

Challenges Facing Computers' Implementation on Administration Use in Public Secondary Schools in Nyamira North District, Nyamira County- Kenya

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Abstract: The purpose of this study was to establish the challenges facing computer implementation on administration use in public secondary schools in Nyamira North District. Few public secondary schools have embraced use of computers in their administration. The objectives of this study were to determine distribution and availability of computers for use and how they were utilized; establish the challenges impeding computer implementation. The study utilized descriptive survey design. The researcher used four tools for data collection: principals', HOD's, Bursar's and librarians' questionnaire. The target population was 40 public secondary schools from where a sample of 12 schools was purposively obtained. The data were collected by the researcher by administering the tools himself. The data were coded and edited for completeness. The data analysis was done using SPSS (Statistical Package of Social Sciences). It was found that computers were mainly found in the principals' office. The study also found that only two schools in Nyamira North use computers in accounts offices and the library. It was also found that all management offices were inadequately prepared in use of computer skills. MS Word was found to be the most frequently used software. In the principals' offices, it was found that computers were mainly used for clerical jobs such as typing letters. Bursars used the computers to receive fees, pay vouchers, and prepare budgets and balance sheets. Librarians used computers to issue books, receive books, trace books and locate them on the shelves. Interruptions of electricity and inadequate computer training form biggest limitations. The level of access to internet connectivity is also very poor.

Keywords: computers, challenges, implementation, administration, public secondary school.

I. INTRODUCTION

Background of the study:

The use of computers in the education sector started in 1963. Computers were used to process personnel information, link local, regional and central administration offices. They were also used to analyze data on performance systems (Castels, 1996 & Twinning, 2002). A similar study by Carnoy (2002) found that computers were used to monitor students' drop out and repetition and in keeping records of attendance by teachers and students. Computer utilization in the education sector was borrowed from the business sector where it started in 1960 to mainly process employee information, networking departments and individual firms and customers (Passey, 2002). They were further used for communication between firms and customers through e-mail and website. This brought about the decentralization of services and networking and the improvement of service delivery. (Castel, 1996, Strassman, 1997 & Brashnaham *et al.*, 1999)

Despite the usefulness of computers in educational administration, African public schools were faced with challenges in implementation of ICT due to lack of electricity, poor technology, infrastructure and high cost of access to ICT (Sara *et al.*, 2010). In Ekiti state in Nigeria, a study by Ajayi *et al.*, (2009) on challenges facing adoption of ICT in secondary schools found that irregular power supply, low level of funding and non-availability of computer hardware and software were the major impeding factors. Evidence showed that use of computers in Kenya started in 1983 with the launch of the “Computers in Education Project in Kenya” (CEPAK). The project was subsequently evaluated in 1990. It started by introduction of small number of computers to a school in Nairobi (Wims & Lawler, 2007). It was further reinforced in 2002 by “Computer for Schools Kenya,” a non-profit making organization distributed refurbished computers to schools with the aim of equipping the youth with computer skills to enable compete in the job market (Obura *et al.*, 2007).

Various policies on ICT have since been developed in Kenya. These are e-government, e-learning and teaching and ICT for educational management of information systems (EMIS) (Siele, 2006). Consequently, the Kenya vision 2030 emphasized that students and teachers should be presented with opportunities to develop skills in management, word processing, spread sheets management, e-mail and internet use as well as ICT integration awareness (MoE, 2005). Kenya National Examination Council (KNEC) has made the registration of Kenya Certificate of Primary Education (KCPE) and Kenya Certificate of Secondary Education (KCSE) online. Hence, school administrators are required to use internet for this service (KNEC, 2011). Though these policies have been put in place, a study on computer utilization in Kenyan schools indicated that use of ICT and its related technologies are at their early stages of development. However, there is evidence of development of e-content by K.I.E (Kiptalam, 2010). A study by Menjo, and Boit (2005) in Nandi North District showed that the challenges facing the use of computer in school administration were lack of training, limited hardware and software.

Statement of the problem:

The current era of technology makes computer utilization relevant to the Millennium Development Goals and Kenya’s Vision 2030. To achieve these goals, technology has to be integrated in all relevant sectors. Even though computers are expensive, public schools have been acquiring them for use in administration since 1983 when they were introduced. From the background of the study, it is evident that their use has an impact on school administration and affects productivity. Nyamira North is positioned in rural Kenya with 40 public secondary schools that high student population. Out of the 40 public secondary schools, only 12 had acquired computers for use. However, there is scarce information on the impact of computers on school administration. Therefore, this study investigated the impact of computer use in public secondary school administration in Nyamira North District, Nyamira County, Kenya.

The Purpose of the study:

This study was designed to the challenges facing computer use on administration in public secondary schools in Nyamira North District.

Objectives of the study:

The objectives of this study were to:

- (i) Determine the distribution and availability of computer use by principals, HODs, Bursars and librarians for administrative purposes.
- (ii) Identify challenges facing public secondary schools in the use of computers for administrative purposes.

Research questions:

The research questions of the study were:

- (i) How were computers distributed, and made available for principals, HODs, Bursars and librarian in Nyamira North secondary schools?

- (ii) What were the challenges facing the use of computers in administration of public secondary schools in Nyamira North District?

Significance of the study:

Integration of computers into school administration has major benefits that is improvement of service delivery by producing accurate accounting reports, minimizing losses of books and tracing books on loan and monitoring students and teachers school attendance. However, there are various challenges facing it's use. The findings of this study will benefit school administrators (HOD's, BOG 's, Head teachers') and MOE to plan for the introduction of computers to all public secondary school.

2. LITERATURE REVIEW

The distribution and use of computers for administrative purposes:

Studies by Felton (2006) indicate that competence is a key to the use of computers by principals in monitoring administrative activities. The study further shows that competence in operating a computer and in utilizing software may improve the quality and efficiency of administration in schools. Computer training is therefore crucial if principals are to use ICT effectively in their work.

A case study by Han (2002) on pre-school leaders' practices in the use of ICT in Iran established and found that principals who had positive attitudes towards technology were very effective in introducing these new technologies into their schools. For example, they encouraged their colleagues to have ICT training, equip their schools with sufficient computers and ensure that staffs have access to relevant technology.

A study by Aguyo (2004) in the Rift Valley Province of Kenya, found that computers in secondary schools are only found in the principals' offices and at the secretaries' desks. These showed computers were mainly used for initially administration purposes in public secondary schools.

Use of computers for clerical work:

In Iran, Shari *et al.*, (2010) studied the level of computer use by principals in secondary schools. The study established that principals used computers to generate reports, collect information and retrieve data.

Aduwa-Ogiegbaen and Iyam (2005) noted that computers could serve administration functions by replacing laborious paper work in the filing of records accumulated over a long period. They can further facilitate budgeting and accounting on expenditure and correspondences by reducing paper work.

Similarly, a survey by Pricewater House Coopers (2010) showed that computer was mainly used for administration than for academic work. The study further noted that computers were found in most offices and were used for word processing, mainly for typing letters and preparation of spreadsheets with no utility on data analysis. A similar study by Kidombo (2008) found that computers were used in communication, financial management and keeping of students records. Wabuyele (2006) conducted a study on administrators' perception and experience towards use of computers in Kenyan secondary schools and found that the use of computers was worthwhile while non-users felt left behind technologically by the users. The non-user teachers further felt that they were left behind in terms of training and expressed the need of providing untrained teachers with professional training in ICT.

Use of computer in supervision and implementation of curriculum:

Observations by Tinio (2002) observed in the Philippines, schools administrators showed that computers were used in preparing and updating class schedules, staff administration and communication with persons outside the schools. However a study by Afshar *et al.*,(2010), on computer use by secondary school principals in Iran found that when the age

and administration experience were increased, the level of computer use by principals decreased. This was due to the fact that young and new principals had exposure to computers during their training and had more experience in ICT.

Gbadeyem (2005) noted that computer functions override those of manual typewriters for they can produce accurate and correct examination papers. Computers ensure high speed, consistency, automatic control and networking capacity, hence are suitable for processing examinations and information in general.

In Edo State Nigeria, Ukpebor and Maria (2012) the level of access of internet to high school students was poor despite schools having computer laboratories. Instead students accessed internet from cyber cafes.

The use of computers in library management:

The library is the main centre of interest in a public secondary school. Abdullah *et al.*, (2002) noted that administrators used computers in the library to manage and improve lending of books, support curriculum and access to information and facilitate collaboration and promote equity. This brings improved circulation of resources, extensive reporting, efficient book issue system and increased access to resource collection. Maki (2008) observed that information and communication technology for administration and management of schools in Cyprus could help librarians to build data base in relation to books available in library and information regarding them.

Tee and Abdulla (2005) outlined the features of ICT use in the library which included; web-based OPAC, multimedia and image links as well as remote patron access for renewing and retrieving information and pustakawan. Small libraries are also recommended to use free CDS – ISIS library software developed for UNESCO.

Observations by Ajidahun (2007) show that the inevitability of the application of the information technologies to libraries and information systems had remained incontestable. That is why university libraries in Nigeria were making frantic efforts to automate their operations. Kinyonge, A, (2011) the Kisumu Chief Librarian said that the Kenya Government is networking all public libraries at provincial level to allow for e-library to enable Kenyans obtain integrated information thus enhancing literacy levels.

Administration challenges facing computer use in public secondary schools:

Ulf (2009) found that non-availability of software and hardware were major factors influencing utilization of computers. Kirkwood (2000) observed that if computer training is inadequate or inappropriate, the principals will not be sufficiently confident to make full use of technology. Hence lack of principals' competence and quality training can be barriers to use of ICT. Schiller (2003) noted that principals only utilized word processing software frequently to create document and slides. In another finding, Vision (2030) showed that integrating information and communication technologies in the process of infrastructure services is crucial. The government undertakes to spend 180 million Kenyan shillings in providing solar electricity to 74 public institutions. To enable them have the requisite energy for use by ICT technology. Another study by Ajayi *et al.*, (2009) on challenges facing adoption of ICT in secondary schools in Ekiti state Nigeria found that irregular power supply, low level funding to schools and non-availability of computers were the main factors affecting computer utilization in public secondary schools. Sanya (2001) states that the biggest limitation to the use of computer technology in Kenya public secondary schools system is lack of telephone facilities, interruption of connections to the ICT superhighway, electricity limitation to the urban centers and poor road network making the increased cost of transporting materials unavoidable. A related study in Nandi North District in Kenya by Menjo and Boit (2005), identified lack of adequate training in computer use by teachers and administrators, and limited hardware for administrators as factors hindering computer use in school administration. This study used random sampling technique and descriptive survey design. Odera (2002) found that lack of teacher training in use of computer technology, adequate computer facilities, software and policy on and use of computers in the teaching of traditional subjects like English, Mathematics, Biology, Chemistry, etc contributed to non-computer use in Nyanza Province. This limited the use of computers to teaching and learning basic skills e.g. word processing and spread sheets.

Conceptual framework:

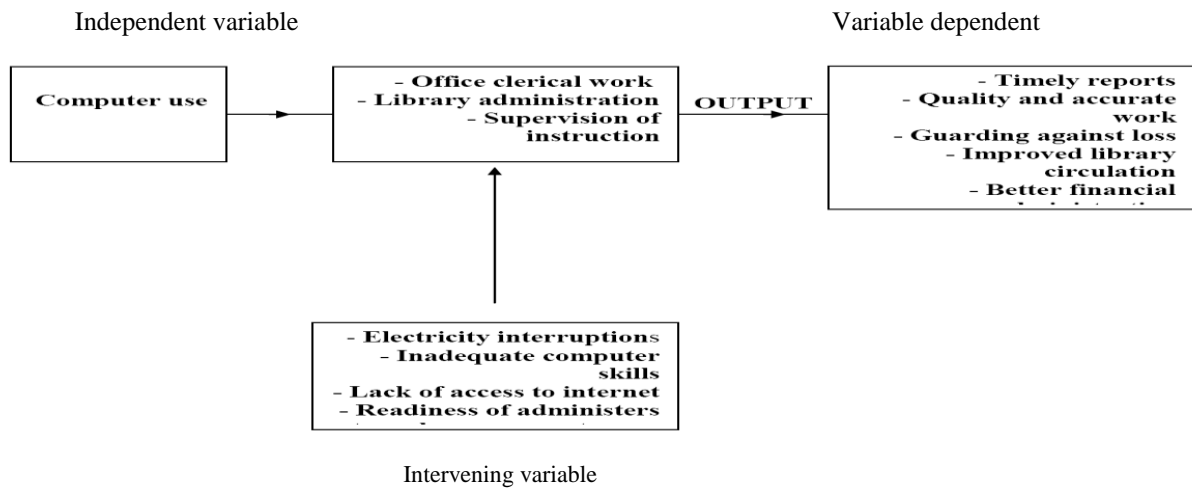


Figure 2.1 Relationship between variables

3. RESEARCH WORK

Research design:

This study utilizes descriptive research survey design in collecting data. This research type design enables the researcher to collect data from a population with ease. The research method was used because it enables the researcher to collect original data that could not be wholly obtained from the large population (Mugenda and Mugenda, 2003).

Area of study:

The study was carried out in all public secondary in Nyamira North District, Nyamira County. Nyamira North District is found in Nyanza region of Western Kenyan within the latitude and longitude, 0⁰ 33' 0" N 34⁰ 53' 59" E.

The climatic conditions of the area comprise the annual minimum, mean temperatures of 10.1⁰C and a maximum, mean temperature of 28.7⁰C. The rainfall is throughout the year with amount ranging between a minimum of 600, to a maximum of 2300mm per annum. Nyamira North District has 40 public secondary schools. This area was chosen because it has a high population of schools and students with a lot of resources but their management is poor, leading to poor academic standards as was observed in the baseline study. If nothing is done, the young people could end up missing their participation in nation building because of the skills required.

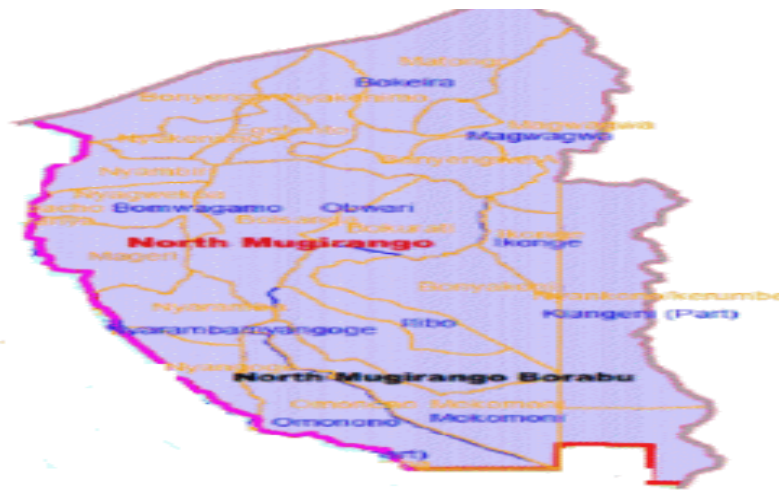


Figure 3.1 Map of Nyamira North study area

Target population:

The population of the study was 280 comprising of 40 principals, 40 bursars, 40 librarians and 160 HODs in the 40 public secondary schools in Nyamira North District.

Sample size and sampling procedures:

The researcher used purposive sampling technique. The technique is a method that allows the researcher to use cases that have the required information with respect to the objectives of the study (Mugenda & Mugenda, 2003). The researcher therefore picked the schools that had embraced the use of computers. It was found that 12 schools had embraced the use of computers in the district. Therefore, a sample of 107 comprising of 12 principals, 12 librarians, 12 bursars and 71 HODS was used in the study.

Instrumentation:

The researcher used the questionnaire as the instrument for data collection. This was chosen because it enabled the researcher to collect data from the respondents within the limited time of the study. It also enabled the researcher to get information that the respondents would feel shy to give in a face to face interaction. A computer was used in processing and analyzing data. Questionnaires were categorized into four categories for; principals, HODs, librarian and bursars.

Principals' questionnaire:

This contained ten items. These questionnaires were administered to all the principals in the sampled schools. It attempted to find information on the areas where computers are used in school administration and the level to which they were used. The questionnaire also sought information on the impact of computers on school administration and the challenges facing it.

HODs' questionnaire:

This questionnaire contained nine questions and sought to find information on the availability of computers in the school. It would account for the area where computers were used in school administration, skills possessed by HODs, impact of using computers and the challenges facing administration use of computers.

Librarians' questionnaire:

This contained seven questions that were administered to and sought information on library automation and if it had had any impact on school library administration. It also sought to find out the soft wares that were used in the library.

Bursars' questionnaire:

The bursar's questionnaire contained 5 questions that sought to find how computers were used in the administration of finances in the school. It also sought to find the computer skills possessed by the bursar's impact of computers in finance administration and the challenges facing bursars in the use of computers.

Data collection procedures:

The researcher then proceeded to the field to take data. The area was divided into two regions; the upper region comprising of 7 schools and the lower region comprising of 5 schools. The researcher self-administered the questionnaires and gave the respondents time to respond to the items in the questionnaire.

4. DATA ANALYSIS

The questionnaires from the respondents were coded, and edited to ensure completeness and consistency and to make them ready for analysis. The principals' questionnaire had 26 coded items, the librarian 10, the HODs' 32, and the bursars' 17. The objective of analyzing the data was to find out the impact of use of computers on administration of secondary schools in Nyamira North District.

The analysis was done using tables of frequencies, line graphs, pie charts, histograms and weighted mean. The percentages of respondents' response to various variables was obtained using SPSS, the Chi-squared test was used to determine if there was a significant difference between users and non-users of computers in school administration.

5. RESULTS AND DISCUSSION

Computer skills possessed by administrators:

The study sought to establish the computer skills possessed by principals, HODs, bursars and librarians in public secondary schools. The results are presented in tables 4.7 to 4.12 respectively.

Table 4.1 Computer skills possessed by principals using computers in secondary school in Nyamira North District Nyamira County

Computer skill	No of Principals	Percentage
Word processing	9	75
MS Excel	4	33.3
MS PowerPoint	2	16.7

The results indicate that 75% of the principals have word processing skills, 33.3% MS Excel and 16.7% MS Power Point. Only 9 out of the 40 principals know word processing and only 4 out of the 40, know how to apply excel spread soft ware. Only 2 are able to use power point.

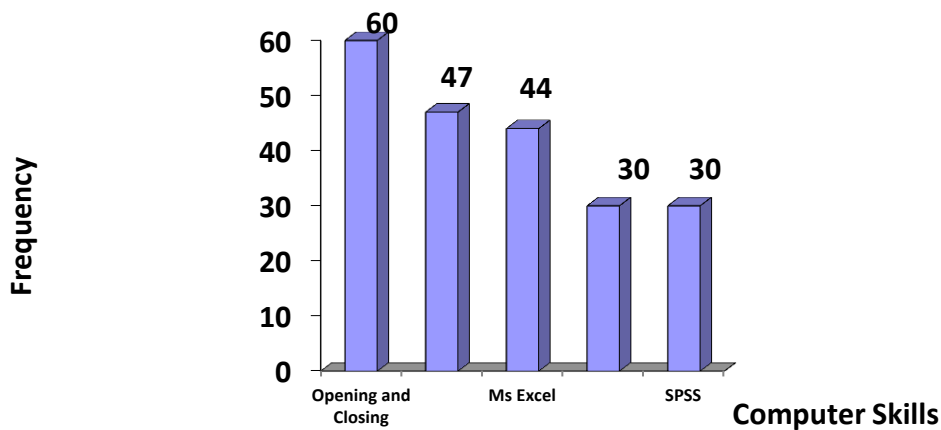


Figure 4.3 Computer skills possessed by head of department using computers in secondary schools in Nyamira North district, Nyamira County

Observations on the abilities of HODs to use computers show that 85.2% (60) of HODs can open and close the computer, 66.7% (47) have Microsoft Word, 61.9% (44) Microsoft Excel, 42.2% (30) Microsoft PowerPoint and 42.2% (30) had SPSS skills respectively (fig 4.3).

Table 4.2 Computer skills possessed by bursars using computers in secondary schools in Nyamira North District, Nyamira County

Computer skill	No of Bursars	Percentage
Opening and closing	4	33.3%
MS Word	4	33.3%
MS Excel	4	33.3%
MS Access	3	25%
SPSS	1	8.3%

The proficiency of bursars in computer skills has 33.3% for opening and closing, Microsoft word and Microsoft excel, while 25% can operate Microsoft access and 8.3% SPSS respectively.

Table 4.3 Showing computer skills possessed by librarians in secondary schools in Nyamira North District, Nyamira County

Computer skill	No of Librarians	Percentage
Opening and closing	4	33.3%
MS Word	4	33.3%
MS Excel	4	33.3%
MS Access	3	25%
SPSS	1	8.3%

A similar trend was exhibited by librarians as for bursars for opening and closing, Microsoft word, Microsoft excel at 33.3% and also for Microsoft access and SPSS at 25% and 8.3% respectively (Table 4.3).

The study revealed that majority of the principals; HODs, bursars and librarians were young.

The researcher therefore argues that since majority of the respondents were young as revealed from the study, they were at a better position to use computers in their schools. The small number that was aged between 50 and 55 years will retire to pave way for young blood when time was due.

The second characteristic of the respondents that was sought was qualification.

The observation made from these results show that most of the administrators in Nyamira North have inadequate computer training. This is because of it's location in the rural area where social amenities like electricity and cyber cafes are lacking. The government therefore needs to improve the provision of electricity to this area. These findings agreed with the findings of Menjo and Boit in Nandi North District (2005), and Odera (2002) in Nyanza Province which found that lack of training in computer by teachers and administrators hindered their utilization in schools. Since there is lack of training, inadequate facilities, lack of interest and practice among principals HODs, bursars and librarians, there is need for training and provision of facilities in order to improve use of computers.

The findings of this study indicate that MS Word is the most used skills with principals i.e. 75%) others included HODs (44%), bursars 33.3% and librarians 33.3%. These levels of computer skills are poor. These findings are in line with Schiller's (2003) on "Perceptions of Australian Principals" on ICT in Australia which found that word processing was the most frequently utilized software among principals, as it is used to create documents and slides. This means that other computer skills necessary for application in school administration have not been exploited. Schools without computers still rely on type writers and cycle styling machines. These provide poor services because they produce untidy paper sand there a lot of time wastage because of the speed of these machines. Unlike computers, a typing error would always necessitate a start of a new document.

Determination of distribution and availability computer use in administrative areas:

The study sought to determine, in objective one, how computers were distributed and availed for use in various administration areas. The study further sought to establish the year computers were introduced into the schools and the software used in the libraries. The results are shown in the Figure 4.4, and Tables 4.10 and 4.11 respectively.

Availability of computer in administration:

The figure below shows how computers are distributed in various administration offices.

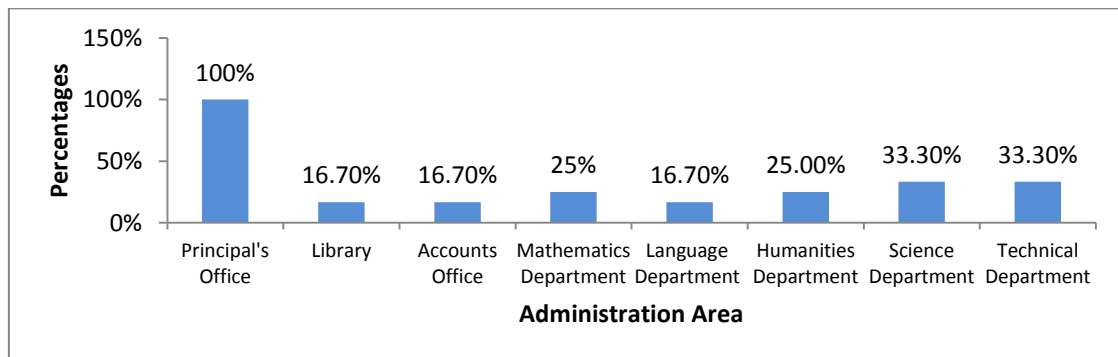


Figure 4.4 Computer presences in administration using computers in secondary schools in Nyamira North District, in Nyamira County

Figure 4.4 indicates that 100% of the schools had computers in the principal's office, 16.7% in the library, 16.7% in accounts office, 25% in mathematics department, 16.7% in languages department, 25% in humanities department, 33.3% in science department and 58.3% in technical department. In each of the 12 secondary schools, at least there was a computer in the principals' office. Further, only 2 schools have computers in the library, 2 in the accounts office, 3 in mathematics department, 2 in languages, 3 in humanities, 4 in science and 7 in technical department.

The use of computers in public secondary schools in Nyamira North:

Information on the years computers started being introduced in public secondary schools in Nyamira North District was sought in order to determine the development of usage of computer in the district.

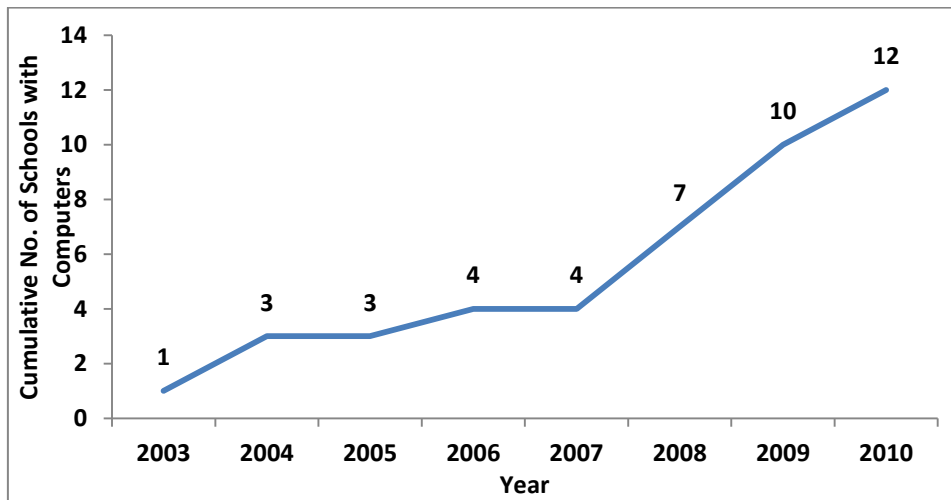


Figure 4.5 Development in the acquisition of computers to secondary schools in Nyamira North District, in Nyamira County.

Figure 4.5 shows that the progressive development of computers was slow between the years 2003 and 2007. Between 2008 and 2010 there was a remarkable increase in the use of computers by the schools. It further shows that in Nyamira North the first school to embrace and utilize computers was in 2003. In 2004 two schools began to use computers where as other schools witnessed use of computers as follows: 2006(1), 2008(3), 2009(3) and 2010(1).

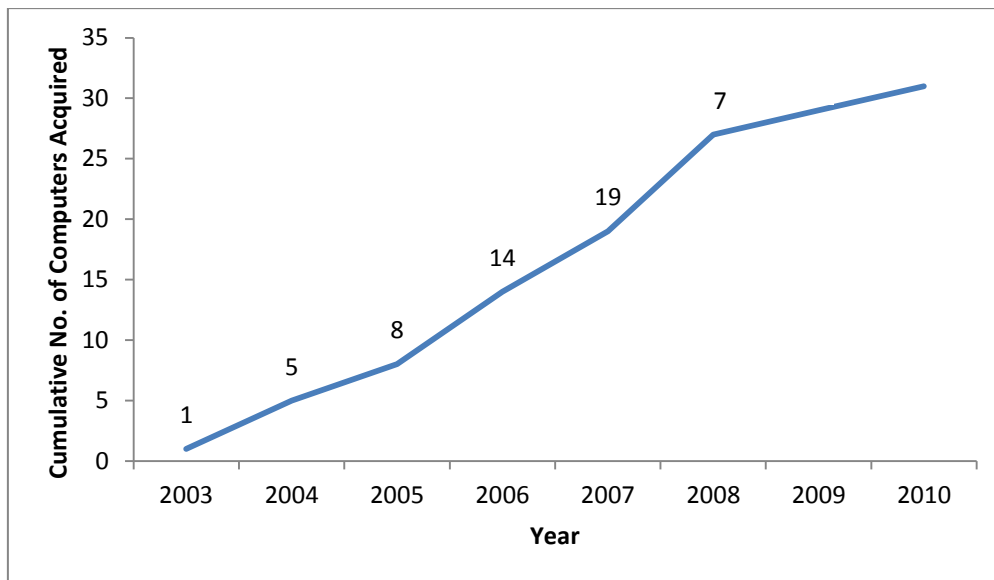


Figure 4.6 Progressive acquisitions of computers in administration by secondary schools in Nyamira North District, Nyamira County.

Since the year 2003, computer use in administration has been on the rise. In 2005 there were 8 computers for administration use in Secondary Schools in Nyamira North. The number has since risen to 31 in the year 2010 (Figure 4.6).

Software used in the libraries:

Information on software used in the libraries that use computers in secondary schools in Nyamira North District, Nyamira County is shown in Table4.10.

Table 4.5 Showing the software used in library in the secondary schools in Nyamira North District, Nyamira County.

Software	No using Software	Percentage
OPAC	0	0
Multimedia	0	0
CDS-ISIS	2	16.7%

The results indicate that 16.7% of the schools use CDS-ISIS software. No other software is used. All school librarians are not aware of OPAC and multimedia library software. Only two schools use CDS-ISIS software.

The presence of computers in principal's offices than other areas was due to the idea of replacing the old manual typewriter as a priority set by the schools principals. This is in line with Gbadeyam (2005) who noted that computer functions override those of manual operations because they could produce accurate and correct examinations papers, have high speed, are consistent, have automatic control, can store large volumes and have a networking capacity making them suitable for processing examination and tests. It is well understood that all these functions in most cases are offered in the principal's office by the secretary. It is also understood that the principals are the financial controllers and school policy implementers hence the disparity in computer distribution in the administration areas.

From figure 4.5, it is shown that 4 schools introduced computers between 2003 and 2006. 8 schools introduced computers between 2008 and 2010. This shows that implementation of computer utilization is very slow in Nyamira North. Sara *et al.*, (2010) indicated that implementation of ICT at Ekti State in Nigeria was due to lack of infrastructure and high cost of access to ICT equipment.

Out of 40 secondary schools, only 12 schools have at least a computer. The slow adoption of computer technology in Nyamira North District is mainly because of ignorance of the impact of computers, lack of electricity and failure to prioritize computer technology in school budgets. Due to the slow pace of computer introduction to schools, the population will remain backward as far as computer technology is concerned. This is probably why there are computers in the principals' offices. It may not be necessarily that the principals themselves use the computer, but first the deployed computers in their offices, just to appear that they are advanced in computer technology.

Another reason why computers were few in other departments could be because of poor and inadequate ICT infrastructure due to the high cost involved (Sara *et al.*, 2010). Probably, the little resources available to the principals are committed to acquiring resources for immediate use in their offices. Ignorance about the usefulness of computers to teachers and other members of the school could have also contributed.

Computer usage in various administration areas:

The study sought to find how computers were used in various areas of administration. The results are given in tables 4.12 to 4.14 respectively for Principals, HODs, bursars and librarians.

Table 4.6 the use of computers by principals in secondary schools in Nyamira North District, in Nyamira County

Computer usage	No of Principals	Percentage
Typing and printing exams	12	100
Processing all timetables	12	100
Processing parents reports	10	83.3
Monitoring teachers and students absence	2	16.7

Table 4.6 indicates that 100% of the principals used computers for typing and printing examinations and processing all timetables. 83.3% use computers for processing examination report forms, and end term and year news reports to parents, and only 16.7% use computers for monitoring teachers and students' absence. It is clear that principals were using computers for typing and printing exams, processing all school timetable and reports to parents. Only a small percentage of 16.7% of the principals (2) used them for monitoring teachers' and students' classroom attendance.

The use of computers in the HODs offices in public secondary schools in Nyamira North District is depicted in Figure 4.5.

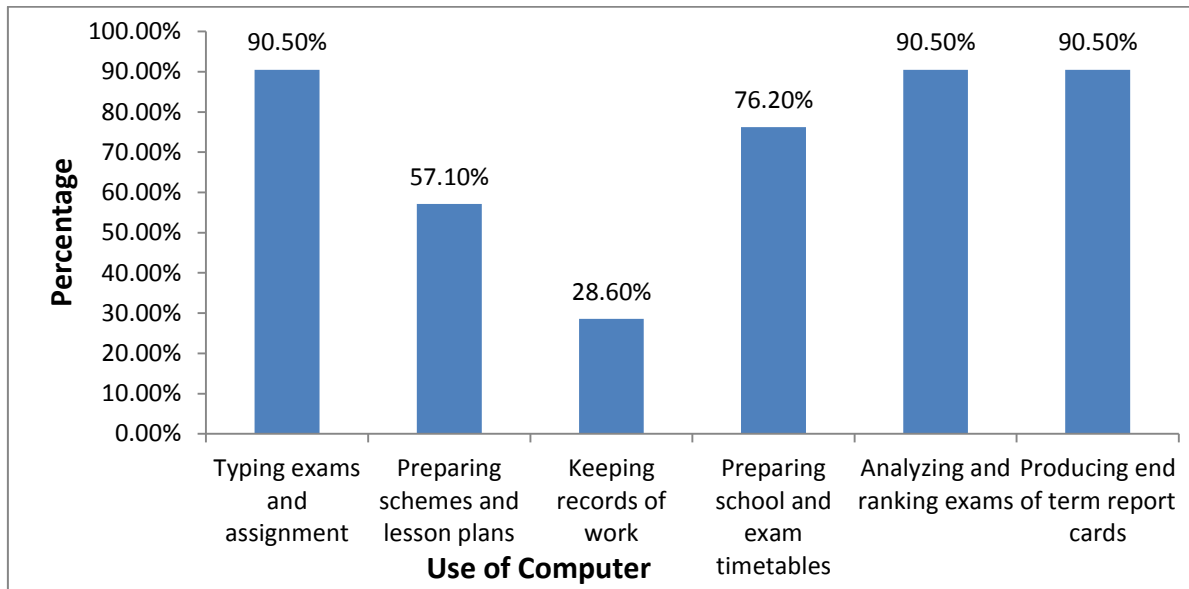


Figure 4.7 The use of computer by heads of department in public secondary schools in Nyamira North District, in Nyamira County

Figure 4.7 indicates that 90.5% of HODs used computers for typing examinations and preparation of lesson notes. 57.1% for preparing schemes of work and lesson plans, 76.2% for preparing school and examination timetables, 28.6% for keeping records of work covered in class, 90.5% for analyzing and ranking examinations and 90.5% for producing end of term report cards. The results show that HODs rarely used computers maximally in their areas of jurisdiction like monitoring teachers who report to class late, indicating those who are absent, and keeping records of work covered.

Table 4.8 Information on the use of computers by the bursars in secondary school in Nyamira North District, in Nyamira County

Computer use	No of Bursars	Percentage
Receiving fees	2	16.7%
Payment of vouchers	2	16.7%
Preparing balance sheet	2	16.7%
Preparing budget	2	16.7%

It is evident that only 2 schools (16.7%) out of the 12 schools use computers in accounting office, while two schools use of computers in book keeping, preparing balance sheet and financial statements (Table 4.12).

Table 4.9 The use of computers by the Librarians in public secondary school in Nyamira North District, in Nyamira County

Computer usage	No of Librarians	Percentage
Tracing books on loan	1	8.3
Loaning and retrieving Books	2	16.7
Locating books on shelves	1	8.3

It is observed that 8.3% of the librarians used computers for tracing books on loan, 16.7% on loaning and retrieving books and 8.3% on locating books on the shelves. There is evidence of low level computer usage in the library since only one school can use computers on tracing books on loan and locating books on the shelves, and loaning and retrieving books.

The data in table 4.6 show that principals used computers mainly for typing and printing examinations, processing all timetables and processing parents' reports. A very small fraction used computers for monitoring teachers and student's absence. The main reason why computers are used for typing and printing examinations in this study could be because they produce accurate and large information within the shortest time (Ajayi, 2009). Computer reduces time wastage and improves clarity of output.

Many of the schools visited and which had computers had large populations of students underscoring computer utilization. Another reason for using computers for processing parents' reports and timetables as indicated in these findings could be due to their quick and easier ways of performing increased workload with greater efficiency. This study shows that the level of computer use by the principals in administration is low. This is contrary to Menjo and Boit (2005) whose study found that inadequate training hindered computer use in administration. Also lack of computers due to lack of financial resources hindered use of computers in Nyamira North District Secondary Schools.

The data in Table 4.8 indicated that computers can be used to receive fees, pay vouchers, prepare balance sheets and prepare budgets. These findings are similar to those in the library. By using computers for tracing books, loaning, retrieving, and locating books on the shelves, will assist the library administrators to serve a large number of students within the shortest time thereby improving efficiency and also reduce the number of employees thus reducing costs. as reported by Abdullah *et al.*, (2005). Few schools have embraced computer use in the library. This is attributed to non-availability of software and hardware has also found elsewhere by (Fredrickson, 2009). Ajidahun (2007) found that the inevitability of the application of the information technologies to libraries and information systems had remained incontestable. This was the reason why universities in Nigeria were making frantic efforts to automate their operations. It remains elusive then that the secondary schools in this study must embrace use of computers in the library in order to improve service delivery. Lack of electricity for use in schools, require investment in other energy sources like solar, generator and wind power by the community.

The findings of the study in Table 4.6 shows that the administrators used computers for typing and printing examinations, producing timetables and parents reports. In the Philippines as observed by Tinio (2002), school administrators used computers for preparing and updating class schedules, staff administration and communicating with persons outside the school. It was clear that computer use by administrators in Nyamira North was simply for clerical work. This could mainly be due to inadequate computer skills and lack of computer hardware and software as indicated by the study. Likewise, Heads of Departments used computers mainly for typing and printing examinations, analyzing and ranking examinations, and producing end of term report cards. This was similar to the computer use in Karnatak in India, where they were used more in administration than in academics; for word processing such as typing principal's letters. Even the spreadsheets were used as word processing tools with no utility on data analysis as shown by Price water House Coopers 2010 survey. Computer should be used more in teaching and other administration areas, than the principal's office.

This is a departure from Tanui, Kibos, Walaba and Nasioma (2008) who found that computers assisted teachers to prepare worthy lessons with adequate class activities and learning aids. Aduwa-ogisgbaen and Iyam (2005) by replacing laborious exercise of filing papers in the cabinet and shelves where records accumulate over a long period of time. Computers worlds also be used for budgeting, accounting for expenditure and writing correspondences hence reducing paper work. In Nyamira North, only two secondary schools apply computer for the above functions.

. According to Maki (2008) this could carry the above functions by helping librarians to build data base in relation to books available in the library and information regarding those books as is done in the Cyprus schools in the Mediterranean Sea. Use of computers in the library can further assist the users in searching for information by just typing few key words pertinent to the research topic into a computer and the researcher can receive extensive list of related sources instead of the exercise of searching by hand through the library's card catalogue or periodical (Aduwa-ogiegbaen and Iyam, 2005). This was not observed in Nyamira North District. However, if implemented it will enhance the student's capabilities and improve examination performance.

In Nyamira North District, computers are used in accounting office in only two schools. Ajayi (2009) said that computers are accurate and store and disseminate large information within the shortest time possible. This quality of computers fit the accounting department since accuracy in finances is highly required. This shorten the time of payment of salaries, make it efficient and the filling of returns its quick..

Challenges facing use of computers in administration:

Figure 4.8 below shows the challenges that face the use of computers in public school administration as given by various administrators.

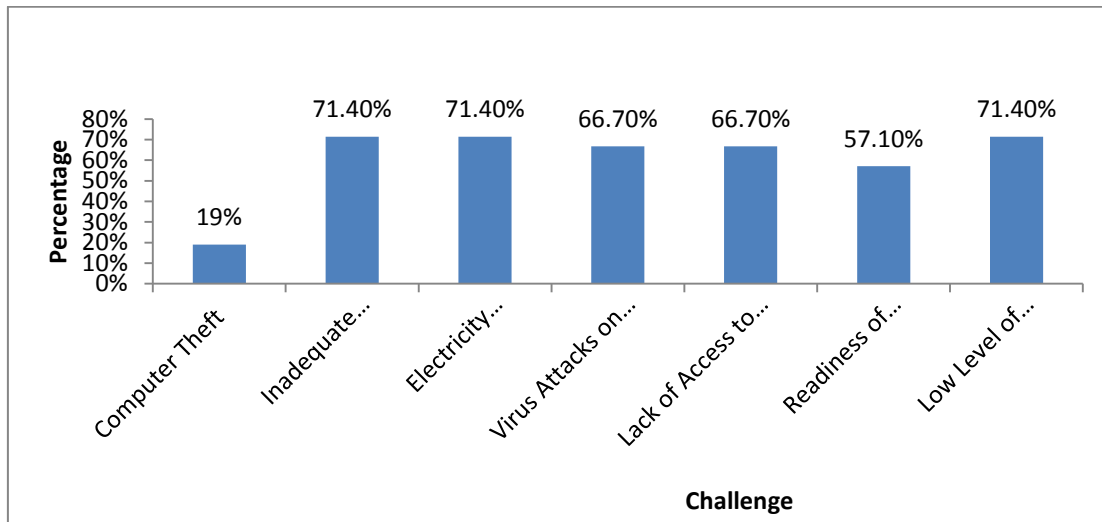


Figure 4.8 Challenges facing the use of computers in secondary schools in Nyamira North District, Nyamira County.

The results show that 19% cited theft of computers was a challenge, 71.4% inadequate computer training, and 71.4% electric interruptions, while 66.7% mentioned poor access to internet, 57.1% poor response of administrators to embrace computer usage, and 71.4% cited the low level computer maintenance (figure 4.8).

Electricity interruptions and inadequate computer training form the greatest challenges to computer utilization by public secondary schools. The study agrees with Ajayi *et al.*, (2009) who said that irregular power supply, low level funding to schools and non-availability of computers affected computer utilization in public secondary schools. It was observed that computer technology was a new idea that had not sank deep into the minds of the people. On the other hand, readiness of administrators to embrace computer use was rated at 57.1% as a challenge. This problem could have been attributed to the individual's attitude toward ICT as having hindered the computer success (Antoniv, 2009). The administrators could have a negative attitude to computer use especially those who did not advocate transparency in financial accounting. Another reason could be due to lack of competence and quality training of the administrators on computers on the use of ICT (Kirkwood, 2000). The government should develop a policy framework for training all educators on computers and ICT applications in schools.

Interruptions of electricity and inadequate computer training form biggest limitations to the success of computer use in secondary schools (Sanya, 2001 & Menjo and Boit, 2005). This study has shown that these posed challenges to the administrators in their quest to use computers. This was why the Kenya Government in its Vision 2030 came up with an ambitious plan to provide solar electricity to 74 public institutions at a cost of 180 million shillings. In Nyamira North, the level of access to internet connectivity is very poor. This is because the signal from the server is low. A very large population was not served by the internet because of lack of infrastructure due to high costs of equipment. This agrees with Ukepebor and Maria (2012) who found out that at Edo State in Nigeria, the level of access of internet to high school students was poor despite schools having had computer laboratories. Ekti State, Nigeria. The government through the communication commission of Kenya (CCK) should embark on ways of providing internet to schools in Nyamira North District in order to save them from computer technology backwardness.

6. CONCLUSION

On the skills that were possessed by the four administrators, it was found that most of the principals (75%) and HODs (66.7%) frequently used MS Word. While a low percentage of them used MS Excel and MS PowerPoint. The librarians and bursars indicated inadequate computer skills with only 25% and 8.3% able to apply MS Excel and MS Access respectively. In general school administrators were inadequately prepared in computer application skills in Nyamira North District.

However, it was glaringly evident that these administrators had low knowledge on computer usage skills, with a majority only able to open and close a computer. The application skills such as Ms Word, Ms Excel, Power point and SPSS, which make Computer usage interesting, were found to be ill equipped in most of the administrators.

The schools, notwithstanding were poorly equipped in terms of computers. Some of the schools had only one computer that was found in the principal's office, leaving the HODs, bursars and librarians with none for use. Interestingly, the computers in the principal's offices were being used by the secretaries only. The results indicated that there was low level computer application in the libraries, bursars' and some HODs' offices. In addition, the schools lacked appropriate management software for use in the library, examinations and accounts administration areas.

At least a computer was found in the principal's offices in the sampled schools. However, other administration areas showed poor distribution of computers, with only two schools in the whole district having embraced use of computers in the library and accounting office

The poor computer performance in the district was caused by a number of factors. Inadequate electric power supply was one such factor. Quite a number of schools were not served by the main power line, making use of computers a mere dream. Nyamira North is located in a remote area with a weak or poor internet signal. Some parts of the district are out of the server area making internet access impossible.

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