

TEACHER PREPAREDNESS ON USE OF E-RESOURCES IN TEACHING AND LEARNING OF ENGLISH LANGUAGE IN PUBLIC SECONDARY SCHOOLS IN KAKAMEGA COUNTY, KENYA

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ABSTRACT

The Government of Kenya (GOK) has invested in technological resources considerably with a belief to support and transform learning outcomes. Despite innovative developments, there has been little empirical evidence on use of e-resources in teaching - learning of English language in public secondary schools. Specific objective of the study was to: Establish teacher preparedness on use of e-resources in teaching - learning of English language in public secondary schools in Kakamega County, Kenya. The study found out that teachers lacked computer and internet skills (58.3%) for teaching and learning process. Based on the findings, the study recommended that the Ministry of Education (MoE) in conjunction with Kenya Institute of Curriculum Development (KICD) should organise refresher courses on integration of e-resources in the curriculum. The study would contribute to development of teacher of English language in regard to integration of e-resources in education.

Keywords: Teacher preparedness, Electronic resources (E-resources).

Acronyms: MoE - Ministry of Education, KICD - Kenya Institute of Curriculum Development, PQ – Principal's Questionnaire, ETQ – English Teacher's Questionnaire, LQ – Learner's Questionnaires, MoE – Ministry of Education.

1.0 INTRODUCTION

In accordance with International Federation of Library Associations (IFLA) (2015) e-resources include materials that require use of a peripheral (for example, a CD – ROM player) attached to a computer. They have offered opportunities for enhancing strategic learning. Nevertheless, e-resource based education depends on speed of broad band, availability of web enabled and mobile compatible learning. The study focused on libraries and intellectual freedom of access to information. As reported by Batchelor and Nocrish (2005) study, technological resources are generally accepted because of the ease of usability, readability, affordability and accessibility. Consequently, this has helped students to access e-content easily. This research was based on framework for assessment of ICT pilot projects. Contrarily, Sampath (2018) study evaluated digital divide in India and pointed out that only 20.7% rural and 69.7% urban

students used computer for academic purposes in India. The results revealed inadequate use of computers especially by rural students. This was because (Chetna, 2015) new technologies were scarcely used in Indian schools due to inadequate e-resources skills. Certainly, when used in teaching they increased productivity and retention rates. Chetna's study targeted ICT and quality education in schools.

According to Muyaka (2012) report, Kenyan ICT policy made it a requirement for institutions to integrate ICT in order to support and transform learning outcomes. This report targeted ICT infrastructure and teacher preparedness in integration of ICT in education. Thus, it was disappointing that most schools used e-resources sparingly. The study of Miima (2014) further observed that Kakamega County was one of the largest counties with many public schools equipped with e-resources. On the contrary, there was inadequate integration of ICTs in teaching-learning of Kiswahili language. Interestingly, the researcher did not come across any empirical evidence on integration of e-resources in teaching of English language in the county. Therefore, it was from this background that the present study established teacher preparedness on use of e-resources in teaching - learning of English language in public secondary schools in Kakamega County, Kenya. The key question this study aimed to answer was how well are teachers prepared on use of e-resources in teaching - learning of English language?

2.0 METHODOLOGY

The study was guided by Bruner's Constructivism Theory (1990) and adopted descriptive survey design. The study population was 150 principals, 10,000 Form Two students and 250 teachers of English in public secondary schools in Kakamega County, Kenya. Simple random sampling technique was used to select a sample of 108 principals, 152 teachers of English and 370 Form Two students (The Research Advisors, 2006). Stratified proportional sampling represented schools in the county in four categories namely National, Extra-county, County and Sub – county. Research instruments included: questionnaire for principals, teachers of English and Form Two students; interview schedule and observation checklist were for teachers of English. Face validity of research instruments was established by judgement of three experts in the Department of Educational Communication, Technology and Curriculum Studies. Reliability of research instruments was established through pilot study on 10 principals, 20 teachers of English and 30 Form Two students (Thebane, et al., 2010). The pilot study assessed feasibility, cost, duration, adverse events and improved upon descriptive survey design prior to performance of full – scale research. The study used test-retest method to estimate degree of reliability of the research instruments. Data was analysed through descriptive statistics that included frequencies, means and percentage. Statistical Package for Social Sciences (SPSS) computer based program was used as a tool for data analysis. The findings of the study were presented using tables, frequencies and percentages in relation to objective of the study.

3.0 RESULTS AND DISCUSSIONS

3.1 Teacher Preparedness on use of E-resources

The section highlighted teachers' highest professional qualification, teaching experience, pre-service/in-service training course attended by teachers of English, teachers' preparation on use of e-resources in teaching and learning of English language.

3.1.1 Highest Professional Qualification

Education level is vital in determination of teachers' competence in the area of integration of e-resources in teaching and learning of English language. The Session Paper No. 1 of 2005 identified education as an avenue for equipping the country with e-resources skills (MOEST, 2005). Thus, the National ICT Policy ensured that all teachers/trainers possessed requisite e-resources skills (ROK, 2018). Consequently, English Teachers' Questionnaire (ETQ) sought to find out highest level of professional qualification of teachers of English language. The analysis of data showed that 152 (100%) teachers who participated in the study were professionally trained teachers as shown in Figure 1.

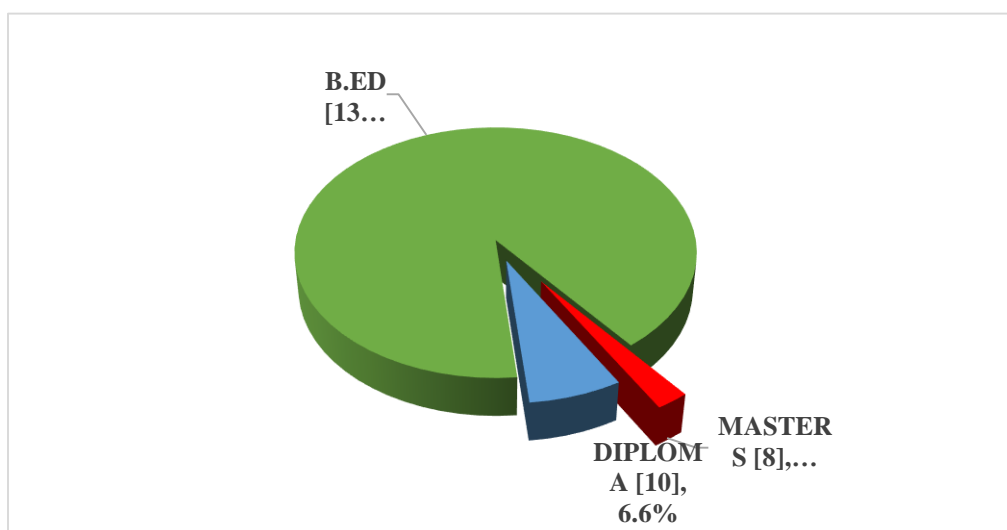


Figure 1: Highest Academic Qualification

In Figure 1, 134 (88.2%) teachers were holders of Bachelor's Degree in Education (B.Ed) Arts, 10 (6.6%) teachers held Diploma in Education while eight teachers (5.2%) held Masters Degrees. The findings revealed that they underwent pre-service training course which prepared them on integration of e-resources in teaching and learning of English language. Therefore, the study assumed that they were aware of use of e-resources in education. Moreover, Figure 1 displayed that all teachers had required qualification to teach English language. The study of Schiller (2003) concurred with the aforementioned results. Schiller's research focused on perceptions of Australian principals on ICT use. It involved only principals who provided views on working with ICT. He left out vital education stakeholders such as teachers who were close to learners thus were the best people to provide views on ICT integration in the curriculum.

It was expected that qualification of teachers would correlate positively with integration of e-resources in education. This was not the case; initial results showed inadequate integration of e-resources in the curriculum. One of the aims of 21st Century in education was for teachers to develop appropriate digital skills. Subsequently, the study expected professionally trained teachers to have acquired e-resources skills either through pre-service or in-service training courses.

3.1.2 Pre – service Training

ETQ sought to find out degree of adequacy that university/college training course prepared teachers for use of e-resources in teaching and learning of English language. Figure 2 showed summary of their responses.

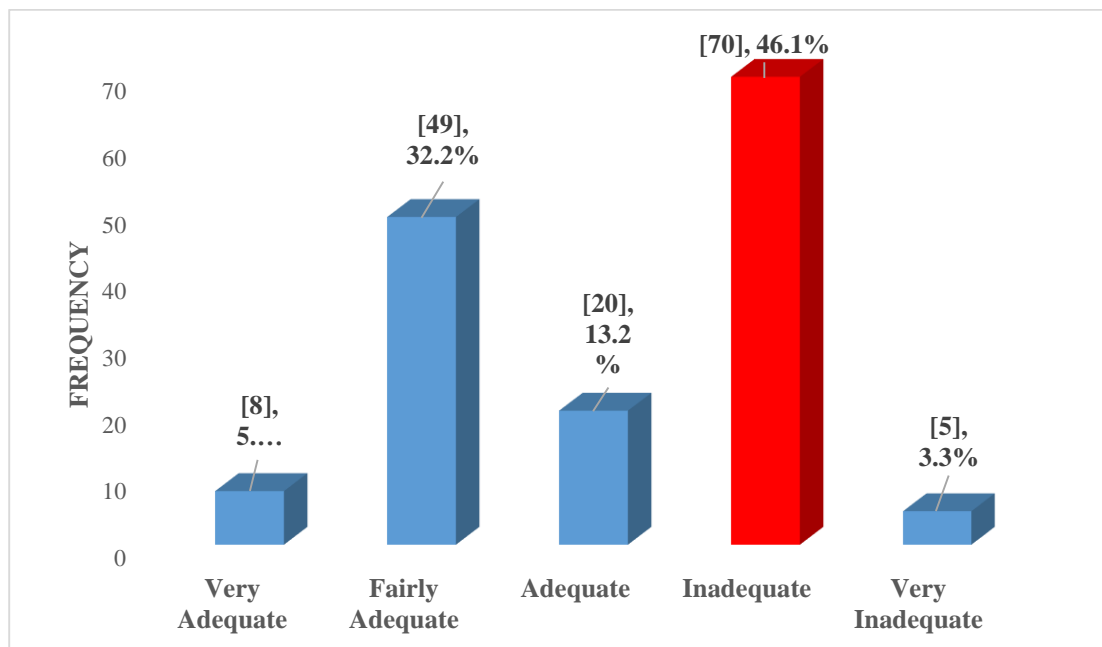


Figure 2: Pre- service Training Course

From the analysis above, 8 (5.3%) teachers viewed pre – service training course prepared them very adequately while 20 teachers (13.2%) viewed that it prepared them adequately on integration of e-resources in teaching and learning of English language. Fairly adequate 49 (32.2%) inadequately 70 (46.1%) teachers were Bachelor of Education (B.Ed) and very inadequate 5 (3.3%) teachers were Diploma in Education teachers. The results indicated that pre-service training gave little focus on integration of e-resources in education. For this reason, teachers were required to continue attending in-service training courses in order to acquire knowledge, skills and attitudes regarding integration of e-resources in the curriculum.

The study of Muvango et al., (2019) contradicted the aforesaid results. It showed that 80% teachers held the view that pre – service training course on instructional media course prepared them adequately for teaching of English language. They determined use of media in teaching and learning of English in 20 public secondary schools in Kakamega East Sub-County, Kenya. They used questionnaire, document analysis guide, interview schedule and lesson observation schedule to collect data. Significantly, their research and the results in Figure 2 showed gaps left by pre-service training course on integration of e-resources in education. However, the gap left by pre-service training course in the present study was higher (49.3%) than the gap left in Muvango et al., (2019) research (20%). This was caused by large sample size of 108 public secondary schools selected in the current study which provided accurate percentages and small margin error (Zamboni, 2018).

3.1.3 Teachers attended In – Service Training

The results from Figure 2 established that inadequately (46.1%) very inadequately (3.3%) teachers held the view that pre-service training course did not prepare them well on

incorporation of technology in education. The results revealed that pre-service training programmes currently in place were insufficient. The above results concurred with Gathoni et al., (2011) research. The study focused on monitoring and evaluation of electronic resources in academic and research institutions in Kenya. On that account, it was right for ETQ to find out from teachers, in-service training course attended by teachers on use of e-resources in teaching-learning of English language. The summary of their responses were shown in Figure 3.

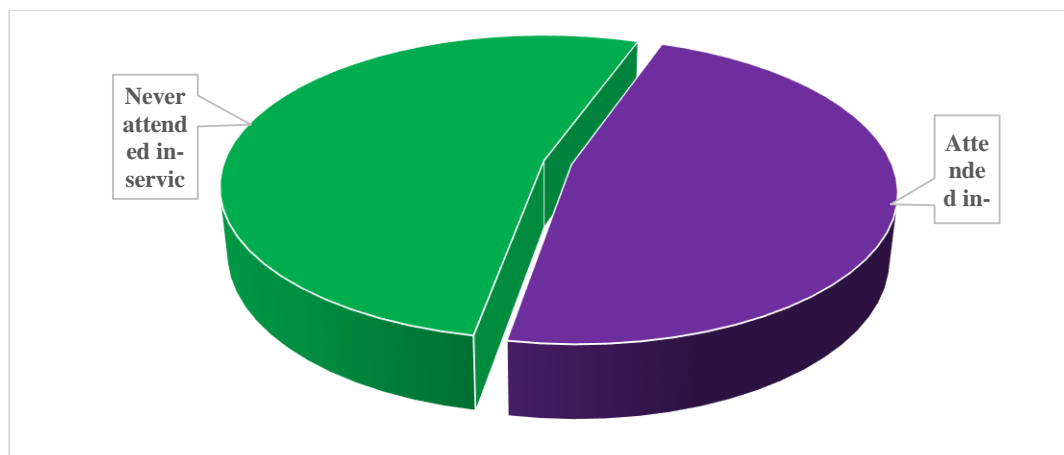


Figure 3: In – Service Training Course

Figure 3 revealed that only 72 (47.4%) teachers attended in-service training courses and were satisfied with the training received on integration of e-resources in teaching and learning of English language. 80 (52.6%) teachers never attended an in-service training course on use of e-resources since their professional certification. The reasons advanced by 80 (52.6%) teachers were that in-service training courses on integration of e-resources were: rarely conducted, costly, inconsistent and never given invitation letters for such training course. Thus, the above mentioned reasons hindered them from attending in-service training courses on integration of e-resources in education. 52.6% of teachers preferred quality and affordable professional training programmes on e-resources integration so as to gain knowledge, skills and attitudes to transform teaching practices. The respondents also suggested establishment of scheduled and regular in-service training courses on incorporation of e-materials in education. This would fill gaps left by pre-service training in the curriculum.

The study of Ouma et al., (2019) concurred with the above results. Both Ouma et al., (2019) study and the results in Figure 3 depicted that few teachers frequently attend workshops/conferences on integration of e-resources in the curriculum. Besides, majority of teachers do not effectively apply e-resources integration strategies in teaching and learning process despite the fact that they had attended professional training programmes. The study of Ouma et al., (2019) used cross sectional survey research design. They focused on teacher's computer capacity in public primary schools in Homa Bay County, Kenya.

Furthermore, respondents suggested a similar frequent in-service training course be provided to library users. This would help to create awareness of availability, accessibility and appropriate use of e-resources to library users. The results from Figure 3 established that in-service training courses attended by teachers on integration of e-resources were sponsored or organised by KICD and MOE. The above results agreed with Bhukuvhani et al., (2012) study.

To the contrary, the research of Bhukuvhani et al., (2012) determined effects of electronic information resources skills training for lecturers on pedagogical practices and research productivity in Zimbabwe. They used 30 lecturers (from three faculties namely science education, commerce and agriculture and environmental science) who had attended Electronic Information Resources Skills Training (EIRST) workshop. Therefore, it was obvious that their research did not involve undergraduates and university administrators.

3.1.4 Teachers Preparation on Use of E-resources

ETQ sought to find out from teachers how long they had taught English language in public secondary schools since professional certification. This was on assumption that teachers with shorter duration of service had less historical knowledge on integration of e-resources in teaching process. Those with long duration of service had more understanding on use of e-resources in the curriculum. The research established that there were only 18 (11.8%) teachers who had taught below two years after professional qualification. The results indicated 29 (19.1%) teachers had taught for between two and four years; 38 (25%) teachers taught for between five and six years while 67 (44.1%) teachers had taught for six years and above. The findings were summed up in Figure 4

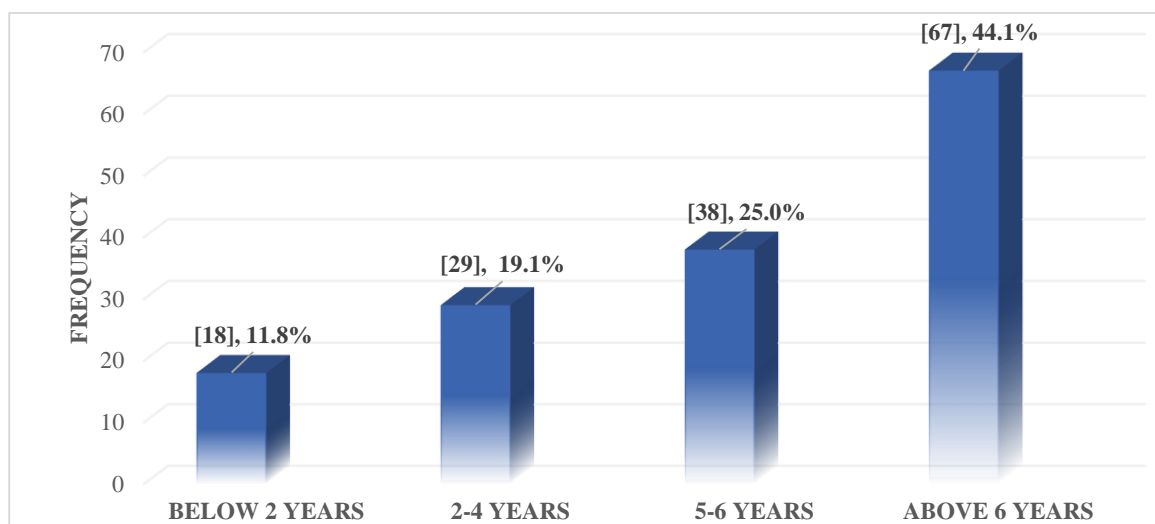


Figure 4: Teaching Experience of Teachers

Figure 4 showed that 134 (88.14%) teachers had teaching experience coupled with their professional qualifications. Thus, they were expected to be knowledgeable about integration of e-resources in teaching process; which was not the case. The initial results revealed that there was insufficient incorporation of e-materials in the curriculum. Contrarily, both Omariba (2016) and Gorder (2008) studies established that teachers who had long experience in teaching were positively influenced in the use of ICT in their instructional process. Gorder researched on teacher preparation of instructional technology integration in the classroom whereas Omariba's study targeted teacher's preparedness on ICT integration in training teachers in four public primary teacher training colleges in central regional of Kenya. The research of Niederhauser and Stoddart (2001) and the results in Figure 4 proved otherwise that teaching experience did not correlate with integration of e-resources in the curriculum. This indicated that teachers' familiarity with e-resources did not mean that they integrated them frequently in education. Consequently, future studies must endeavour to find out whether or not teaching

experience correlates with integration of e-resources in teaching and learning process. Niederhauser and Stoddart determined teachers’ instructional perspectives and use of educational software in the curriculum.

3.1.5 Preparation on E-resources Use

Principals’ Questionnaire (PQ) sought to find out from principals challenges of using e-resources in teaching and learning of English language. Findings were summarised in Table 1.

Table 1: Challenges of using E-resources in Teaching - Learning of English

n= 108 Principals

Challenges of using E-resources	f	%
Insufficient e-resources	64	59.3
Lacked computer rooms/ laboratories/ infrastructure	44	40.7
Insufficient funding for e-resources use	66	61.1
Insecurity	44	40.7
Unaffordable internet connection	51	47.2
Limited knowledge on e-resources use/lacked internet and computer skills	63	58.3
Unaffordable staff development courses due to their prohibitive cost	65	60.2
Inconsistent in-service training courses on use of e-resources	57	52.8
Lacked invitation letters for in-service training courses on use of e-resources	59	54.6

From Table 1, 64 (59.3%), 44 (40.7%), 66 (61.1%), 44 (40.7%), 51 (47.2%), 63 (58.3%), 65 (60.2%), 57 (52.8%) and 59 (54.6%) principals suggested insufficient e-resources, lack of computer rooms/laboratories/furniture, insufficient funding for e-resources use, insecurity, unaffordable internet connection, limited knowledge on e-resource use/lack of internet and computer skills, unaffordable staff development courses due to their prohibitive cost, inconsistent in-service training courses on use of e-resources and lack of invitation letters for in-service training on use of e-resources respectively.

The results from Table 1 confirmed that the challenges made teachers frightened from using e-resources in teaching and learning process. Challenges limited use of e-resources in the curriculum. Intensive in-service training courses on e-resources use were urgently needed for teachers. Teachers were hesitant to use e-resources in education because they lacked internet/computer skills. Therefore, lack of information retrieval skills made the level of usage of e-resources to be very slow. Importantly, teachers must acquire classroom e-resource use skills; otherwise teaching could turn chaotic when they are used inappropriately. The research of Patsalides (2013) was in tandem with the results in table 22. Patsalides’ study focused on use of computers in the classroom.

ETQ sought to find out from teachers challenges encountered when using e-resources in teaching and learning of English language. The findings were summarized in Table 2.

Table 2: Teacher Preparation on Integration of E-resources

n = 152 Teachers of English

Challenges Encountered when using E-resources by Teachers	Responses received (f)	%
Lack of time	56	36.8
Heavy workload	48	31.6
Lack of computer skills	66	43.4

Table 2 depicted that 56 (36.8%), 48 (31.6%) and 66 (43.4%) teachers were faced with lack of time, heavy workload and lack of computer skills when using e-resources in teaching and learning of English language respectively. Pursuant to National ICT training Policy, teachers were expected to be skilled in using computer applications adequately through either pre-service or in-service training courses. However, Table 2 showed that 66 (43.3%) teachers lacked computer skills. This hindered accessibility of e-resources on internet through computers. Teachers’ limited skills had direct influence on innovatory use of e-resources in the classroom. These results were in line with Drent and Meelissen (2008) study. They determined factors obstructing or stimulating teachers to use ICT innovatively.

Further, Table 2 indicated that teachers lacked time and computer skills to use e-resources during teaching process. This was slightly different from Taban et al., (2012) study which demonstrated that many teachers had computer skills but only lacked time to use technologies in the classrooms. They determined difficulties faced by teachers in using ICT in teaching – learning at technical and higher educational institutions of Uganda. Diversely, the study of Ali (2005) concurred with the results in Table 23. Unskilled teachers and lack of time were significant barriers in use of e-resources in education. Heavy workload left them with little time to prepare and help the weak students to learn supported with e-resources. Ali’s study examined use of electronic information services among the users of the Indian Institute of Technology (IIT) Library in Delhi, India. The study used both questionnaire and observational methods to collect data.

To sum up, the aforementioned results designated that lack of time, heavy workload and insufficient computer skills impacted negatively on integration of e-resources in education. Accordingly, interrogation was done to establish problems faced during use of e-resources in teaching and learning of English language, one of the teachers asserted:

The school lacks funds to facilitate in-service training courses, buy enough computers, pay internet service providers such as Safaricom, employ enough security officers – burglary is rampant....

The study also sought to find out mitigating measures that would enhance integration of e-resources in teaching and learning of English language. Therefore, PQ sought to find out from principals ways of improving use of e-resources in schools. Findings summarised in Table 3.

Table 3: Preparation for E-resources

n= 108 Principals

Ways of Improving Use of E-resources in Schools

F %

Ways of Improving Use of E-resources in Schools	F	%
Provision of sufficient e-resources such as computers	74	68.5
MoE to provide sufficient funds for e-resources use in the curriculum	57	52.8
Provision of affordable internet connection	50	46.3
Supporting and encouraging teachers to attend capacity building programs	76	70.4
Enhancing security in the public secondary schools	61	56.5
Enhancement of teachers' internet and computer skills	59	54.6

In Table 3, 74 (68.5%), 57 (52.8%), 50 (46.3%), 76 (70.4%), 61 (56.5%) and 59 (54.6%) principals indicated that provision of adequate e-resources such as computers, MoE to provide sufficient funds for e-resources use in the curriculum, provision of affordable internet connection, supporting and encouraging teachers to attend capacity building programs, enhancing security in public secondary schools and enhancement of teachers' internet and computer skills would increase integration of e-resources in teaching and learning process respectively.

Specifically, 52.8% principals suggested that MoE provided insufficient funds for use of e-resources in the curriculum. This showed that integration of e-resources demanded substantial funding from the government, donors, sponsors and Non-Governmental Organizations (NGOs). The use of e-resources in education was costly in terms of time and effort required to prepare for and use them. As a result, schools required financial investment in e-resources development and use. Exclusively, schools had inadequate funds for security enhancement, in-service training courses, purchase and maintenance of computing facilities. The research of Ivan (2007) agreed with the above mentioned results. Ivan's study determined key factors in the use of ICT in primary school classrooms.

From Table 3, 70.4% principals were right to suggest that teachers to attend capacity building programs. This was due to 58.3% teachers lacked internet and computer skills for information access, retrieval and content delivery in the classroom. The revelation indicated lack of support from education stakeholders to enforce and implement National ICT policy on training in education. Most schools lacked indicators of quality e-resource leadership in the curriculum. The ICT policy on training enabled teachers to embrace personal support initiative (knowledge, skills and attitudes) for successful implementation of e-resources in schools. MoE and KICD must provide affordable and regular in – service training courses on integration of e-resources to improve teachers and learners attitudes towards e-resources. The results in Table 3 concurred with Keengwa and Onchwari (2008) study. They determined computer technology integration and student learning.

Moreover, to solve challenges of integration of e-resources, TIS suggested provision of adequate: e-resources, internet connection, funds/budget allocations and security to enhance integration of e-resources in teaching and learning process. On the issue of insecurity, teachers expressed the need to secure computers from burglars to avoid losses. They supported the use of LoJack software for Windows and Mac computers and elements such as IP address locations and webcam in order to get schools' stolen computer/laptops easily.

Lastly, respondents also suggested the need to establish a special framework that would support acquisition, selection and use of e-resources, regular enhancement of e-resources skills and e-

resources development and collection policy in education. Such framework would guarantee effective utilization of e-resources in the curriculum. These results were in tandem with the study of Premchand-Mohammed (2011). Although, through a review of the literature on the shift from print to electronic resources, Premchand-Mohammed study used the experience of the University of the West Indies (UWI) with a particular reference to the St. Augustine Campus.

4.0 CONCLUSION AND RECOMMENDATIONS

4.1 Conclusion

The study showed pre-service training programs were almost flawed, notably integration of e-resources in education. 152 (100%) teachers participated in the study were professionally trained although they did not exhibit necessary knowledge, skills and attitudes in regard to use of e-resources in the curriculum.

4.2 Policy Recommendations

From the findings of the study, it was recommended that:

- a) Universities and colleges should review their education process on integration of e-resources in order to ensure adequate course coverage. Teacher training institutions must provide appropriate and sufficient support on integration of e-resources in teaching and learning process.
- b) MoE in conjunction with KICD should organise frequent refresher courses on integration of e-resources for all practising teachers. This would enhance acquisition of knowledge, skills and attitudes regarding use of e-resources in the curriculum.
- c) Lastly but not least, MOE and schools authorities' should provide adequate funding for integration of e-resources in teaching and learning process. This would ensure provision of sufficient internet connectivity, security, financing staff development courses and purchasing of e-resources in schools.

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