Transformational School principals: the missing piece of puzzle in ICT integration in teaching and learning

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ABSTRACT

ICT is a critical tool for expanding human skills and rests largely on a system of producing, distributing and utilising information and knowledge that in turn plays a great role in driving productivity and economic prosperity. Kenya as a developing country realizes this importance and has a ministry specifically dealing with ICT. The vision statement of the ministry of information and Technology as stated in its strategic plan 2013-2018 is to make Kenya a globally competitive knowledge-based economy. This vision aims at shifting the current industrial development path towards innovation where creation, adoption, adaptation and use of knowledge remain the key source of economic growth. Research has shown that countries which have invested a lot in their human capital are far ahead of others in development. This development is likely to be an illusion unless Kenya is able to achieve its educational goals. Education and training has been isolated in the vision 2030 as the only mechanism that will translate Kenya into a middle-income economy. This is because education is fundamental to development of human resource capacities for sustainable economic growth and development.

Through impartation of new skills and knowledge in people, education is able to improve human capabilities and labour productivity. It is in this regard that the Kenyan government has invested a lot of funds in ICT infrastructure including digitization of educational materials through Kenya Institute of curriculum Development. Kenya's vision of education service provision is to have a globally competitive quality education, training and research for Kenya's sustainable development. This study focused on the influence of secondary school managers on integration of ICT in teaching and learning in Githunguri subcounty, Kiambu County in Kenya. The study targeted 40 schools with a total population of 245 male

teachers and 282 female teachers. teachers. A researcher developed questionnaire was issued to all the 40 school managers and to 100 teachers for triangulation purposes. Data analysis was done using statistical package for social sciences (SPSS).The study sort to establish if there is a relationship between management support and ICT integration in teaching and learning. Pearson correlation coefficient was used in the analysis. A positive correlation coefficient of 0.560 was obtained between the level of school management support and the use of ICT in teaching and learning. The findings indicated that school managers influenced integration of ICT in teaching and learning. The study therefore suggested that effort should be made by all stakeholders to ensure that school managers come up with policies on ICT integration in their schools which should be in line with the National ICT policy.

Keyword: ICT integration, Teaching and learning, school managers, transformational leadership, challenging the process, secondary schools

1.0 Introduction

The UNDP Human Development Index Report (2015) ranked Kenya 146 out of 188 countries and territories. Kenya's HDI value for 2015 is 0.555 which put the country in the medium human development category. This figure is however below the average of 0.631 for countries in the medium human development and slightly above the average of 0.523 for countries in Sub-saharan Africa. For Kenya to improve in this performance it is important to invest more in its human capital. Technology has also been correlated with enhanced human development and a major driving force of national growth. Tuviera-Lecaroz (2002) asserts that no development is possible without the help of science and technology. To bring about the necessary positive changes towards development, there is need for countries to include ICT education and training in their strategic plans so that people attain skills and expertise in the spheres of ICT The importance of ICT in human development cannot be over emphasized. This emphasis should especially be done in ensuring that there is quality education and training. Various reasons for integration of ICT in teaching and learning have been fronted. For example, Organization for Economic Co-operation and Development (OECD) says that countries need to adopt ICT in education because of the following reasons: the perceived needs of the economy and the fact that most companies require personnel with ICT skills making ICT an important employability criterion of the 21st century (Al Mofarreh 2016). This is hinged to the fact that countries wishing to become more productive must invest more heavily in equipping their personnel in ICT (Newby et al. 2013). Another reason that ICT should be embraced in education is the fact that ICT has the ability to transform pedagogical practices and increase the breadth and the richness of teaching and learning (Alharbi, 2014). For technological advancement to take place, it requires a well advanced manpower to match it. This calls for a manpower well versed in ICT.

Integration of ICT in teaching and learning has also been associated with improvement in delivery of knowledge. This is because modern technology offers many tools that can improve teaching and learning quality (Hussain et al. 2011). Research has shown that ICT has the potential in preparing students for life in the 21st Century. Students will also be able to face future challenges based on proper understanding when they learn ICT skills. These skills are also needed for the current globalization (Ghavifekr 2017). ICT

does not just boost the learners' motivation but also broaden their knowledge and information (Hussain et al. 2011). Nations said to be competitive are said to also to have embraced ICT skills to a great extent. This is because they become creative in other spheres of development. Ghavifekr et al (2008) also assert that information and communication Technologies (ICTs) could be referred currently as the most basic building block of modern industrial society in a very short time. Without it countries would not be able to take developmental strides to match those countries that are ahead in ICT knowledge. This is the reason why many countries regard mastering information technology and understanding basic skills and concepts of ICT seriously (Rampersad, 2011). The best place to prepare the society in this is in schools where all learning starts.

It is worth noting that even with the recognition of the importance of ICT, the integration of ICT in teaching and learning remains minimal especially in developing countries. This has led to many countries investing a lot of money in ICT infrastructure in the hope that the country can reap the advantages of integrating ICT in teaching and learning (Kenyan situation 2017). Kenya just like other countries has invested a lot of money and effort in ICT as evidenced in its strategic plan. The pace of adoption of ICT in teaching however remains low. This study sought to establish whether this low pace has anything to do with school leadership. It sought to establish the extent to which school managers influence the integration of ICT in teaching and learning in public secondary schools in Githunguri Sub-County. The study was guided by the following hypothesis:

H0:1 there is no significant relationship between school leadership and integration of ICT in teaching and learning.

2.0. Literature review

Role of leadership in ICT integration

Various studies have related transformational leadership to effectiveness. For example, Berends, Bodilly, and Nattaraj (2002) found that effective and supportive principal leaders were most likely to increase and deepen the implementation of school improvement initiatives. This leadership style has also been found to create a positive school culture because teachers become interested and are involved in the daily interactions at their schools (Darling-Hammond, 2003, Kanter, 2003).

Kouzes and Posner (2002) identified challenging the process as another practice of exemplary leaders. Leaders who challenge the process are continuously searching for opportunities to improve and innovate, with little fear of experimenting and taking risks. Leaders are the problem

identifiers. They look for difficult situations and try to find new ways of doing things. Exercise courage and take risks and know that incremental change is challenging (Knab, 2009). Such leaders are proactive and unwilling to settle for the status quo (Starcher, 2006). Effective leaders are open to new ideas and innovations, yearning to "make something happen" (Kouzes & Posner, 2002). As people inevitably make mistakes, leaders help pick them up and move forward. Effective leaders help people learn from their mistakes, continuing towards success. As leaders and their constituents stumble along the path to excellence, they must not blame themselves but examine the initiative and determine if it needs modified in order to accomplish the ultimate goal. Ultimately, leaders must build a commitment to the challenge of

reaching new heights, supporting constituents along the way (Kouzes & Posner, 2002). Effective leaders create opportunities for various interactions so that individuals can network with one another, sharing their experiences and expertise as well as celebrating their accomplishments (Kouzes & Posner, 2002).

The principal of a school plays an essential role in ICT integration. As a decisional maker, the principal has to coordinate, regulate and ensure that the educational goals are achieved. As Dutercq (2001) asserted, the principals are the only ones who are able to transform the school towards a desired end. Many studies have shown that school leadership plays an increasingly important role in leading change, providing vision and objectives, as well as professional development initiatives in using ICT to bring about pedagogical change; (Schiller, 2002). While technology infrastructure is important ICT leadership is even more necessary for effective ICT implementation. While effective leadership is one of the key variables that determine the success of an educational institution, strategic leadership is needed for long term sustainability of school improvements (Davis, 2005)

School management plays an important role in establishing and maintaining learning environments compatible with student –centered approaches to teaching and learning with ICT (Afshari et.al 2008). This was also confirmed by Kidombo, Gakuu and Ndiritu (2012). They saw school leaders as curriculum and pedagogy leaders who are central figures in leading processes in the use of ICT in teaching and learning. In their research in ICT integration in teaching and learning in Nairobi and Kiambu counties, they reported that it was necessary for the school managers to have ICT competencies if their institutions were to be well versed with ICT

According to Brannigan (2010) leadership is one of the several critical components in the successful integration of ICT's in education. The locus of leadership influences the degree to which ICT integration can become embedded in educational institutions as well as the role of leadership in championing ICT. The failure by educational institutions to integrate in education and imprint it on the minds of the teachers has been attributed to lack of leadership capacity (Moyle, 2006). As a result, today's school principals must not only manage the day to day routine activities in the school but also focus on how students learn, performance standards, evidence based decision making and continuous improvement efforts. Ability to plan, implement and sustain changes, including ICT in a school, therefore, depends on the leadership qualities of the school manager.

Gichovi (2013) asserts that school leaders should demonstrate leadership in their day to day activity by using ICT in their activities. This is likely to make teachers to embrace ICT in their teaching. School managers have also the mandate of ensuring that the schools are well equipped with ICT infrastructure. This infrastructure also acts as a motivation to teachers who have no skills in ICT to seek opportunities to acquire the skills so as to be able to use the infrastructure.

School management plays a coordination role in learning institutions. Studies show that the role of ICT coordinator is paramount to the implementation of the ideas and vision on how staff interactions should unfound during ICT Integration (Vanderlinde et.al 2012). They also asserted that shared meanings for ICT among shareholders are greatly enhanced through coordination.

Administrators should understand the element and characteristics of long- range planning for the use of current emerging technology; use technology to communicate efficiently with staff, parents and community, understand how current and available technologies can be integrated effectively into all aspects of teaching and learning process; understand the legal and ethical issues related to technology licensing and usage; and use technology appropriately in leading and communicating about school programs and activities (Fullan 2003) .

The role of school leadership is vital in ICT integration as it can hinder or facilitate schools adoption of ICT (Fullan, 2003; Elmore, 2010). As transformational leaders, school managers should show that they also live the values they advocate. This consistency between words and deeds is believed by transformational leaders to build their credibility. (Starcher, 2006). The principal as a learning leader, specifically, can impact multiple areas of the school setting such as ICT integration (Elmore, 2000). Nataraj-kirby et al (2001) findings suggested that effective and supportive leaders were most likely to both increase and deepen ICT implementation in a school. Principals are therefore, likely to make the dream of ICT integration in teaching and learning possible leading through modeling and taking an active role towards this effort. Other studies that reveal the importance of leadership include one carried out in Tondeur et al. (2008) asserted that school principals are in a position to create the conditions to develop a shared ICT Policy. This is echoed by Becta (2002) that supportive, enthusiastic and visionary leadership has a positive impact on teacher's attitude and behavior in the use of ICT

A study conducted by Keiyoro et al (2010) associated lack of ICT integration to school principals. Teachers felt that the integration of ICT in teaching and learning was slow among the principals themselves evident in their failure to use internet. Other reasons given include administrative ignorance of the role of ICT in teaching and learning, lack of resources and principals' negative attitude towards ICT usage in teaching and learning science curriculum. A study conducted by Manduku et al, (2012) concluded that the experiences and perceptions of school leaders and teachers played an important role in the implementation and integration of ICT in Kenyan schools.

3.0 Theoretical framework

This study is based on transformational leadership theory by Kouzes & Posner (1993). Studies have linked transformational with efficiency in running of organizations. It is further agreed that although there are many factors that help make schools successful such as good curriculum, quality teaching, and a strong professional culture, all these are shaped and developed by leadership characteristics of school principals (Ndiritu 2012) Principals serve as key factors in the health of the school and the success of its students (Cotton, 2003). A recent topic of interest has been transformational leadership (Murphy, 2002).

More intensive research on transformational leadership by Kouzes and Posner (2002) have shown consistent practices associated with transformational leaders. These are: model the way; inspire a shared vision; challenge the process; enable others to act; and encourage the heart. The notable characteristic of a transformational leader to enhance the use of ICT in school is the characteristic of challenging the process. Ndiritu (2012) reports that transformational leaders seek out challenging opportunities that test their skills and abilities and look for innovative ways to improve their organizations. These leaders are able to

transform teaching by making bold decisions that transform the working of the followers (teachers). These leaders show willingness to challenge the system in order to turn these ideas into actions and to get new products, processes and services adopted. Transformational leaders experiment and take risks with mistakes because every one mistake opens the door to a new opportunity (Kouzes & Posner, 2002). Leaders who challenge the process are continuously searching for opportunities to improve and innovate, with little fear of experimenting and taking risks. Such leaders are proactive and unwilling to settle for the status quo. Effective leaders are open to new ideas and innovations, yearning to "make something happen" (Kouzes & Posner, 2002). Effective leaders help people learn from their mistakes, continuing towards success. As leaders and their constituents stumble along the path to excellence, they must not blame themselves but examine the initiative and determine if it needs modified in order to accomplish the ultimate goal (Kouzes & Posner, 2002). ICT integration in teaching and learning is one of these innovative ways improving education delivery

Transformational leaders who challenge the process are open to new ideas and realize that a key to success is the ability to recognize good ideas from others or external sources. Taking risks means that leaders must be able to deal with failure (Kouzes & Posner, 2002). Such leaders are able to encourage teachers and learners who view technology as a challenge.

4.0 Research Methodology

This study entailed both quantitative and qualitative techniques with the use of a questionnaire and focus group discussions to investigate the influence of school leadership on integration of ICT in teaching and learning in public secondary schools in Githunguri Sub-County. The responses from the questionnaires were measured using likert scales. The interviews entailed the school Principals' role in ensuring that ICT was used in teaching and learning. The study was also done on the teachers for triangulation purposes.

The target population for this study was school principals and teachers in the selected secondary schools in Githunguri sub-County. The study target 40 Secondary schools out of which 5 were boys' boarding secondary schools, 5 girls' boarding secondary schools and the rest 30 were mixed secondary schools. Out of these 40 schools, 6 were county schools, 3 were sub-County boarding schools, while the rest were sub-county secondary day schools. The teachers' population in these schools was 527.Out of this population, 245 were male teachers while 282 were female teachers.

5.0 Research findings

The researcher sought to establish the extent to which school management influences the integration of ICT in teaching and learning in secondary schools. The research findings indicated that most of the respondents (40.2%) felt the support of school managers was average, 20.7% rated them as below average while 18.3% and 13.4% rated them as above average and good respectively. A fair positive correlation coefficient of 0.560 was obtained between the level of school management support and the use of ICT in teaching and learning. This information is summarized in Table 5.1

Table 5.1: Correlation between Level of support from school managers and ICT use in Teaching and Learning

		USE OF ICT IN TEACHING	LEVEL OF SUPPORT ON ICT INTEGRATION FROM SCHOOL MANAGERS
USE OF ICT IN TEACHING	Pearson Correlation	1	.560**
	Sig. (2-tailed)		.001
	N	82	82
LEVEL OF SUPPORT ON ICT INTEGRATION FROM SCHOOL MANAGERS	Pearson Correlation	.560**	1
	Sig. (2-tailed)	.001	
	N	82	82

There was also a need to ask the respondents on what they thought the management would do in order to support *integration in teaching and learning. The respondents reported* Support that school managers should give to enhance ICT integration in teaching and learning. The findings are as represented in Table 5.2

Table 5.2: Suggestions on the support that school managers should provide to enhance ICT integration in teaching and learning

Suggestion	**Percent**
ICT training to teachers in the field of ICT	29.3
Provide adequate ICT hardware and software to teachers	34.2
Have an integrated ICT policy based on the school level	21.9
Purchasing the digital content to be used for teaching	14.6
Total	**100.0**

6.0 Recommendations

The findings indicated that school managers influenced integration of ICT in teaching and learning. Policy makers should ensure that all school managers are trained on the use of ICT in their daily activities so as to set pace on use of ICT in the school. The ministry of education should ensure that school managers come up with policies on ICT integration in their schools which should be in line with the National ICT policy.

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