhan, 2015). In Africa, including Kenya, the adoption of ICT in education varies, with factors such as teacher competence, resource availability, and infrastructure influencing its effectiveness. In Europe, countries like Finland and Estonia have embraced ICT, with the Finnish education system standing out as a leader in personalized learning experiences (Sahlberg, 2019). Across the Americas, the United States, Canada, and Uruguay have made strides in ICT integration (Digital Promise, 2020; Government of Canada, 2019). In Asia, Singapore, India, and Japan have led the way in leveraging ICT to improve teaching and learning (Smart Nation Singapore, 2019; Government of India, 2019; Ministry of Education, Culture, Sports, Science and Technology, 2020). In Bangladesh, ICT adoption faces challenges due to resource scarcity and teacher attitudes (Major & Francis, 2020). South Africa, Rwanda, Liberia, and Namibia have invested in ICT to enhance education (Department of Basic Education South Africa, 2019; Rwanda Education Board, 2021; Chigona & Davids, 2014; Dzidonu, 2010). In Kenya, ICT has been introduced into education, but challenges exist in its effective utilization and integration with teacher management practices (Mbugua, Kiboss & Tanui, 2015). In Nakuru County, the adoption of ICT in education has been ongoing, but issues of teacher competence and management practices require further exploration.

Role of Education Managers in Enhancing use of ICT in schools

Education managers play a crucial role in the integration of Information Communication Technology (ICT) in schools worldwide. In Europe, education managers are responsible for implementing policies to incorporate digital skills into curricula (Eurydice, 2020), while in the United States, they ensure technology is integrated into classrooms (U.S. Department of Education, 2017). Countries like Singapore, South Korea, and Japan invest in ICT infrastructure and teacher training to enhance ICT use (Ministry of Education Singapore, 2019; Kang & Rha, 2018; Nii, 2018). In India, education managers are working on initiatives to create a technology-enabled education system (Government of India, 2020). Across Africa, the African Union emphasizes the role of education managers in implementing ICT initiatives (African Union, 2020), with education managers in Nigeria providing tablets to teachers and students (Alaba & Oyekanmi, 2020). Education managers globally support teachers in the use of ICT, but research on their role in ICT utilization is limited, highlighting the need for this study.

Teacher Training Practices and Utilization of Information Communication Technology

In Singapore, training of teachers is the key to acquiring the most out of the ICT. Together with Thailand and Azerbaijan, the rates at which teachers have been trained stand at 100%, 88% and 73% respectively. Teachers attend seminars and workshops to be trained in use of ICT. Teacher training is seen as the key driver for the successful usage of ICT in education (Sang, Valcke, Van Braak, & Tondeur, 2017). Rhema & Miliszewska (2016) noted that teachers have the confidence to use ICT because they have been trained in using it. The researcher reported that there are so many training options that helps teachers achieve more than they thought impossible. Continued teacher training like e-learning and blended learning are essential for better management in schools (Sahoo & Mishra, 2012). It is clear that teachers are trained to use ICT only for teaching but not for other tasks.

In the Philippines and Myanmar, only 2% of teachers have been trained to use ICT (Trucano, 2017). Tondeur (2015) reported that ICT training has an important influence on how it is used in schools. According to Watson & Watson (2011), the most effective teacher training practices are hands-on on ICT use. The use of ICT in teaching and learning has been seen to be very important compared to using them in performing other duties. From these studies it is clear that a smaller percentage of teachers have undergone ICT training. But however low percentage it is, they embrace it only in teaching and learning and not in performing other duties (Khan, 2012).

In France, Resnick (2012) observed that the most effective way to use ICT in schools is to offer support to teachers who have knowledge in ICT. The trained teacher should be willing to share the new knowledge and skills with the other teachers when they return. One-off training is not sufficient and therefore teachers require extensive and on-going exposure to ICT to be able to evaluate and select the most appropriate resources (Sharma & Shivanibindal, 2013). Teachers attend symposia to enable them have broad expertise in using ICT in their teaching.

In the western parts of Africa, ICT is applicable to both open and distance learning. Sarkar (2012) found that teachers are satisfied with their ways of teaching. In order for teachers to improve in the school performance, training in use of ICT is paramount. Teachers attend government sponsored programmes to be trained in using ICT in teaching. Therefore if teachers see no need to be trained, they may not accept the use of ICT in their teaching (Vegas, 2015). It is pointed out that teachers need to be given another chance of training since they have not had enough in using ICT. Therefore, utilization of ICT is still a problem and it is not related to management practices.

In Kenya, a study by Omariba, Ayot & Ondigi (2016) showed that lack of teacher training contributes to poor use of ICT in teaching in schools. Kipsoi et al., (2013) stated that most reforms in secondary schools fail because of flawed utilization of ICT resources. Mbugua (2014) noted that many teachers do not have the necessary IT skills and feel uncomfortable in its use. Waweru, (2016) explains that teachers do not have the specific training needed to utilize ICT. These studies reveal that poor utilization of ICT in Kenya is due to lack of skills and training.

In Nakuru County, Waweru, (2016) observed that many teachers do not make use of ICT in teaching yet these resources are available in their schools. Most teachers face overcrowded classrooms and become very difficult to ICT in teaching since they are under resourced with ICT resources. Many teachers do not have the necessary ICT skills and feel uncomfortable and do not have the specific training needed to utilize ICT. Very few teachers attend government ICT training programmes while some schools organize training of staff in use of ICT. In

connection to the above discussion, a study on utilization of ICT on management practices needs to be studied in order to bridge a gap between the teacher ICT skills and selected management practices in schools.

Role of Education Managers in Providing Training Opportunities on Use of ICT

Education managers play a pivotal role in planning and facilitating teacher training programs with a focus on ICT utilization in schools (Watson and Watson, 2011). They ensure teachers acquire the necessary knowledge and skills to effectively use ICT for teaching, emphasizing the advantages of ICT in education. Moreover, education managers collaborate with external institutions, colleges, and polytechnics to identify specialized training areas and establish training priorities (Touray, Salminen, and Mursu, 2013). However, the study highlights that teacher training often concentrates on ICT for teaching, with less consideration for its integration into management practices, prompting the need for a study on ICT resource utilization in Nakuru sub-county, Kenya (El Abhouri, Hildebrandt, and Puckett, 2014).

Theoretical Framework

Model of Acceptance with Peer Support, (MAPS)

This study adopts the Model of Acceptance with Peer Support (MAPS) developed by Sykes, Venkatesh, and Gosain (2009). MAPS focuses on social ties within a social network, emphasizing two types: teachers helping each other in ICT use and employers providing assistance to their employees. MAPS provides a valuable framework for examining the influence of selected school management practices on ICT utilization in Nakuru East Sub-County's public secondary schools. It asserts that individuals are more likely to accept and adopt new technologies when supported by peers in a social context. MAPS aligns with the study's objectives concerning teacher motivation and training practices (Sykes, Venkatesh & Gosain, 2009).. For teacher motivation, it explores how peer support and recognition can drive ICT use and for teacher training, it assesses how peer interactions during training influence ICT integration. This model underscores the importance of creating a supportive social environment to encourage effective ICT implementation in the study's context. Through the inclusion of the MAPS framework, the study acquires a deeper understanding of how peer support plays a pivotal role in amplifying the impact of school management practices on the integration of ICT within the public secondary schools of Nakuru East Sub-County.

Unified Theory of Acceptance and Use of Technology (UTAUT)

Unified Theory of Acceptance and Use of Technology (UTAUT) was formulated by Venkatesh et al., (2003). UTAUT has been used and applied by many educational institutions to access the employee attitudes towards accepting the use of ICT in teaching. Regardless of the level of available ICT resources and support from the administration, there is a concern as to whether teachers are prepared to use ICT in their work. The theory consists of four main concepts. Performance expectancy: This refers to the degree to which an individual believes that using the system will help him or her utilize it. Effort expectancy: This refers to the degree of use of the system. Social influence: it refers to the degree to which an individual perceives that he or she should utilise the new system in teaching. Facilitating conditions: this refers to the technical support given to teachers by the education managers in using ICT resources in teaching.

The UTAUT theory, as applied in prior research, has been used to analyze factors influencing the use of ICT in various contexts, such as E-government services in Saudi Arabia (Alshehri, 2013) and students' ICT adoption (Md. Jubir AL. Mursalin and Samwel Niiboi). UTAUT is highly relevant to the present study investigating the influence of selected school management practices on ICT utilization in public secondary schools in Nakuru East Sub-County, Kenya. The theory offers a comprehensive framework for understanding technology

acceptance and usage behavior. In this context, UTAUT can help elucidate how school management practices, particularly teacher motivation and training, affect teachers' willingness to accept and use ICT in their teaching activities. Performance Expectancy and Effort Expectancy within UTAUT correspond with the objectives of this study regarding teacher motivation and training practices, shedding light on their influence on teachers' perceptions of ICT's benefits and ease of use, as well as the availability of resources and support for ICT utilization. Therefore, UTAUT provides a robust theoretical foundation for understanding the impact of school management practices on ICT integration in education and can inform strategies to enhance its effectiveness.

3. RESEARCH DESIGN AND METHODOLOGY

Research Design

Descriptive survey design was employed. Fox & Bayat, (2007) describes descriptive research as gathering and describing the data collected. A researcher can then organize and tabulate the data. This research design was appropriate to this study because it assisted to describe how principals and teachers utilize ICT in public secondary schools in Nakuru East Sub-County, Kenya. The events being investigated has already happened and they could not be manipulated which made it suitable for descriptive survey design.

Location of Study

The study was carried out in Nakuru East Sub-County within Nakuru County, Kenya. Nakuru County is a county located in the former Rift Valley Province of Kenya, about 150 km from Nairobi. Nakuru is an agriculturally-rich county blessed with various tourist attractions such as craters, lakes and national parks.Tourist attractions in Nakuru County include Lake Nakuru National Park, Lake Naivasha, Hell's Gate National Park and Menengai Crater. Nakuru County is made up of 11 Sub-Counties. Nakuru County borders seven counties; Laikipia to the north east, Kericho to the west, Narok to the south west, Kajiado to the south, Baringo to the north, Nyandarua to the east and Bomet to the west. It covers an area of 7496.5 square kilometres. The Latitude and longitude coordinates of Nakuru are 0030^0 S 3600^0 E respectively.

There is fair infrastructure development such as good roads and communication which made the study suitable. No similar study had been carried out in the setting which made this study possible to find out the selected school management practices influencing the utilization of Information Communication Technology by teachers in teaching in public secondary schools in Nakuru East Sub-County Kenya.

Population and Sample

The target population of this study was 19 principals and all 469 teachers in the 19 public secondary schools in Nakuru East Sub-County, Kenya. Census sampling was also used to select all teachers from 19 public secondary schools in Nakuru East Sub-County.

Sample Size

All 19 principals from 19 public secondary schools in Nakuru East Sub-County participated in the study. However, 2 principals and 46 teachers drawn from the target population participated in the pilot study. Consequently, the total sample of respondents were 408 teachers including the principals.

Instrumentation

A structured questionnaire entitled Teachers Questionnaire was used to gather information. The instruments consisted of three sections, A, B and C. Section A collected data on the demographic characteristics of the

respondents. Section B collected data on teacher management practices and section C addressed utilization of Information Communication Technology in teaching activities in public secondary schools in Nakuru East Sub-County, Kenya. Items on each variable was rated on a 4- point Likert- Scale of; Always (A), Frequently (F), Sometimes (S) and Never (N). The respondents were required to tick (✓) or cross (×) the appropriate responses that best represented their opinion.

Validity of the Instrument

Content validity was used to assess the correspondence between the items and concept. The instruments were presented to the supervisors and experts in the area of study. They scrutinized each item and ascertained their validity. Piloting was also used to check validity.

Piloting of the instruments

The selected sample for piloting is not the actual sample. In this case, 2 principals and 46 teachers were chosen randomly and were given questionnaires from public secondary schools from Nakuru East Sub-County. The piloting respondents never participated in the final study.

Reliability of Research Instrument

To ensure reliability, the researcher used test re-test method to estimate the degree to which same results were obtained with a repeated measure. To gauge reliability the instruments were administered twice within the interval of two weeks. The reliability of the research instruments was assessed using Cronbach's Alpha, with a predetermined threshold of 0.7. The questionnaire were modified for application once they demonstrated a reliability with an average Cronbach Alpha Coefficient of 0.829, surpassing the minimum threshold of 0.7.

Data Collection Procedure

The permission to carry out the study was sought first by obtaining an introduction letter from the Institute of Post Graduate Studies of Kabarak University and then a research permit from National Commission of Science Technology and Innovation (NACOSTI) and Department of Education of Nakuru County. Before collecting data, the researcher contacted the head teachers of the participating schools and made prior visits to the schools to seek appointments with the school principals. The researcher administered questionnaires to the respondents, who completed the same in the presence of the researcher. The respondents responded to the questionnaires within the day.

Data Analysis and Presentation

Data analysis refers to examining what will be collected and making observations and inferences. According to Boeije, Ben-Elia and Ettema (2010) it is very significant for data collected to be managed well for ease of analysis. This study processed the data collected using tools in Statistical Package for Social Sciences (SSPS) version 22 computer programme. After clean up and reviewing of the collected data, the data was coded and keyed into a computer. The findings of the study were presented in tables.

Ethical Consideration

The research study adhered to ethical principles by obtaining informed consent from participants and ensuring the confidentiality of respondents' information.

4. RESULTS

Introduction

The response rate for the questionnaires was 75%, considered good for the study, with 317 out of 423 questionnaires returned, the method of administration, being self-administered, contributed to the high response rate; demographic characteristics of the respondents included gender, with 55.5% male and 44.5% female respondents; the age of the respondents, with 48.3% falling in the 26-35 years category, followed by 32.8% in the 36-45 years category; highest academic level, where 67.5% had undergraduate degrees and 22.1% held master's degrees, and work experience, with 50.2% having 1-5 years of teaching experience in their current school. These demographic findings suggest that the educators had a reasonable level of formal education, with potential limitations in terms of research expertise and innovation in ICT integration, and were well-familiar with their workstations, making them capable of providing valid opinions for the study's investigation.

Teacher Training Practices

The results in Table 1 show that the statement "Training of staff in use of ICT is done in my school" was that 32.5% of respondents reported that training of staff in the use of ICT is done in their schools frequently (16.1%) or always (16.4%), while 67.5% (30.6% never and 36.9 % sometimes). This suggests a proactive approach to staff training in ICT, which is likely to positively impact the utilization of ICT in teaching activities. This is a positive finding, suggesting that there is a proactive approach to staff training in ICT. Schools that prioritize ICT training for their staff are more likely to have teachers who are confident and capable of integrating technology into their teaching activities. This result implies that teacher training practices in the use of ICT are relatively strong in Nakuru East Sub-County schools, which could contribute positively to the utilization of ICT in teaching. This finding is in line with Omariba, Ayot and Ondigi (2016) who showed that lack of teacher training contributes to poor use of ICT in teaching in schools. Moreover, Resnick (2012) observed that the most effective way to use ICT in schools is to offer support to teachers who have knowledge in ICT. The trained teacher should be willing to share the new knowledge and skills with the other teachers when they return.

The results show that the statement "Teachers in my school attend ICT seminars" was as follows: A total of 26.8% (14.8% frequently and 12% always) of respondents reported that teachers in their schools frequently or always attend ICT seminars. While this percentage is lower than the previous statement, it still indicates a notable effort in encouraging teachers' participation in ICT-related seminars. Attending ICT seminars can expose teachers to new technologies and teaching methods. However, it is essential to ensure that the content and quality of these seminars are relevant and effective in enhancing teachers' ICT skills. The implication here is that there is room for improvement in promoting teacher attendance at ICT seminars to further support the integration of technology into teaching.

The results relating to the Statement suggesting that "Hands-on-Approach in ICT is provided in my school" were as follows: Around 27.1% (16.1% frequently and 11 % Always) of respondents indicated that a hands-on approach to ICT is frequently or always provided in their schools. A hands-on approach is valuable as it allows teachers to gain practical experience in using ICT tools and resources. While this is a positive percentage, it suggests that there is still room for improvement in ensuring that hands-on ICT experiences are more widely available to teachers. The implication is that schools should actively promote hands-on ICT training as it can significantly impact teachers' confidence and competence in utilizing technology in their teaching activities. This finding concur with that of Sharma and Shivanibindal (2013) who discoursed that

one-off training is not sufficient and therefore teachers require extensive and on-going exposure to ICT to be able to evaluate and select the most appropriate resources.

In relation to the statement about teachers at my school participating in structured ICT projects, the combined percentage of those who reported "Frequently" and "Always" attending such projects amounted to 22.2%, with 11.4% reporting "Frequently" and 10.8% reporting "Always." The rest of percentage 77.8% reported neither or sometimes. A total of 22.2% of respondents reported that teachers in their schools frequently or always attend organized projects related to the use of ICT. While this percentage is not as high as in some other statements, it still indicates that there is a considerable effort to engage teachers in ICT-related projects. Participating in such projects can expose teachers to innovative ICT practices and resources. However, the relatively lower percentage suggests that there may be opportunities to expand these project-based learning initiatives to a larger portion of the teaching staff. The implication is that schools could benefit from increasing the involvement of teachers in organized ICT projects to further enhance ICT utilization in teaching activities..

The results show that 20.2% of respondents reported that teachers in their schools receive training on e-learning methods, either frequently or always. The rest of percentage 79.8% reported neither or sometimes. This percentage, while not exceptionally high, does indicate that there is an ongoing effort to equip teachers with the skills necessary for effective e-learning practices. E-learning training is essential for teachers to leverage digital platforms and resources to enhance their teaching. However, there is room for growth in expanding e-learning training opportunities to a more substantial portion of the teaching staff. This implies that encouraging and facilitating e-learning training can further strengthen ICT utilization in teaching activities.

The results show that 24.2% of respondents stated that teachers in their schools frequently or always receive training on blended learning. The rest of percentage 75.8% reported neither or sometimes. Blended learning combines traditional teaching methods with online components, making training in this area valuable for effective ICT utilization. While this percentage is higher than in some previous statements, it suggests that there remains an opportunity to broaden training in blended learning to reach a more significant proportion of teachers. Therefore, schools could benefit from expanding training opportunities in blended learning to further support the integration of ICT into teaching practices. The finding agrees with Sahoo and Mishra (2012) who reiterates that continued teacher training like e-learning and blended learning are essential for better management in schools.

The findings revealed that 25.8% of respondents mentioned that teachers in their schools frequently or always attend government-sponsored ICT training programs. The rest of percentage 74.2% reported neither or sometimes. These programs can be valuable in providing teachers with up-to-date ICT skills and knowledge. While this percentage is relatively positive, there is still potential to increase teacher participation in such programs. As such, it is implied that schools should actively encourage and facilitate teachers' attendance at government-sponsored ICT training programs to enhance their ICT proficiency.

The findings show that a total of 22.4% of respondents indicated that teachers in their schools frequently or always attend symposia focused on the utilization of ICT. These events offer a platform for knowledge sharing and exposure to best practices in ICT utilization. While this percentage is positive, it also indicates room for growth in increasing teacher participation in such events. Therefore, it is implied that schools could benefit from actively promoting and facilitating teachers' attendance at symposia dedicated to ICT utilization in teaching activities.

The findings reveal that 24.9% of those surveyed indicated that teachers in their schools engage in ICT workshops on a frequent or regular basis (comprising 12.3% who responded "Frequently" and 12.6% who

responded "Always"). The majority of respondents, however, had a different perspective on this matter. This level of engagement signifies a moderate degree of involvement in such workshops, which offer valuable opportunities for hands-on training, exposure to emerging technologies, and the sharing of effective teaching practices among educators. While this outcome is encouraging, it also underscores the potential for improvement in boosting the regularity of teacher participation in ICT workshops. This observation implies a need for educational institutions to proactively promote and facilitate teachers' attendance at these workshops, with the aim of bolstering their ICT competencies and knowledge.

Table 1: Teacher Training Practices on ICT Utilization in Teaching Activities

	N (%)	S (%)	F (%)	A (%)
Training of staff in use of ICT is done in my school.	30.6	36.9	16.1	16.4
Teachers in my school attend ICT seminars.	31.5	41.6	14.8	12.0
Hands- on -Approach in ICT is provided in my school.	37.2	35.6	16.1	11.0
Teachers in my school attend organized projects in use of ICT.	33.9	44.0	11.4	10.8
Teachers in my school are trained on e-learning.	44.5	35.3	10.7	9.5
Teachers in my school are trained on blended learning.	40.7	35.0	15.1	9.1
Teachers in my school attend government sponsored ICT training programmes.	25.6	48.6	15.1	10.7
Teachers attend symposia on utilization of ICT.	39.4	38.2	14.2	8.2
Teachers in my school attend ICT workshops.	25.2	49.8	12.3	12.6

Correlation Analysis of Teacher Training Practices

The findings specify that there is a statistically significant relationship between teacher training practices and ICT utilization in teaching activities (r=0.59; p<0.01). This implies that as teacher training practices increases, ICT utilization in teaching activities also increases. Yet, as teacher training practices declines, ICT utilization in teaching activities similarly declines.

Table 2: Relationship between teacher training practices and ICT utilization in teaching activities

		Utilization of ICT in Teaching Activities.
Teacher Training Practices	Pearson Correlation	.591[**]
	Sig. (2-tailed)	.000
	N	317

[**]. Correlation is significant at the 0.01 level (2-tailed).

Regression Analysis

The influence of independent variable on the dependent variable was analyzed using linear regression model.

Model Summary

The strength of the association between the model and the dependent variable is reported in the model summary table 3. The linear correlation between the observed and model-predicted values of the dependent variable is

represented by R, the multiple correlation coefficient. The model summary shows that 34.9% of variation in Utilization of ICT in Teaching Activities can be explained by Teacher training practices. The residual variation was 65.1% which could be explained with other factors in the model

Table 3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.591[a]	.349	.347	.52343

a. Predictors: (Constant), Teacher Training Practices for ICT Utilization in Teaching Activities

ANOVA

The results in Table 4 indicate that the model was statistically significant at 0.05 alpha level, $r^2 = 0.349$, $F (1,315) = 168.709$; $p < 0.05$. This implies that the predictor variable, teacher training practices, had a substantial impact on the dependent variable, ICT use in instruction.

Table 4: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	46.223	1	46.223	168.709	.000[b]
Residual	86.304	315	.274		
Total	132.527	316			

a. Dependent Variable: Utilization of ICT in Teaching Activities.
b. Predictors: (Constant), Teacher Training Practices for ICT Utilization in Teaching Activities

Beta Coefficients of Teacher Training Practices

The results in Table 5 show that the teacher training practices significantly influence utilization of ICT in teaching activities (β=0.490;t=12.989;p=0.000).This implies that every one-unit increase in teacher training practices increases 0.508 units in Utilization of ICT in teaching activities. It also means that effective and well-structured teacher training programs play a pivotal role in enhancing the integration of ICT into classroom instruction. These findings suggest that investments in training programs that equip teachers with the necessary skills and confidence to effectively use ICT can lead to more widespread and impactful adoption of technology in education. Consequently, educational authorities and institutions in Nakuru East Sub-county should prioritize and invest in high-quality teacher training initiatives to harness the full potential of ICT for improved teaching and learning outcomes.

Table 5: Coefficients

Model	Unstandardized Coefficients		t	Sig.
	B	Std. Error		
(Constant)	1.722	.082	21.095	.000
Teacher Training Practices	.490	.038	12.989	.000

a. Dependent Variable: Utilization of ICT in Teaching Activities.

Multiple Regression Analysis

Model Summary

According to model summary in table 6, the R Square value is 0.495 and Adjusted R Square is 0.488. This indicates that 48.8% of utilization of ICT in teaching activities can be explained by teacher motivation practices, teacher training practices, ICT resource allocation practices and school policies with a standard error of 0.463.

Table 6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.703[a]	.495	.488	0.463

a. Predictors: (Constant), School policies on Utilization of ICT in Teaching Activities, ICT Resource Allocation Practices related to Utilization of ICT in Teaching Activities., Teacher Training Practices for ICT Utilization in Teaching Activities., Teacher Motivation Practices for ICT Utilization in Teaching Activities.

Model significance

The model was tested for its robustness at 0.05 alpha level. Its results are presented in Table 7. The findings show that the model was statistically significant at 0.05 alpha level, $r^2 = 0.495$, $F_{(4,312)} = 76.380$; $p < 0.05$. This implies that the predictor variables (teacher motivation practices, teacher training practices, ICT resource allocation practices and school ICT policies) contributed significantly to the dependent variable, utilization of ICT in teaching activities.

Table 7: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	65.568	4	16.392	76.380	.000[b]
Residual	66.959	312	.215		
Total	132.527	316			

a. Dependent Variable: Utilization of ICT in Teaching Activities

b. Predictors: (Constant), School policies on Utilization of ICT in Teaching Activities, ICT Resource Allocation Practices related to Utilization of ICT in Teaching Activities., Teacher Training Practices for ICT Utilization in Teaching Activities., Teacher Motivation Practices for ICT Utilization in Teaching Activities.

Coefficients

Each of the predictor variables (teacher motivation practices, teacher training practices, ICT resource allocation practices and school ICT policies) was analyzed to show how they influenced Utilization of ICT in Teaching Activities. The results are presented in Table 8.

Table 8: Beta Coefficients[a]

Model	Unstandardized Coefficients		t	Sig.	Collinearity Statistics	
	B	Std. Error			Tolerance	VIF
(Constant)	1.172	.100	11.711	.000		
Teacher Motivation Practices	.163	.056	2.911	.004	.385	2.598
Teacher Training Practices	.202	.050	4.047	.000	.446	2.242
ICT Resource Allocation Practices	.313	.042	7.506	.000	.639	1.565
School policies	.010	.039	.266	.791	.685	1.459

a. Dependent Variable: Utilization of ICT in Teaching Activities.

Hypothesis Testing

The first hypothesis 1 (H_O1) read "*There is no statistically significant influence of* The second hypothesis (H_O2) was *"There is no statistically significant influence of teacher training practices on the utilization of ICT in teaching activities".* For H_O2, the beta value and its associated p-value for the independent variable "Teacher Training Practices" was analyzed. The beta value is 0.202, and the p-value is 0.000. Since $p < 0.05$ (p-value is less than the significance level of 0.05), we reject H_O2. This indicates that there is a statistically significant influence of teacher training practices on the utilization of ICT in teaching activities in the studied schools. This finding concurs with that of Tondeur (2015) who reported that ICT training has an important influence on how it is used in schools. Therefore, the most effective teacher training practices are hands-on on ICT use.

Conclusions

The study made the following conclusions.

The second objective of this study was to determine the influence of teacher training practices on utilization of ICT in teaching activities in public secondary schools in Nakuru East Sub-County, Kenya. From the study findings of this objective, it was concluded that when teachers lack basic training on ICT integration the teaching will be unsustainable. In addition, when teachers do not attend any training to improve on their skills on ICT, its integration during teaching will be unproductive. Finally, teachers who lack training on e-learning as well as blended learning may hinder ICT integration during learning.

Recommendations

Given the conclusion that the absence of basic training on ICT integration leads to unsustainable teaching practices, it is crucial for educational institutions and policymakers to prioritize teacher training programs on ICT. These programs should be designed to equip teachers with the necessary knowledge and skills to effectively integrate ICT into their teaching activities. Special attention should be given to providing foundational training that ensures all teachers have a minimum level of proficiency in ICT, as this is fundamental for sustainable educational practices.

In response to the finding that a lack of training in e-learning and blended learning can hinder ICT integration in education, it is recommended that schools and educational authorities focus on continuous professional development for teachers. This includes training in the latest e-learning and blended learning techniques. Regular and up-to-date training in these areas can empower teachers to adapt to changing educational technologies and methodologies, ultimately leading to more productive ICT integration in teaching activities. It is imperative that schools and educational institutions invest in ongoing training to keep teachers updated on emerging trends in the educational technology landscape.

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