

Influence of head teachers' quality supervision skills on the implementation of ICT policy in the public primary schools in Rabai Sub county of Kilifi county.

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Abstract

Information and communication Technology (ICT) has become the principal driver of economy all over the world, and its role in education sector cannot be down-played. Kenyan government inclusive, has invested heavily in ICT to align education with vision 2030. The schools have been mandated through the head teachers' leadership, to spearhead the implementation of ICT policies in the school. Despite the heavy government's investments on infrastructure and capacity building, the ICT policy implementation in Rabai Sub County is still dismal raising question on the influence of leadership on ICT implementation. This study investigated the influence head teachers' quality supervision skills on ICT implementation in public primary schools in Rabai Sub County in Kilifi County -Kenya. This study was anchored on Herzberg's Motivation-Hygiene theory by Frederick Herzberg. The study used descriptive survey research design to gather qualitative and quantitative data which was analyzed to describe systematically the situation of ICT implementation in Rabai Sub County in Kilifi County- Kenya. The target population was 44 public primary schools and Census technique was used. 88 respondents were obtained using purposive sampling where all 44 head teachers and 44 ICT champion teachers were sampled. The researcher used interview schedule for the head teachers and closed ended questionnaires for the ICT champion teachers. The qualitative data from the head teachers was organized and coded according to themes and the Likert Scale of 1-5 was used to measure the respondents' level of agreement on the questionnaires. The responses from both tools was organized according to the objectives and presented qualitatively and quantitatively. Pre-testing was done in Kaloleni Sub County whereby a reliability coefficient of above 0.07 and 0.05% level of significance was achieved and it was considered reliable. The validity of the instrument was determined through consultations with specialists in the study area. The data was collected after obtaining a letter of authority from Kenya Methodist University (KeMU), National Commission for Science, Technology and Innovation (NACOSTI), Kilifi County Commissioner Office, Kilifi County Education Office and RabaiSubcounty Education Office. The data collected was analyzed using Descriptive Statistics using Statistics Package for Social Scientist (SPSS) program and final results displayed using percentages, and graphs. The study found out that the quality supervision skill of the head teachers 'was deficient, mean moderate of 3.5085 and the std 1.144732. From the responses of the respondents, the researcher concluded that there was a strong correlation between effective leadership in terms of quality supervision and implementation of ICT policy in the public primary schools. Capacity building on these core leadership skills to empower head teachers is recommended.

Key words: Quality supervision, Implementation, Policy.

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I. Introduction

Implementation is the process of starting to use something or putting a plan into effect or executing a decision into action. It involves making something active or effective. Implementation involves a plan of a set of activities that have been designed towards adopting an innovation. The plan is put into effect immediately the decision for adoption has been made and it ends when the use of innovation becomes routine practice (Signe', 2017; Farrell & Isaacs, 2015). According to Buabeng-Andoh (2012) implementation also refers to all the processes and decisions people make whenever they contemplate adopting an innovation and the process begins from the time when they hear about that innovation to finally adopting it and routinely, making use it.

Information and communication technology (ICT) is an innovation, a new way of capturing, displaying and retrieving information through telecommunication, projectors, wireless, radio, smart phones, computers, multimedia projectors, videos, audiovisual and other technologies (United Nations Educational Scientific and

Cultural Organization [UNESCO] 2021). Implementation of ICT in schools, therefore, refers to the extent to which teachers and other school stakeholders adhere to using ICT to carry out various school activities. These school activities include, but not limited to registering candidates for national examinations, managing school data base, and management of school based examinations and assessments as well as monitoring school security by using closed circuit television (CCTV). Other activities that can be done using ICT include remote learning methodologies, flipped classrooms where learners watch lectures on-line, using interactive white boards, managing school resources, preparation of professional records, using white boards and projectors, e-readers, accessing relevant digital teaching and learning materials as well as integrating digital learning sessions (UNESCO, 2021).

Implementing these activities in a school requires sound school leadership (Laaria, 2013). However, despite the accrued benefits which include making school management easier, continuation of learning during the lock down due to covid-19 pandemic, learning becoming more interesting and realistic, accessing e-learning resources as well as enabling learners to acquire the 21st century digital skills, implementation of ICT in schools has not been fully embraced albeit governments' ICT policy in place and heavy investments made (Van Laar et al., 2020). In many countries, educational institutions were closed down to avoid the spread of the deadly virus of covid-19 and learning halted. This challenge resulted to academic calendars being disrupted since teachers are still using the traditional methods of curriculum delivery as well as making professional records using pen and paper instead of digital devices (Cordiero, 2020; Sangra & Gonzales, 2016).

Leadership is defined by Yukl (2010) as the process of impacting, influencing or affecting the activities of an organization either positively or negatively towards the achievement of organizational goal, while Ganta and Manukonda (2014) define leadership as that power which can influence a change of values, beliefs, behaviors and attitudes in other people. Therefore, the influence of the head teachers' leadership on implementation of ICT refers to the extent in which the head teacher influences the running of the school activities by changing their attitudes, beliefs and behaviors of the teachers either positively or negatively towards ICT implementation. The influence is generated through communicating the school ICT policy, coordinating the laid down ICT strategies and infrastructure, supervising various activities such as teaching using projectors, remote learning and endorsing teachers digital made professional records as well as recognizing and motivating teachers who actively implement ICT (Mbera, 2015).

Implementation of ICT policies have met with many challenges as exposed by the advent of the covid-19 virus which prohibited face to face curriculum delivery in order to observe ministry of health protocol to inhibit the spread of the virus.. The presidential directive to close down school was done in order to prevent the spreading of the virus. Schools which had digital mechanism in place were able to continue with curriculum delivery. But many schools had challenges leading to many learners not accessing education because of the closure of schools (Cordiero, 2020).

Statement of the problem

The Kenyan government has developed and put in place ICT policy and ICT framework of operation that is spearheading the implementation of ICT in public primary schools to provide a level ground for all learners from all walks of life to acquire digital literacy. The government has invested over 40 billion for ICT infrastructure, capacity building, content developing, mobilization framework for e-education and harmonization and sensitization of ICT implementation.

Despite the government rigorous effort on ICT implementation initiatives in schools, ICT survey report by MICT (2019) and Tonui et al. (2016), report that there has been minimal implementation of ICT in schools. The situation in Rabai Sub County on ICT implementation is very dismal. A report from Rabai sub county TSC office, Rabai (2020) reveals that many schools are lagging behind in ICT implementation. Usage of digital resources from classroom to management of office activities is hardly done. Accessing information online and digital lesson delivery is not done. Professional records such as timetables, lesson plans and progress records are done manually. Administrative work such as filling data in Teacher Management Information System (TMIS), registration of children for Kenya National Examination Council (KNEC) exams, National Education Management Information System (NEMIS) and even uploading of TPAD is still being done at the cyber cafés (Rabai, 2020). According to Laaria (2013), head teachers are catalysts of change while Mofarreh (2016) concluded that leadership influence regarding coordination, management and supervision were critical in ICT implementation. Abdul K. Mpaata and Zaid Mpaata (2018) aver that communicating information on ICT policy and motivating teachers could encourage them to utilize ICT in their daily activity. Therefore, this research study sought to investigate the influence of head teachers' quality supervision on implementation of ICT policy in public primary schools in Rabai Sub County.

II. Literature Review

The Herzberg's theory of motivation was proposed by Fredrick Herzberg, a behavioral scientist in 1959 and it is a two-factor theory or Motivator-Hygiene Theory (Yukl, 2010). The theorist argues that there are some factors that seem to lead to job satisfaction, while others in most cases lead to job dissatisfaction. The factors that lead to job satisfaction according to Herzberg et al. (2011) are called motivators. While those giving rise to job dissatisfaction in a working environment are hygiene factors. Hence, Herzberg et al. (2011) classified these factors into motivational factors category and hygiene factors category. The motivational factors propel employee to superior performance because they initiate a positive satisfaction in them. They provide psychological needs that are perceived as benefits. The most important motivators or satisfiers as identified by Herzberg et al. (2011) are achievement, recognition, work itself, responsibility and advancement. The motivational factors are directly related to the work itself including the difficulties, interest and the way the worker will respond to the challenges generated by the work itself. For example in a school set up, a teacher may use ICT to produce neat and presentable work which is a motivation in itself.

This theory was used to explain how company policy and administration, quality supervision, responsibility and recognition can be used by the head teacher in implementation of ICT policy

in the schools (Yukl, 2010). This theory was applicable in this research on influence of head teacher's leadership on implementation on ICT in public school because the school as organization represents the company, and it has rules, policy and guideline (Okumbe, 2016). The rules are the school ICT policies and ICT strategies which each school stakeholder should follow. These ICT guidelines should be followed under the administration of the head teacher. Under company policy and administration, the researcher explained how coordination and supervision could be applied at school environment to influence implementation of ICT. Responsibility and recognition was used to explain how the head teacher could motivate the staff members to influence them to implement ICT policy (Atalic et al., 2016).

Empirical literature

A study carried out by Wikinson(2010) in Ghana and Bayar (2016) in Turkey, posit that the head teacher is the chief administrator and maintain that other than doing administrative tasks, the head teacher is in charge other important duties such as supervising students performance, all school activities, attending regular head teachers and parents meetings and above all supervise usage of learning and teaching resources which includes ICT gadgets. According to Wanjiku (2018) there are two categories of supervision whereas one involves supervising the staff and the other is on instruction. The definition of instructional supervision is made referring to a set of activities which are carried out with the purpose of making the teaching and learning purpose better for the learner. On the other hand personnel supervision involves the supervisor carrying out a set of activities in order to sensitize, to mobilize, and to motivate staff in order to make them to perform their duties to the best of their ability in order to achieve goals and objectives in the education system (Wanjiku, 2018). Personnel supervision ensures that the staff carryout activities in the right way for a better performance which provides ground for improvement. Through supervision, the head teacher can identify training needs which when well mitigated, can improve the speed of ICT implementation in the school.

III. Methodology

The study used descriptive survey research design to gather qualitative and quantitative data which was analyzed to describe systematically the situation of ICT implementation in Rabai Sub County in Kilifi County-Kenya. The target population was 44 public primary schools and Census technique was used. 88 respondents were obtained using purposive sampling where all 44 head teachers and 44 ICT champion teachers were sampled. The researcher used interview schedule for the head teachers and closed ended questionnaires for the ICT champion teachers.

Response rate

The study collected data from 88 respondents derived from the 44 public schools in Rabai Sub County and managed to receive back 70 questionnaires. After the process of editing and cleaning data, the entire collected 70 questionnaires were deemed good for further analysis translating to a response rate of 79.55%. The questionnaires that were not returned were 14 which constituted 20.45%. According to Mugenda&Mugenda(2014), 50% response rate of is considered adequate; 60% response rate of is considered to be good, while any response rate of 70% and above is considered to be very good. Many researchers have assumed that high response rate safeguards the achievement of unbiased estimates (Mugenda&Mugenda, 2015).Therefore, the response rate of 79.55% as per the recommendation of Mugenda&Mugenda, (2015) provided a sound basis for collection of unbiased data for the study.

Data Reliability Assessment

The researcher sought to assess the reliability of the data collected to measure the various variables in the study. The purpose of reliability assessment was to assess the internal consistency of the data collected by the research

questionnaires. To measure this, Cronbach Alpha was computed to assess the reliability of the data collected. Cronbach Alpha value greater than 0.7 is regarded as satisfactory for reliability assessment.

Table 4.1: Cronbach Alpha for Reliability Assessments

Variables	Number of items	Cronbach Alpha Values
Quality supervision skills	5	0.979
Implementation of ICT policy	5	0.958

Respondents' characteristics

The male respondents in the study were 55 comprised of 28 head teachers and 27 ICT Champion teachers. This was 40% and 38.58% respectively. The total percentage of male respondents translated to 78.58% of total respondents while the female respondents were 15 (7 head teachers which was 10% and 8 ICT Champions which was 11.42%). which translated to a total of 21.42%. as ICT champion teachers and the results showed that 1.4% of the respondents had experience less than one year, the percentage of respondents with experience of between 1-5 years was 58.6% while 18.6% of the respondents were between 6-10 years of experience and finally, 21.40% had a working experience of 11 years and above as shown in figure 4.2 above. The results showed that most ICT champion teachers had adequate working experience as ICT champions in the institutions. This working experience made them to be in a position to identify the challenges and successes of ICT implementation in the schools.

Influence of Culture alignment on sustainable competitive advantage

The researcher further sought to establish the effect of Quality supervision skills on ICT implementation among public primary schools in Rabai sub-county. The findings of the same are presented in the Table below

Table 1. influence of Quality supervision skills on ICT implementation

Quality supervision	N	Mean	Std Dev.
The head teacher carries effective lesson observation of ICT integrated lessons.	70	3.4857	1.14716
The head teacher effectively endorses digitally made professional records.	70	3.1429	1.24009
The head teacher effectively identifies training needs.	70	3.4286	1.19523
The ICT supervision program is effectively followed in all classes	70	3.6000	1.06274
The school has an effective ICT policy evaluation program in place.	70	3.8857	1.07844
Average	70	3.50858	1.144732

The study sought to determine the influence of the head teachers' quality supervision skill on the implementation of ICT policy in public primary schools in Rabai Sub County of Kilifi County. To help answer this objective, the study used a likert scale where 1-2.9 represented agreed, 3-3.9 represented moderate while 4-5 represented disagreed and the result in table 4.7 on effective lesson observation showed that the respondents not sure with moderate mean of 3.4857 and standard deviation of 1.14716 on whether the head teacher carries effective lesson observation of ICT integrated lessons or not. The respondent were also not sure on endorsing of digital records with mean of 3.1429 standard deviation of 1.24009 on whether the head teacher effectively endorses digitally made professional records or not. On identification of training needs, the respondents also indicated that they were in dilemma with a mean of 3.4286 and standard deviation of 1.19523 on the question whether the head teacher effectively identifies training needs. Similarly, the respondents were indifferent with a mean of 3.6000 and standard deviation of 1.06274 as to whether the ICT supervision program is effectively followed in all classes or not. On policy evaluation, the respondent were not sure with a mean of 3.8857 standard deviation of 1.07844 whether the school has an effective ICT policy evaluation program in place or not. The overall mean of respondents was moderate of mean 3.50858 and deviation of 1.144732 a clear confirmation that the head teachers' quality supervision skill was not effectively done and it was significantly affecting the implementation of ICT policy in public primary schools in Rabai Sub County of Kilifi County.

Testing of Hypothesis

This study sought to establish the link between the independent variable (Quality supervision skills) and dependent variable (ICT implementation).

Table 2: Testing of Hypothesis

	ICT implementation	Quality supervision skills	Deductions

ICT implementation	Correlation Coefficient (Spearman's rho)	1.000	.888	Positive
	Sig. (P-Value)	.	.000	Reject H ₀
Quality supervision skills	Correlation Coefficient	.888	1.000	Positive
	Sig. (P-Value)	.000	.	Reject H ₀

The findings in table 4.5 shows a strong positive correlation coefficient of 0.888 which is statistically significant ($p < 0.05$). This leads to rejecting the null hypothesis and accepting the alternate hypothesis there is a relationship between quality supervision skills and ICT implementation among public primary schools in Rabai sub-county of Kilifi County. This implies that with improved quality supervision skills of the head of the educational institutions, the implementation of ICT in Rabai Sub County are improved. This implies that there is an urgent need for programs to capacity build the competence of the head teachers on leadership skills. The study findings in table 2 indicate that there was deficiency in quality supervision skills of head teachers in ICT programs which has a significant affected on implementation of ICT in public primary schools in Rabai Sub County. The findings concur with a study carried out by Wanjiku (2018) that quality supervision of personnel carried out by the supervisor help to sensitize, mobilize and motivate staff in the school towards performing their duties optimally towards achievement of the stated aims and objectives of the education institution. The study further states that quality supervision ensures that the staff carryout activities in the right way for a better performance which provides ground for improvement.

IV. Conclusion

The result showed that the respondents not sure (moderate=3.4857) of whether the head teacher carries effective lesson observation of ICT integrated lessons or not. They also not sure (mean=3.1429) whether the head teacher effectively endorses digitally made professional records or not. The respondents also indicated that they were in dilemma (mean=3.4286) when it comes to the question of whether the head teacher effectively identifies training needs. Similarly, the respondents were indifference (mean=3.6000) as to whether the ICT supervision program is effectively followed in all classes or not and that they were not sure (mean=3.8857) whether the school has an effective ICT policy evaluation program in place or not. This implied that the teachers in the schools were not feeling the head teachers' quality supervision skills or training needs identified. There was need for the head teachers to improve on their supervision skills. This is confirmed by the study findings that there is a very strong significant relationship between quality supervision and implementation of ICT in public primary schools. An improvement of head teachers' supervision skills will lead to an improvement on implementation of ICT policy in public primary schools.

V. Recommendation

The head teachers should ensure to practice quality supervision for all ICT activities and teachers' ICT training gap are identified and addressed thoroughly in order to improve the implementation of ICT in the public schools. They should also delegate the same where need be to their deputy head teachers to ensure personnel supervision is done in their absence. The ministry of education and TSC should organize for training for the head teachers on effective quality supervision skills for them to effectively influence implementation of ICT policy in public primary school.

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