

Analysing the Extent of ICT Implementation and Use in the Administration of School Records in Kajiado County, Kenya

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ABSTRACT:

The purpose of this study was to analyse the extent of ICT implementation and use in the administration of school records in Kajiado County, Kenya. Descriptive survey design was used. The target population was 61 public secondary schools' principals, 1220 teachers, 610 students, 25 ICT teachers, 6 Sub-county Directors of Education and 1 County Director of Education in Kajiado County. The sample size for this study was 18 principals, 366 teachers, 8 ICT teachers, 183 students, 2 Sub-county Directors of Education and 1 County Director of Education. This study used questionnaires administered to Principals, teachers and ICT coordinators, observation schedules and interview schedule administered to the students, Sub-county Directors of Education and the County Director of Education as tools for data collection. The pilot test was done in schools with similar characteristics to those sampled through random sampling. All the respondents were seven principals of public secondary schools. Validity was determined by pre-testing of data collection tools while reliability through test-retest method. Cronbach alpha was used to test the internal reliability of the measurement instrument. Drop and pick methodology was adopted for data collection. The findings showed that use and implementation ICT in school administration in Kajiado County was very low. The study concluded that most schools in Kajiado County had not embraced ICT in various areas of administration. Therefore, the study recommends that proper technology should be put in place by purchasing of the required ICT facilities in schools to enhance management of schools using the current technology.

Key terms: Administration, ICT, Public Secondary school, Implementation

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Introduction

The past decade has realized an exponential growth in the use of Information and Communication Technology (Daniels, 2002). This has made pervasive impact in the society and this includes our daily lives. The use of Information and Communication Technology (ICT) has contributed to tremendous changes in the society - ranging from technical to structural. It is, thus, not surprising to find an increasing interest, attention and investment in the use of ICT in education all over the world (Stromquist and Monkman, 2014). Furthermore, ICT has within a very short time, become one of the basic building blocks of modern society (ibid). This explains why efforts to employ ICT to improve learning as well as the emergence of knowledge economy have also ignited more emphasis in education.

Although computers and their application play a significant role in modern information management, other technologies and/or systems also comprise of the phenomenon that are commonly regarded to as ICTs (Brannigan, 2010). The term ICT encompasses the range of hardware (desktop and portable computers, projection technology, calculators, data logging and digital recording equipment), software applications (generic software, multimedia resources) and information systems (Intranet, Internet) available in the teaching institutes (Brannigan, 2010).

Information and Communication Technology was first used in educational institutions in North America and Europe in 1970s (Tidd and Bessant, 2018). In these Countries, computers are used to enable successful learning in E-learning and to provide professional development for multiple staff in a learning institution and school management systems (SMS), hence, enabling them to be more effective. Brannigan (2010) argues that in recent times, there has been a global explosion in the use of computers in schools as an instructional, communicative and informational resource tools by use of databases,

spreadsheets, multimedia, email, and network search engines.

According to Okumbe (2011), the principal is charged with the task of managing curriculum and instruction, staff personnel, student personnel, school plant, finances and school community relations. Thus, the principals are charged with the responsibility of carefully planning and utilizing the available resources in the school to achieve the institutional goals.

Additionally, the school administration has to monitor and record all the school activity details manually in the schoolbooks and records (Alexis, 2003). However, it has been noted that technology has great prospects to provide new kinds of school administrative opportunities (Fleming-McCormick, Nyre, Schwager and Tushnet, 2014). In a survey carried out in Sweden, it was established that ICT provide a positive impact on school administration when it is integrated in the management of schools (Swedish National Agency for School Improvement, 2015). In Kajiado County, the Public secondary schools can also leverage on the positive impact of ICT implementation to enhance school administration, which will boost effectiveness.

In Hougang, North Zone of Singapore, it was found that administrative processes related to communication were streamlined by ICT. A case in point was when teachers who would conventionally rely on sizeable log books to determine available rooms for booking the responsible parties as well as the duration to be taken were now able to access a month-long schedule indicating who booked them and when the rooms may fall vacant through ICT integration. It was also established that ICT was a very significant tool for the dissemination of information. The reason being that ICT aided in communicating information available to the staff the moment they logged in (Telem,

2001). The public secondary schools in Kajiado can emulate schools in Singapore in implementation of ICT in both students and teachers administration to enhance performance in schools.

ICT integration provides facilities and possibilities for the education administrators to perform their tasks. In this regard, ICT integration can be realized in student management for example students' records and management of other resources in an education system. Wiley (2003) notes that school principals need effective and fast communication and accessibility to information. This is because school managers need to correspond through email and the internet, create websites for school marketing so as to communicate to parents, other school administrators, business executives, school suppliers and the wider community. Public schools in Kajiado County still use manual and traditional ways in schools management; hence, they need to adopt ICT in effective communication both internally and externally.

It is also the duty of the school management to monitor the enrolment of students in the school, availability of educational resources, human labour and availability of finance to sustain the daily activities of the school. Alexis (2003) argues that school management has to monitor all these records of the school activities by entering the details manually on the books and records of the schools. Therefore, with the introduction of ICT in public schools in Kajiado County various programmes can be used to monitor daily activities in the school by click of a button.

The Government of Kenya has put in efforts to supply computers, construct computer laboratories, train teachers in some schools and mobilize support from development partners. The spirit behind the ESP-ICT programme was to enhance school management including monitoring

attendances, performance, and staff training and recruiting of the staff (Richard, 2015).

According to the Kajiado County Education Office in 2016 out of the 61 public secondary schools in the County, only 15 of them, (12%) implemented ICT in school administration. According to the report, Integrated Financial Management Information System (IFMIS) is never used, emails are rarely used and ICT technology is ignored in performance of most of the administrative tasks (Hove and Wynne, 2010). Failure to take full advantage of the opportunities offered by technological advances to education represents a drastic lag in skilled innovative manpower (Government of Kenya, 2010).

Learning institutions across the world continue to embrace the ICT because of the need to achieve efficiency and effectiveness and school management. Schools in Kajiado are lagging behind in the implementation of ICT hence they remain ineffective in keeping smart records, human resources management and monitoring and evaluation. The review of literature on ICT integration and application in secondary schools administration show that little is known on evaluation of ICT implementation in secondary school administration. Specifically, there is scarce information on the extent of ICT use in management of school records. It is against this backdrop that the present study aimed to fill this identified gap.

LITERATURE REVIEW

Administrators Use of ICT in Educational Administration and Management

A report by World Bank Report (2007), affirms that computers have made it possible for teachers to maintain accurate student records, track and analyse performance and use the resulting information to make decisions about how to individualize instructions. Burdensome and tedious record keeping takes time away from more important tasks

and inhibits teachers from maintaining records. Simplifying the process by the use of computers has encouraged teachers to keep better records and more importantly, making use of the resulting information. Before changing the way teachers and schools manage classroom and school records, it is important to evaluate the school's information (World Bank, 2007). ICT may be considered as a synonym for modernisation of all organisations, including schools, as they provide for advanced technological tools and applications. Additionally, the implementation of new technologies in secondary education has rapidly increased and adoption of ICT reinforces the teaching process, and by extension facilitates management transactions (Saiti and Prokopiadou, 2009). This should also be the case in public secondary schools in Kajiado to make the school produce competitive knowledge and centres of excellence.

Ong and Lay (2006) argue that school principals can embed ICT within teaching, learning, management and planning: develop a vision for the development and integration of ICT across the curriculum and promote this vision within and beyond the school. The principal can provide appropriate, sustained ICT professional development for all levels of staff and become an ICT learner along with the staff. According to Kumar, Rose and D'Silva (2008) integration of ICT helps to reduce the complexity and enhance the overall management of higher education. Computers can be used extensively for effective educational management such as pay roll, financial accounting, student data, inventories, personnel records and library system. It is specified that technology can be used right from student management to various resource management in an educational institution (Maki, 2008). More so admissions can be done through web-enabled systems and all day-to-day management activities of the institution including staff management can be done by use of ICT. The education of today requires that both teacher

and learners should implement ICT in the learning processes to enhance competitive of the learning process.

Uwadia (2009) emphasizes that ICT serves as a tool for increased productivity and effective decision-making. For instance, the knowledge of ICT can be employed by the secondary school managers to ensure teachers effective delivery of services, effective communication, effective maintenance of sound students record system and maintaining academic planning record system among others. In the school system today, it seems impossible to ignore the place of ICT anymore. School managers are therefore faced with the challenge of incorporating ICT into the management of school in a meaningful and productive way.

ICT can improve or enhance the management duties of a principal. For instance, computer as one of the ICT facilities can provide better management results. One of the essential aspects of education is to impart culture from generation to generation. School managers' plays a critical role in ensuring that education is passed to the students as recommended. It is also the duty of the school management to monitor the enrolment of students in the school, availability of educational resources, human labour and availability of finance to sustain the daily activities of the school (Maki, 2008). Alexis (2003) argues that school's administrations had to monitor all these records of the school activities by entering the details manually on the books and records of the schools. However, with the introduction of ICT in the country, various programs can be used to ease the burden of administration in monitoring and managing the school activities. These programs help the administration to monitor their daily activities in the school by a click of a button. This should also apply in public secondary schools in Kajiado to make the school produce competitive knowledge and be centres of excellence.

Manduku, Kosgey and Sang (2006) conducted a study on adoption and use of ICT in enhancing management of public secondary schools in Kesses zone secondary schools in Wareng district of Uasin Gishu county, Kenya. The study adopted a survey research design technique. Six (6) schools were sampled for the study. The target population included 300 head teachers, deputy head teachers, heads of departments and BOG members. 42 respondents that represented 14 percent were sampled. Respondents were asked to indicate ways in which ICT is applied in the performance of management functions in their respective schools. Most of those interviewed, 26 (61.9%) of the respondents indicate that they use ICT in storage of school records 20 (47.62%) on timetabling, 20 (47.6%) on communication, 18 (42.9%) on secretarial duties. The education of today requires that both teacher and learners should implement ICT in the learning processes to enhance competitive of the learning process.

The findings show that ICT is mostly used for record storage purposes, timetabling, communication and secretarial work such as typing examinations and staff meeting minutes in that order.

ICT implementation in the Administration and Management of School

According to the Organization for Economic Cooperation and Development, (2005) Educational administrators and managers need to have basic information on student and teacher flows, probably also of school supplies, and how much the system is spending on various inputs, in order to make the most basic resource allocation decisions. Undoubtedly, ICT has played an important role in improving data collection in educational systems. It has also made these data more widely available to school personnel, parents, and the public at large through central school management web and in some countries through

direct access to central or district databases by school personnel. These rudimentary data collection functions are expanded in some countries and regions by more sophisticated quality control data, namely student evaluation data.

Maki (2008) in a paper presented in Cyprus on ICT for administration and management of Cyprus secondary schools argues that the Cyprus Ministry of Education implemented a computer programme developed in Greece in order to manage information in secondary schools in relation to students and teacher's data. Schools in Cyprus use ICT for managerial purposes such as student management, (enrolment, absenteeism, grades, final exams), personnel management (absenteeism), human resource management and timetabling.

Carnoy (2004) observes that ICT collects information from and distributes information to the different departments in schools and uses the information to extract greater effort from the different parts of the system. In many countries, such top-down use of ICT to monitor performance could be extended to collecting and disseminating information on student and teacher absenteeism, student attainment and other variables, all on a school-by-school basis (Carnoy, 2004). Maki (2008) observes that organisations and consequently schools depend on information systems to support the flow of data, information and knowledge about inputs, outputs, relationships among different environments.

Mugo (2014) carried out a study to examine the factors that affect data management using Management Information Systems by education administrators in public secondary schools in Thika West district, Kiambu County. The findings of the study indicate that 61% of the institutions never used computer software and 44% always used manual method to manage data, 29% indicate

calculators were always used to manage data compared to only 6% indicate never. There is low use of computers in data management as only 20% of the respondents indicate that they used computers. This implies low levels of computer literacy and limited use of computers in data management. The findings also note that (75) per cent of the officers at the District Education Office, (66.66%) of the head teachers and (52.7%) of Heads of Departments used computers compared to (50%), (22.2%) and (13.8%) respectively using computer software.

METHODOLOGY

This study adopted descriptive survey research design. The sample size was 18 public secondary schools in Kajiado County. The study adopted census in selecting the principals, sub-county and county directors of education. Simple stratified random sampling was used to select 366 teachers. Eight (8) ICT were also picked as a representative number. Using purposive sampling procedure, only form 4 students were selected Simple random sampling procedure was used to arrive at 30% of form 4 students from each stream and therefore, there were six hundred and ten students selected from the schools. This study used questionnaires to collect data from principals, teachers and ICT coordinators. Interview guide was used to collect data from the Sub-County Directors of Education, the County Director of Education and students. Observation and

document analysis guide was also employed for each school. The pilot test was carried out in schools with similar characteristics to those sampled through random sampling. Instrument validity was established by pre-testing of data collection tools and the instruments were administered to six principals from four types of public secondary schools in Kajiado County. Instrument reliability was determined through Cronbach Alpha coefficients. A research permit was obtained and permission was also sought from the County Director of Education and the TSC county director in Kajiado County. Content analysis was used to analyse qualitative data from the interview guides. Data was also analysed using mixed model method, which included descriptive statistics. Descriptive statistics used included the frequencies, percentages, mean, standard deviation, cross-tabulation and t-tests.

RESULTS AND FINDINGS

The Extent to which ICT had been implemented in the Management of School Records in Public Secondary Schools in Kajiado County

The study aimed at finding out the extent to which public secondary schools in Kajiado County had implemented ICT in management of the schools records. The results in Table 1 shows overall ICT use in schools administration duties while the findings shows ICT use specifically by the principals in keeping various schools records.

Table 1: ICT Implementation in Administration of Public Secondary

	No Extent	Less Extent	Undecided	Some Extent	Great Extent	Mean
Accounting	41.1% (139)	45.3% (153)	9.5% (32)	2.4% (8)	1.8% (6)	2
Personnel management	39.1% (132)	47.3% (160)	8.3% (28)	3% (10)	2.4% (8)	2
Students registration process	37.3% (126)	45.9% (155)	11.2% (38)	2.4% (8)	3.3% (11)	2
Timetabling	46.4% (157)	40.2% (136)	10.1% (34)	0.9% (3)	2.4% (8)	2
Internal exams	46.4% (157)	39.6% (134)	9.8% (33)	1.2% (4)	3% (10)	2
Library management	40.2% (136)	44.7% (151)	10.1% (34)	2.1% (7)	3% (10)	2

Source: Survey data, (2019)

The study sought to establish whether public secondary schools in Kajiado County had implemented ICT in the accounting, personnel management, students’ registration process, timetabling, internal exams and library management. The results show that 86.4% (292) of the teachers, principals and ICT coordinators disagreed that their school had implemented ICT in accounting. The study finding implied that majority of the public secondary schools in Kajiado did not use ICT in their accounting processes.

The study further sought to establish whether public secondary schools had implemented ICT in the personnel management. According to the results majority (86.4%, 292) of the respondent indicated low extent. The findings revealed that majority of public secondary schools had not implemented ICT in personnel management. Use of ICT in personnel management requires sophisticated ICT systems such as CCTV camera and biometric scanners that requires high budget that majority of the schools are lacking. These

results are in disagreement with Cowie *et al.* (2008), who revealed that most teachers used laptops for administrative tasks associated with their obligation for teaching.

The study also sought to find out from the respondents whether public secondary schools had implemented ICT in students’ registrations process. According to the study findings, majority of the respondents disagreed, which implied that public schools in Kajiado County had not implemented ICT in students registration process. The study findings show that over 80% of the public secondary schools in Kajiado County surveyed had not implemented ICT in their management of the student’s affairs. The finding supports those of Abuga (2014) who observes that majority of teachers did not use any form of ICT in their schools. These research findings are in agreement with a baseline survey conducted by Oloo (2009) on implementation and use of ICT in secondary schools in

Kenya that established that the use of ICT in schools was low.

On the extent to which public schools use ICT in timetabling, the results show that 46.4% (157) and 40.2% (136) indicated no extent and less extent respectively. Those who indicated some extent and great extent were 0.9% (3) and 2.4% (8) respectively. The findings demonstrate that public schools in Kajiado still had not adopted ICT use in the timetabling process. These results are in disagreement with Cowie *et al.* (2008), who revealed that most teachers used laptops for administrative tasks associated with their obligation for teaching.

On the extent to which public schools used ICT in administration of internal exams, the results show that 46.4% (157) and 39.6% (134) of the interviewed respondents indicated no extent and less extent respectively. Those who indicated some extent and great extent were 1.2% (4) and 3% (10) respectively. The findings confirmed that implementation of ICT in public schools in administration of the internal examination within Kajiado County was very low. The study finally sought to find out the extent to which public schools within Kajiado had adopted ICT in administration of the library records. The results show that 40.2% (136) and 44.7% (151) indicate no extent and less extent respectively. Those who indicated some extent and great extent were 2.1% (7) and 3% (10) respectively. These findings proved that implementation of the ICT in administration of library records in public schools in Kajiado County were also very low.

The overall implication of the findings in this section was that use and implementation of ICT in all the departments of school administration of the public schools in Kajiado County was very low. This study finding supports those of Mugo (2014) who examined extent of use of information systems by education administrators in public secondary

schools in Thika West district, Kiambu County. The findings of the study indicate that 61% of the institutions never used computer software. These results agree with those of Balanskat (2006) who notes that the growth in the ICT use and application in schools is minimal leading to differences in e-maturity though countries have continued to invest huge amounts of money in ICT in schools.

Lack of use of ICT in public secondary school in Kajiado limits the school from achieving efficiency and effectiveness. This finding is in line with the argument of Maki (2008) who posited that ICT plays a vital role in supporting powerful efficient management and administration in the education sector and it is specified that technology can be used right from student administration to various resource administrations in an educational institution. A study conducted by Gwang-Jo (2009) in UK also showed that 10 to 15 per cent of schools are e-mature and further noted that ICT application in schools covers a wider scope.

This study agrees with Ngugi (2012) who noted that for ICT integration programs to be effective and sustainable, principals and teachers in public schools in Kajiado County must be competent in the use of the technology, and they must have a broad understanding of the technical, curricular, financial, and social dimensions of ICT use in education. According to Fredriksson and Gajek (2009), ICT plays a key role in the management of complex information flow and integration of such information towards effective policy formulation and planning for the utmost maximization of human capital and potential in the school environment. The study finding disagrees with National Centre for Statistics (2000), which found that administrative record keeping was the second largest use made of computers by teachers after that of creating instructional materials. These study findings showed that

teachers disagreed that ICT was not implemented in various aspects of records keeping in their schools.

Schools Record Managed Using ICT systems and Software

In this section, the study sought to establish from the respondents whether their school principals/administration section used ICT in keeping various schools records. Table 2 (a) shown below presents the results.

Table 2(a): ICT implementation in the Administration of School Records

	No Extent	Less Extent	Undecided	Some Extent	Great Extent	Mean
Registration of student	40.2% (136)	44.4% (150)	10.7% (36)	1.8% (6)	3% (10)	2
Students report forms	44.1% (149)	42% (142)	10.4% (35)	1.8% (6)	1.8% (6)	2
Monitoring students' progress	42.3% (143)	44.4% (150)	10.1% (34)	2.4% (8)	0.9% (3)	2
Discipline records	43.2% (146)	44.1% (149)	6.8% (23)	2.4% (8)	3.6% (12)	2
Teachers attendance records	44.1% (149)	42.3% (143)	8.9% (30)	3% (10)	1.8% (6)	2
Class attendance	43.5% (147)	43.2% (146)	8.9% (30)	1.2% (4)	3.3% (11)	2
Timetabling	43.2% (146)	42.3% (143)	10.7% (36)	1.8% (6)	2.1% (7)	2
Accounting	43.8% (148)	43.2% (146)	7.7% (26)	2.7% (9)	2.7% (9)	2
School budget	45% (152)	40.2% (136)	10.4% (35)	3% (10)	1.5% (5)	2
Examination results	42.3% (143)	43.8% (148)	9.2% (31)	1.5% (5)	3.3% (11)	2
Records of achievements	41.4% (140)	43.2% (146)	11.2% (38)	3% (10)	1.2% (4)	2
School notices, communication with parents	46.4% (157)	38.5% (130)	9.2% (31)	3% (10)	3% (10)	2
Teachers performance records	46.4% (157)	40.2% (136)	10.1% (34)	0.9% (3)	2.4% (8)	2

Source: Survey data, (2019)

The results in Table 2(a) show that 40.2% (136) and 44.4% (150) of the respondents indicated no extent and less extent on whether their school principals used ICT in management of students' registration records. The mean

score of 2.0 indicates that implementation of ICT in keeping students registration records among public schools was still very low. The results further show that 44.1% (149) and 42% (142) indicated no extent and less extent on implementation of ICT in students report forms processing.

On whether, public schools had adopted ICT in monitoring students’ progress, the results show that 42.3% (143) had not, 44.4% (150) used to less extent, 2.4% (8) used to some extent while only 0.9% (3) had completely adopted ICT in monitoring students’ progress. The results further show that 3.6% (12) had adopted ICT in keeping discipline records of their students. The study further sought to find out the extent to which public schools had adopted ICT in keeping teachers attendance records. The results show that 2.4% (8) and 3.6% (12) of the respondents indicated their schools to some extent and to great extent respectively used ICT in keeping teachers attendance records. The study also

revealed very low 3.3% (11) implementation of ICT in keeping class attendance records. The implementation of ICT in keeping timetabling and accounting records was very low among the public schools surveyed.

The study further shows that implementation of the ICT in processing of school budget, examination results, and records of achievements, school notices, and communication with parents and teachers performance records was very low among the public schools in Kajiado County as shown in Figure 3 below. The results of this study disagrees with those of Manduku, Kosgey and Sang (2006) who found that ICT is mostly used for record storage purposes, preparation of students’ report forms for parents, timetabling, communication and secretarial work such as typing examinations and staff meeting minutes in that order.

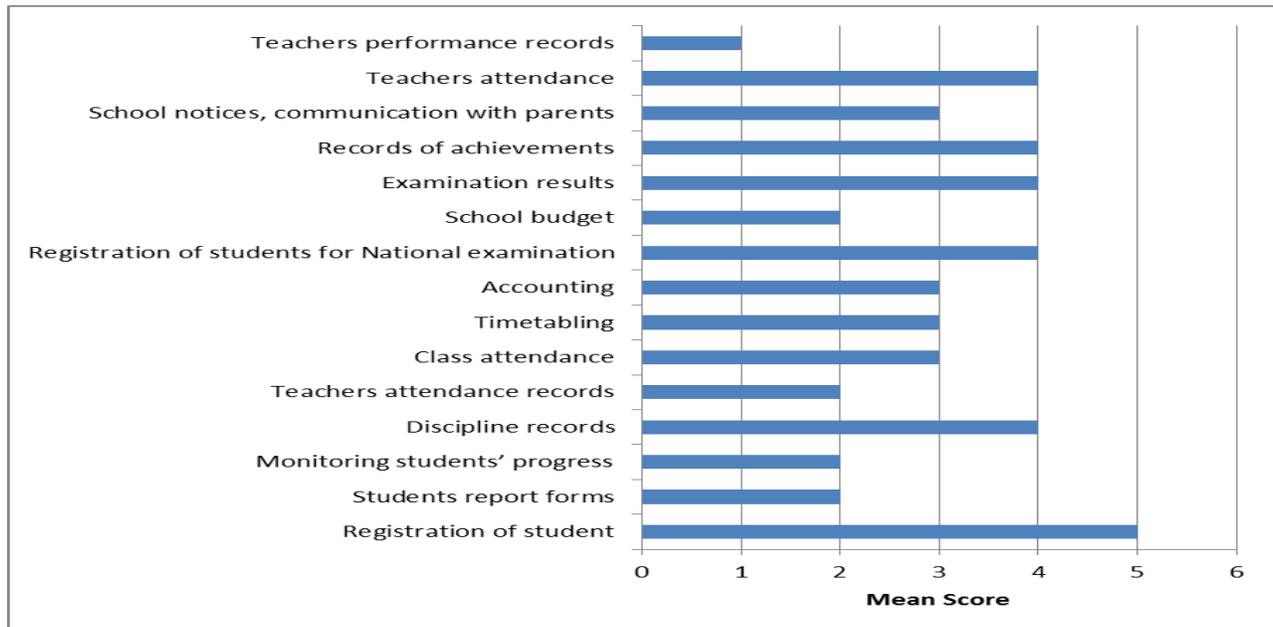


Figure 1: Schools Reports That Had Adopted ICT
Source: Survey data, (2019)

The results presented in Figure 1, show that public schools in Kajiado County to some extent used ICT in registration of students, registration of national and internal examinations, records of achievement of students and teacher attendance. These areas of public schools administration had made progress in implementation of ICT. The findings implied that majority of the public schools still relied on manual and paper documentation in administration of the schools functions. However, a report by World Bank Report (2007), indicate that computers have

made it possible for teachers to maintain accurate student records, track and analyse performance and use the resulting information to make decisions about how to individualize instruction but the rate of implementation was still very low. The study carried out document analysis to establish whether the schools had E-Systems for schools administrative register, store records, library, and schools master timetable, students’ progress records, principals’ newsletters and financial records. The results of document analysis are presented in Table 2 (b).

Table 2 (b): Document Analysis of School Records

Records / items	Available	ICT use	No ICT use
School Administration register	44 (72%)	12 (19.7%)	49 (80.3%)
Stores records	53 (86.9%)	6 (9.8%)	55 (90.2%)
Library records	43 (70.5%)	6 (9.8%)	55 (90.2%)
School Master timetable	53 (86.9%)	8 (13.1%)	53 (86.9%)
Students’ progress records	50 (82.0%)	11 (18.0%)	50 (82.0%)
Principal’s Newsletters	55 (90.1%)	6 (9.8%)	55 (90.2%)
Financial records	60 (98.4%)	9 (14.8%)	52 (85.2%)

Table 2 (b) shows the results of analysis of the documents in the surveyed schools. The results show that majority of the schools had records of school administration register 44 (72%), stores records 53 (86.9%), library records 43 (70.5%), school master timetable 53 (86.9%), students’ progress records 50 (82.0%), principles newsletters 55 (90.1%) and financial records 60 (98.4%). However, the extent of implementation of ICT in these records was very low. The results show that 12 (19.7%) used ICT in School Administration register, 6 (9.8%) in stores records, 6 (9.8%) in library records, 8 (13.1%) in school master timetable, 11 (18.0%) in Students’ progress records, 6 (9.8%) in principals’

newsletters and finally only 9 (14.8%) had implemented ICT in financial records.

The finding confirmed that public secondary schools had very low level of ICT implementation in management of schools records. This study finding supports those of Mugo (2014) who examined extent of use of information systems by education administrators in public secondary schools in Thika West district, Kiambu County. The findings of the study indicate that 61% of the institutions never used computer software. On the other hand, the findings of this study disagree with those of Manduku, Kosgey and Sang (2006) who found that ICT is mostly used for record

storage purposes, preparation of students' report forms for parents, timetabling, communication and secretarial work such as typing examinations and staff meeting minutes in that order.

The results show that only 20 out of the 338 respondents surveyed indicated that public schools in Kajiado had high implementation of ICT in school administration. The findings implied that the proportion of the public schools that had adopted ICT in administration was very low. The results further show that 4 out of 16 principal indicated high ICT implementation, 16 out of 316 teachers indicated high implementation of ICT while all the 6 ICT teachers indicated public schools in Kajiado had low implementation of ICT. The findings show that a good proportion of school principals had adopted ICT use compared to teachers. This could be justified on the basis that principals besides teaching had other responsibilities and duties where use of ICT was mandatory, which forced quite a number of principal to use ICT. The finding supports those of Abuga (2014) who observes that majority of teachers did not use any form of ICT in their schools.

The study shows that high level of education had negative relationship with ICT implementation among public schools. The study findings could imply that respondent with diploma had more hand-ons experience with ICT systems compared to those with higher level of education because of their nature of training. A study by Ayere, Odera and Agak (2010) on E-learning in secondary schools in Kenya reported that a number of teachers in secondary schools had not received any training in ICT use during their formative years at teacher training institutions before joining the profession.

The results from the interview conducted with the County director of Education revealed that although implementation and use of ICT in secondary school

administration had been introduced by the Ministry of Education Science and Technology, many schools in Kajiado County had not started using them. This was because of several factors and challenges in most schools as well as principals personal challenges. The sub-county director gave the same report in Sub-County "1" who said, "Most young principals use ICT more than the older principals". "Most young principals like using ICT in school management compared to their counterpart who are old".

The implication of these results is that, the principal's personal characteristics influences ICT integration. Further, the County Director of Education said that ICT use in the schools was of average level as per the time of the study. However, he indicated that schools are improving day by day by doing whatever is necessary to enhance ICT in the administration of school. On availability of other ICT facilities apart from computers used in management, the Sub-county director of education "2" said that, "In addition to computers, principals had laptops designed for specific teachers; other ICT facilities such as internet, printers, UPSs and projectors though not in all schools"

The researcher further sought to find out whether the number of computers available was adequate for use in school management. The sub-county director of education "1" argued that the computers were not adequate for use in the school. He further said that at times students were forced to share computers due to the inadequacy of resources as well as poor maintenance by the parties concerned. On ICT training among the school members, the Sub-county Director of Education said that there was training and they did so severally. He stated that, principals brought ICT experts to train their teachers on the use of ICT and sponsored teachers to attend ICT trainings out of the school. On the effective used of ICT in administration, the County director of education replied that computer use in administration in schools was moderately effective. He

stated that schools use computers to store important data regarding the students and teachers. The computers also enhanced proper follow-up of payments of school fees by the students, which also is an administrative function.

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

The study concluded that most of the public secondary schools in Kajiado County had not embraced ICT in various areas of administration. The study concluded that only a few schools in Kajiado County had implemented ICT in management of schools records. The implementation of ICT in public schools relied on a number of factors such as age of the teachers, level of education especially knowledge on ICT among other factors. The study however concluded the implementation of ICT could lead to improved efficiency and effectiveness in administration of schools records on both teachers and students.

Recommendations

The study recommends that ICT infrastructure which includes reliable power and modern computers should be

put in place in all the public secondary schools to enhance management of schools using the current technology. Considering the strikes in most of the schools, storing some of the administrative data in the databases prevent losing the data in case of any damage.

In addition, the government should also increase its supply of computers to schools and make it compulsory for all schools to implement ICT in the administrative tasks as well as build computer laboratories in all the schools. This will enable most schools to acquire computers, which can be used for ICT integration in management of the schools.

The government should introduce compulsory computer training for all principals and teachers. This would equip all the principals with ICT skills. Further, the universities should also make it compulsory for all students training as teachers to take a compulsory unit on computer studies. The academic professional training that teachers and principals undergo should be assessed if it is relevantly meeting the threshold to promote the use and integration of ICT in public secondary schools.

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