Integration of Information Communication and Technology (ICT) in Education in Modern Africa: Is it a Blessing or Curse? The Kenyan Apprehensions of the Innovation in Education

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ABSTRACT

Information Communication and Technology (ICT) is currently the in-thing development in administration of education worldwide. This innovation in education has not only taken the world by storm but also revolutionarised administration of education in modern world. The urge to integrate this technology in education has been necessitated by the emerging globalization process. The excitement as well as the increased interest in integrating this innovation in education in modern Africa and especially Kenya is overwhelming. However, there are some serious apprehensions concerning this process of integrating ICT in administration of education in Africa and more so Kenya. Hence the need to determine whether this development is a blessing or curse for the African continent and especially modern Kenya. Consequently, this paper is designed to examine some of the challenges of integrating ICT in administration of education in modern Kenya. The main focus is on the availability of infrastructure, expertise, investment for the innovation, the existing education structures and the existing traditions and practices of managing education in this country. These are the possible potential threats to this highly anticipated process in education. Hence contributing to its being considered a cure not only to Kenya but also the African continent.

Key words: Integration of Information Communication and Technology (ICT), Education, Modern Africa, Blessing, Curse

INTRODUCTION

Information communication and Technology (ICT) is currently the in-thing development in administration of education in modern world. In fact, it is one of the emerging issues in education and society today (Kafu, 2010). This innovation in education has not only taken the world by storm but also revolutionarised the management of education world over. The urge to integrate this technology in education has been necessitated by the emerging issues in education such as like the massification in education and globalisation process in education (UNESCO, 2000). The fact that this development is an innovation, new thing or idea in education, has created excitement as well as great interest in adapting it to the administration of education and adopting it in education in modern Africa and especially Kenya.

The invention, development and eventual adoption of Information Communication and Technology (ICT) to the administration of education has given hope to all stake-holders in education in management of emerging issues. This technology is increasingly being regarded as a potential tool for managing the emerging issues in education today (Lim & Khine, 2006). Among the current emerging issues in education are large classes, teacher shortage in education systems, development and maintenance of new sophisticated generations of both School and Education records and the required intergration (harmonisation) of knowledge in modern school education curriculum (Van Zant,2002). In

other words, ICT is increasingly being viewed as the panseau of the complex developments in education not only in modern africa but the whole world. The issues raised in management of modern education and the adopted strategies of managing these issues in Southern (Latin) America especially in Brazil are similar to those observed and undertaken in modern Africa and more so in Kenya (Meneses, 2011).

However, despite the initial excitement about the introduction of ICT and the increased interest to embrace it in the administration of education, there are some serious apprehensions concerning its impact on the established education practices in modern Africa (Kafu,2016). This is the basis for designing and presenting this paper on the role of ICT in management of education in this continent today and especially in Kenya. Specifically, this article focuses on the blessings (advantages, benefits and values) of adopting and/or mainstreaming Information Communication and Technology (ICT) in administration of education and what is dubbed as the curses (challenges) of adopting and/or mainstreaming this technology in the administration of education in modern africa and especially in Kenya. The main areas of interest in this discussion include the preparedness of the modern African society for this technology/innovation; the availability of the necessary structures for the technology, infrastructure, expertise and investments in this essential innovation in education and finally, the paper examines also the potential challenges of adopting this technology for management of education in modern africa. Essentially the discussion in this paper is meant to determine the viability of ICT as an innovation in administration of education in Africa (Apeanti, 2016). Generally, there is potential for mainstreaming/ adopting ICT in education (Hook, 2008; BECTA, 2003) but also possible threats (challenges/ barriers) to attempts to introduce this technology in education in modern Africa and especially in Kenya.

The approach in conducting the discussion in this article/ paper is to provide a brief explanation of the concept of Information Communication and Technology (ICT) as an emerging issue as well as technology in education this century (Teo, Lee & Chai, 2007), the role of this technology in the administration of education in modern Africa and especially in Kenya, the requirements for efficient integration/mainstreaming/adoption of the technology in education in modern Kenya, the potential of the integration of this technology in management of education in this country, the anticipated threats to adoption of ICT in Kenyan education system and then the proposals (best strategies/practices) of how best to manage the ICT integration process in Kenyan education system.

Information Communication and Technology (ICT) Innovation in Modern Education in Kenya

Information Communication and Technology (ICT) is one of the technological marvels of the twentieth (20^{th} C) century. In fact, it is the most prominent product of the technological advancements of this century (Davis, 1989; Kafu, 1976). Information Communication and Technology was born out of computer technologies of the seventies and is digital technology by nature (Ellul, 1964). This technology was basically designed and developed as a revolution in communication systems which is largely virtual mode of interaction. It was meant to facilitate social operations including education.

In effect, ICT is one of the emerging issues in education and specifically Teacher education programme pointed out by Kafu (2010) out in his discussion of Teacher Education in Kenya; The Emerging issues. Besides, this development is an innovation in education in the

sense that it is a new development or novel idea that has generated new perspectives in administration of education in modern Africa. The educational area where this technology and/or innovation has had the greatest impact is the instructional technology (Kafu, 1976). New models of instructional technologies have emerged for example on-line learning, interactive learning, open and Distance learning (ODL) and virtual learning (VL) models. All these developments are revolutionary in nature and have created totally new perspectives in the manner education administration should be conducted in modern world including Kenya (BECTA, 2003).

Therefore, Information Communication and Technology (ICT) is functionally, a facility and/or innovation that is intended to facilitate social operations in the society. So far, the impact of this technology on the modern society and especially education is being felt across the world (U.S Department of Education, 2016). As Davis (1989) and Kafu (1976) predicted, advancements in technology will always be wide spread. But technological advancements normally came with their own unique challenges in the society generally and education specifically. Not withstanding these expectations, ICT has demonstrably played significant role in the management of modern life especially education as a social issue. The section of this article that follows discusses the role of ICT in administration of education in modern Kenya.

The role of Information Communication and Technology in the Administration of Education in Modern Kenya

This discussion focuses on what is expected of Information Communication and Technology (ICT) in the management of life in modern society and especially education. The main expectation of this technology by the society in general and education in particular is to bring about transformations in their operations (Kimani et al, 2008). That is some changes in the society and its perception of situations in general. In this respect, the role of information communication and technology (ICT) in education can be said to include the following aspects.

1. Introduction and development of new perspectives in the administration of the education such as the modes of conducting teaching and training programmes in education curriculum, managing the current large classes in educational institutions and the development and maintenance of new generations of education and school records. ICT is the most appropriate/ suitable technology for facilitating the development of these new processes in education.
2. Promotion of efficiency and effectiveness in performance of duties, responsibilities and work in education setting. ICT has all the potential required to develop and enhance quality in the performance of educational activities across all levels of education and/or education curricula.
3. Universalisation/ globalisation of education administrations ICT innovation normally operates across cultures. Therefore, integration/mainstreaming of this technology in education does introduce and create universal/ global character in the administration of education. Hence promoting international understanding, peace and justice that have remained elusive.
4. Facilitation of integration of knowledge in the education curriculum. This is because information communication and Technology (ICT) is a versatile technology that applies across all the areas of education. It embraces the needs of

all components of education. This adds value to the art of education administration in the society.

5. Provision of the basis/ formulation of development and introduction of new models of administration of education such as on-line, interactive, open and distance learning modes in education (DETA, 2016). This development is likely to promote quality and virtual learning (VL) of the administered education in modern Kenya.
6. ICT is an effective tool for modernising the administration of education in Kenya. Kanwarn (2011) asserts that integration of new technologies is the most reliable approach for transforming education in Sub-Saharan Africa. ICT in particular is designed to enable stake-holders in education to share experiences, technologies and practices in education. This is why DETA (2016) and Meon (2000) advocate for and advise all countries in Sub-Saharan region to embrace ICT in education for accelerated development.
7. The impact of widespread use of ICT innovation in education worldwide is well established (Castellas, 2009; Laurindo, 2008). Studies conducted in Brazil in the integration of Information Communication and Technology ICT in education indicated that this technology was instrumental in spreading literacy around the country. Therefore, integration of ICT in education is the most reliable tool to facilitate access to education by all in the society (Jomtien, 1990).

But for integration of Information Communication and Technology in education to succeed, there has to be an enabling environment. This is discussed as the requirements for integration/ mainstreaming of ICT in education in the section that follows.

The Requirements for Efficient/Integration/Mainstreaming of ICT in Education in Modern Kenya

The requirements for integration/mainstreaming of ICT in education in modern Kenya are critical for efficiently conducting this process. These are the basis for developing the required enabling environment for conducting the process of ICT intergration/mainstreaming in education in modern Africa. The following are some of the factors to consider when conducting this process of ICT integration in education, most of which have been cited by several other authorities drawn from other parts of the world (Kapcha, 2012).

1. Preparedness of the society for integration of ICT in education. This phase of planning to integrate/mainstream any new technology in education is crucial. The society needs to have proper and adequate information on this project so as to be able to support it. This was the major challenge in Brazil when the One Laptop per Child (OLPC) or PROUCA (Programme Un Computador por Aluno) was launched in 2011 (Meneses, 2011). The main barrier was the negative attitude of the society towards the project occasioned by misconception of the programme by the society. This is likely to be the same challenge to attempts to intergrate Information Communication and Technology (ICT)in Kenyan education system. ICT is a totally new development in Kenya. Its concept is unclear to the large portion of Kenyan society let alone education is unknown. Therefore, the Kenyan people are likely to receive this innovation with alot of comprehensions. Unless proper planning and preparation are made, the whole project is bound to fail.
2. Availability of relevant structures to provide the frame-work for conducting the ICT integration process in education. Key in this process is the commitment of the

state/government through the development and administration of well articulated policy frame-work to govern the administration of integration of computer-related technologies in education. This was found to be a major barrier in Malaysia when introducing the use of ICT in Mathematics teaching (Keong, Horan and Danie, 2005). Therefore, there is need to put in place relevant policy frame-work to govern the process of ICT integration in education in modern Kenya if the set goal is to be achieved. In addition, there should be unequivocal government support/commitment for this programme. In other words, the Kenya government should commit itself to this programme of ICT integration/mainstreaming in education by developing appropriate policy frame-work and information systems structures and other facilitations like finance, expertise and the required relevant training programmes for school teachers as support for the project.

3. Availability of infrastructure including buildings, network cover, communication systems and policy frame-work mainly connectivity and power. These are critical items for the success of ICT integration in education programmes. There must be a good out-lay of the required infrastructure before mounting/launching the programme (Apeanti, 2016). This is the problem that has bedevilled the Lapsset project in Kenya (Nation, Media Group, 2018). The Kenyan government must develop and customise relevant infrastructure to the needs of the Kenyan society. The designed and developed infrastructure should be based on the established facts from the conducted needs assessment/situational analysis into the existing status infrastructure in Kenya. This is the only guarantee that these infrastructure are relevant and performing. Otherwise the developed and adopted infrastructure will become additional list of relics in abandoned facilities in the history of education in Kenya.
4. Need for relevant expertise to drive/manage the ICT integration in education. Generally, this innovation in education is both skill-intensive and resource-intensive in nature undertaking that requires personnel with specialized expertise in both education and computer technologies/studies. Besides, the programme calls for putting in place training programmes for the major stake-holders in education to acquaint them with the needs of the innovation (Can and Cagiltay, 2006; Lau and Sim, 2008). Kenya needs to prepare itself for the development and sustenance of the critical expertise required for the programme. This will facilitate the acquisition of the relevant knowledge and proper attitudes by the main players in the ICT integration in education programme in modern Kenya as an innovation. This can be realised through either pre-service, in –service training programmes or capacity building programmes conducted for school teachers and education administrators so as to equip them with the necessary competencies of integrating ICT in education in Kenya. Fail to do this may spell do for the highly anticipated project.
5. Technological Pedagogical Content as an innovation Knowledge (TPACK). That is the required knowledge of ICT as an innovation in education, how to use/harness it in education and the ability to manage this technology in administration of education in modern Kenya. This problem was noted by Wahyudi (2008) in his study of the use of ICT to improve the teaching and learning of Mathematics in Malaysia. Kenya needs to draw lessons from this experience and fill in the missing knowledge and technical gaps.
6. Another requirement that needs to be addressed with regard to ICT integration in education in Kenya are the cultural factors. ICT is a totally new or strange technology in Kenya that brings with it several new perspectives with regard to

administration of education and the Kenyan society. Generally, culture usually determines the attitudes of people towards whatever ventures are undertaken. ICT is supposed to be introduced in the Kenyan education system which is based on a totally new administrative systems paradigm. Therefore, there is need to align the ICT integration programme in education to the existing educational principles and practice in modern Kenya as well as the general culture of the Kenyan society.

7. All the above discussed requirements involve cost and/or expenses. This means that apart from the governments/states commitment to development of relevant structures for management of ICT integration in education programme, there is need for the Kenyan government to invest (funding, expertise, technical and logistical support out-lays) adequately in the programme. But this requires proper planning and management strategies for the programme including ensuring that the economy is performing well to generate the required revenue.

It is only when the above discussed requirements are efficiently managed that the potential of ICT integration in the Kenyan education system can be realized. The expected potential of this programme in Kenyan education is briefly discussed in the following section.

The Potential of the ICT Integration Programme in Education in Kenya

This refers to the value, benefits and gains accruing from the process of ICT integration/mainstreaming in education in modern Kenya. Studies conducted in ICT integration in education worldwide have established that the process has a promising future in the administration of education (ICT Consulting Services Ltd, 2016; U.S. Department of Education, 2016; Davis 1989; BECTA, 2003; DETA Conference, 2016). From these studies emerge a catalogue of the anticipated potential of ICT integration programme in education. Among the noted potential of this innovation in education include

- Promotion of the quality in administration of education in the society. This is realised through improved communication systems, development and use of innovative education and school records and developing open communications between and among stake-holders in education. This innovation also facilitates adoption of new models of administering education in the country.
- Digital technology/ ICT is likely to promote efficiency of Stake-holders in education to manage emerging issues in education such as large classes, students indiscipline including school attendance and the development of co-operation between the general society and the educational institutions. Digital technologies including ICT integration in education are crucial facilitators in dealing with these issues in all neducational setting.
- Generally digital technologies are expected to support educational attainment in literacy, numeracy and help in closing the gaps in educational opportunities in the society. Kenya, like many other countries in Sub-Saharan africa aims at achieving universal literacy and numeracy through its 2008 – 2030 commitments to Millennium Goals (GoK 2008) and the Jomtien Declaration of Education For All (Jomtein, 1990).
- Digital technologies and especially ICT integration in education in modern Kenya is supposed to provide the required assistance in dealing with the emerging challenges in education, the strange emerging learner character in modern education and the worrying quality of the administered Teacher Preparation programme in modern Kenya. Digital technologies are likely to provide opportunities for players in Kenyan education system to share technologies,

experiences and knowledge as well as practices concerning these developments in education.

- There is also promising hope that digital technologies including ICT will facilitate the internationalisation/globalisation of the Kenyan education system, Teaching profession and school teachers. In other words, ICT integration in Kenyan education system will provide opportunities for development of the international/ global culture in the Kenyan society. Hence facilitating the development and support for international citizenship, justice and peace in the Kenyan society.
- Digital technologies promise to bring about reduction in the existing inequalities and promotion of inclusion in education as advocated for by the Jamtien Declaration (1990). This is possible because digital technologies offer equal opportunities to all stake-holders in education.
- Of greater value in adopting the ICT integration innovation in education in modern Kenya is the hope that it will facilitate the preparation of graduates of the practiced education system to transit in employment opportunities with ease. This is because the use of this technology in education administration will be a useful tool in building and equipping the education graduates with pre-requisite competencies for employability. The work of Hook (2008), BECTA (2003) aptly lend themselves to this argument concerning equipment, tools and resources that form modern educational technology. Examples of the adopted digital technologies for use in education in Kenya include computers, internet, e-mails, mobile phones, instructional Television (ITV)and other related facilitiesa.Thesedevelopments have revolutionarised the administration of education.
- Further, there is promising evidence that digital technologies, and especially ICT, have the potential to provide assistance in overcoming the challenges facing some learners; improvements in employability skills and knowledge of career pathways; as well as time efficiencies for teachers (U.S. Department of Education, 2016).

The foregoing discussion of ICT integration in education in Kenya paints a rosy picture of this innovation in education. Apparently ICT technology has great potential for administration of education in this country. Hence the initial regard of ICT integration in education in Kenyan education as a blessing for the country. However, deep examination of this impact of this innovation on the development and administration of education in this country and elsewhere in the world, provides a different picture of the innovation. There is conclusive evidence that this digital technology poses serious threats/challenges not only to efficient administration of education in Kenya but also to the very social fabrics of the Kenyan society. This concern and/or apprehensions are discussed in the section of the paper that follows.

The Threats/ Challenges of ICT integration in Kenyan Education System

As Bold (1964) said, every technological development has its own pros and cons and ICT is exception. Already there are emerging issues regarding the adoption of the new digital technologies like mobile phones and internet and e-mails. The incidents concerning cheating in the national examinations in the country have raised apprehensions of these technological innovations including ICT technology. These malpractices are tainting the image of ICT as promising innovation in education. Hence, ICT integration in education in this country poses serious social and educational fears. These fears raise the concern as to whether ICT integration in Kenyan education system is not a curse at all! The following are some of considered threats/challenges of embracing ICT integration programme in Kenyan education that are promising its role in administration of education.

Education and more so Teacher education has traditionally been considered the culture of the society (Kafu, 2017). Normally this process is a reflection, mirror and/or expression of the culture of the society in which it is developed and practiced. Consequently, the first apprehension of the ICT innovation in Kenyan education system is that the programme may be used as a vehicle/channel of introducing/ embracing foreign culture from other parts of the world and especially countries of origin of the adopted digital technologies. Hence adulterating the established Kenyan culture. In other words mainstreaming ICT technology in Kenyan education may corrupt the Kenyan culture by introducing unacceptable malpractices.

The second apprehension concerning ICT integration as an innovation in education in modern Kenya has to do with the quality of the designed and administered education. There is the argument that the use of ICT technology in education may compromise the development and enhancement of concept formation as a critical aspect in learners. This is because this technology as are other digital technologies does not provide for development of concept formation as a critical aspect of learning which is basis for development of creativity and innovations. This is because ICT technology emphasised, imitative learning. Hence undermining Kenya's opportunity to join other technologically advanced nations in the world in the field of critical thinking which is the precursor to technological development in the society.

The third apprehension of ICT integration in education in modern Kenya is the concern that this innovation may promote corruption/malpractices in the society. The latter development may affect the administration of institutional and national examinations in the country and, most likely, enhance the skilful thieving/stealing in Banking industry. This is because of the widespread preparation of the society in sophisticated technical skills like 'cracking/hacking' through the ICT integration in education programme without providing adequate security features in the conduct of the project.

The fourth apprehension concerns the cost of developing and administering the ICT integration in education as an innovation in modern Kenya. This programme is an expensive venture for the country which is currently reeling under heavy revenue burden occasioned by foreign debts. Finance, expertise and technical and logistical support are the major pillars required for efficient management of the ICT integration as an innovation in education programme. Consequently, there is need for adequate investment in this project for development of relevant infrastructure, expertise and technical and logistical facilities. Presently, Kenya can ill-afford to bear the bill of carrying out these costly projects and other related out-lays for ICT integration in education programme in the country.

In effect, this section of the discussion is a critique of the theme of the paper. ICT technology is lauded worldwide for providing immense socio-economic advantages to nations including the reduction of employment burdens and fast-tracking development. However, in the case of the Kenyan education sector, the adoption of ICT integration in education may be a curse to the already saturated employment rates in this sector. Further, the situation of chaotic scenes in the country is likely to be worsened by adoption of ICT integration in education Currently, there are several thousands of well prepared school teachers out of employment. Therefore, introduction and adoption of ICT integration in education would worsen the situation. In any case, studies in education indicate that Teaching machines can not effectively replace human beings in this industry (Kafu, 1976).

Besides, today Kenya is one of the African countries experiencing the high level of sophisticated corruption (Citizen Publication, 2017). Therefore, the widespread teaching, training and use of ICT technology in education will only exacerbated this situation given that there are no adequate provisions for checks and balances in the management of this technology in the country. Consequently, the adoption of this technology in administration of education in modern Africa provides opportunity for heightening security risks in the country. Already, this worry is demonstrated in the increased rates of current unexplained reported corruption and murders cases in the country associated with ICT technologies like mobile phones (Nation Media Group, 2018. The origins of these incidents are traced to the use of modern sophisticated communication technologies

Further, management of some sensitive aspects of education is bound to be a nightmare for the administrators of this sector of the economy. The Ministry of Education has been and is still grappling with incessant cheating waves in national examinations since 2014. Investigations have established that ICT is at the centre of this vice which is the basis of the runaway corruption in the country.

All these arguments coupled with the fear of the possibility of ICT integration in education corrupting the established African Kenyan culture justifies the assertion that the development of this technology is a curse and NOT a blessing for modern Africa and more so Kenya. This is likely to upset the existing traditions and cultural practices in Kenyan education and society.

RECOMMENDATIONS

The issue under discussion is one of the most current emerging issues in education and society in the world (Kafu, 2010). It is the main basis for developing and accelerating sophistication in the society as well as its transformation. Mainstreaming issues like ICT, gender and development in education are now the fashion/trend in modern education not only in Kenya but worldwide (Kafu, 2018 Ssenteza-Kajj, 1969). In view of the importance of this (ICT integration) development in Kenyan education system, this paper recommends the following actions.

i. The Kenyan government should design and conduct needs assessment in the adoption of ICT integration in education to establish the existing gaps in the preparedness of the country in adopting the innovation. This action will give assurance of smooth launching of the programme the determination of the attitudes of the Kenyan people towards this project and the ability and capacity of the government to administer the programme (Alkahtani, 2017; Armah &Apeanti, 2012).
ii. There is need for preparedness of the country for the adoption of ICT integration in education innovation in modern Kenya. As Kafu (1994) points out, any innovation to succeed, it must have the support of the general public for the purpose of mobilising the required resources. In the case of ICT integration in education project, the Kenya government should prepare all the main-stake-holders (general public, the education sector and other interested parties) for this innovation. This preparation may involve conducting civic education concerning the intended introduction of the innovation, mounting and conducting relevant training programmes for those directly involved in the innovation (the education sector) as a strategy for capacity-building and

mobilisation of the required resources (funds, expertise, infrastructure, and technical and logistical facilities) to support the programme.

iii. Generally, ICT integration/mainstreaming process is a very expensive undertaking as established by Kafu (1976). The process requires the support of the general public; specialised expertise and infrastructure; collaborative strategies and the capacity-building in-puts). All these needs for this innovation in education have financial implication. Therefore, it is recommended that if the Kenyan government is serious with the administration of this innovation in education, it must prepare itself for heavy investment in the project to avoid what befell Brazil's One Laptop per Child (OLPC)or PROUCA project (Meneses, 2011). This investment is required for development and substance of the relevant infrastructure, expertise and other out-lays.

iv. Further, ICT integration/mainstreaming in Kenyan education system is a totally new development with no historical backing in the administration of education in the country. Therefore, it might not be quite easy to accommodate the innovation in the existing structures of Kenyan education system. Consequently, it is recommended that to embrace this innovation in Kenyan education there should be major review and/or reforms of the existing Kenyan education system. This activity should be conducted on the basis of the findings of the needs assessment suggested elsewhere above.

CONCLUSION

The conclusions of this paper are based on the emerging concerns about the ICT integration in education in modern Africa and especially in Kenya. The focus of the discussion of this paper was on the apprehensions of ICT integration in education in modern Africa and more so in Kenya as an innovation. Specifically, the paper has discussed the blessings and possible curses of this innovation in administration of education in Kenya. Consequently, this paper draws the following conclusions.

i. Modern Africa and especially Kenya is not properly ready for ICT integration in education innovation. First, this continent and especially Kenya does not have adequate and relevant resources for undertaking this potentially expensive programme. Further, Kenya in particular does not have the prerequisite infrastructure, expertise both in ICT technology and the integration process of this technology in education and the critical technical and logistical support for conducting the integration/mainstreaming process of ICT technology in education.

ii. The quality of conducted education in Kenya is likely to be comprised since the ICT technology focuses on pre-packaged presentations rather than development of creativity and innovativeness in learners (Kafu, 1994). Besides, the ICT innovation in education does not provide for concept formation in learners. The greater appreciation of this innovation in Kenyan education is that it may not only encourage corruption in management of education but also reinforce and consolidate some of the emerging vices in the administration of education.

iii. However, all said done, ICT integration in education is assumed to be a potential panseau of the emerging issues not only in education but also in the society. This is what has made many countries including Kenya to embrace the ICT integration in education with vigour (Menesses, 2011). In Kenya, like the case of Malaysia and Brazil, this innovation is viewed as means of managing emerging issues in education such as large classes in the school system, development and maintenance of an array of sophisticated records in education. In view of this, the paper concludes that ICT integration in education is a programme that Kenya must embrace and sustain it.

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