



Influence of Planning on Integration of Information Communication Technology in Instructional Process in Public Secondary Schools in Nandi-East Sub-County, Kenya

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Abstract

The objective of the study was to determine the influence of planning practice on integration of Information and Communication Technology (ICT) in the instructional process in Public secondary schools in Nandi-East Sub-County, Kenya. Participants included 5 principals, 25 Head of department and 57 head of subjects who were purposely sampled. Data collection methods included administering questionnaires and scheduling interviews. In this study, a mixed research approach was utilized, and descriptive statistics was analyzed through the use of frequency distribution tables as well as percentages. The analysis of qualitative data was carried out using thematic analysis through the examination of content, which included the identification of recurring themes. The study findings revealed that planning as a management practice do exist at 74.6% of the sampled schools, however, implementation of the plans into integrating ICT services in delivery of content was still low. In conclusion, most schools had planning and organization practices in place but implementation was still low. The study recommends that for successful utilization and implementation of ICT by teachers, top management must put in place all the functions of management (Planning, organizing, directing and controlling) as advanced by Henri Fayol, specifically directing and controlling functions of management must be mainstreamed.

Keywords: Management Practices, Planning and Information Communication Technology

INTRODUCTION

Information Communication Technology (ICT) has become one of the fundamental pillars of modern society educational instructional process. According to Anderson & Dexter (2005), although the sustenance of infrastructure is critical, school management is a stronger factor in ensuring integration of ICTs in classroom instructional process. Lai & Pratt (2004) provided a recommendation that for there to be a successful utilization of ICT by teachers, top management must provide necessary leadership so as to run good ICT integration road maps in learning institutions. A study conducted by Lai & Pratt in (2004) reiterated on magnitude of excellent management. This study also acknowledged a list of critical factors that needed to be witnessed in learning institutions for the successful implementation of ICT. Some of these factors included; general school management, leadership, ICT infrastructure, teaching and general class instructional process plans. As much as teachers are the implementers of effective ICT integrated lessons, leadership and management is paramount.

The number of schools providing effective information technology incorporated lessons increases when the quality of ICT leadership is improved” Lai & Pratt (2004). A research done by Wong & Li (2008) while assessing the number of schools in Singapore and Hong Kong on factors that influenced transformational incorporation of ICT, reported that support by leadership and teacher commitment to student-centered learning has some influence on effective transformation of ICT.

In addition, a case study done by Yuen, Law & Chan (2003) in eighteen learning institutions in China showed that an effective school administrator as a main agent of change displays good leadership styles where he involves the staff in decision making and staff development. Many of leaderships in a cultural innovation model skill are displayed where the school principal may not be certainly taking part in provision of ICT leadership; teachers are at their own discretion in the implementation of new ideas that supports enhancing culture. Other studies done by Anderson & Dexter, (2005) also found that several leadership styles like administrative leadership have some effect in successful adoption of ICT integration. Organizations which are characterized by involvement of its top leadership decision-making and strengthened by ICT plans are more likely to adopt ICT integration.

Globally and Kenya in particular, the importance of pedagogic ICT integration is a phenomenon that cannot be exaggerated as it has become apparent that the manner in which education is imparted and delivered is gratefully influenced by growth, development of ICTs. According to Ndiritu, Mburu & Kimani (2013), ICT integration in learning has some added advantage in the entire curriculum because of improving learning and also equipping learners with the necessary skills to run the economy for the 21st century. In the recent past, the Kenyan Government has invested heavily in digitization of educational resources through KICD and initiation of such programs that provide computers to Schools (Government of Kenya Report, 2013). In addition, ICT integration in learning also gives a better opportunity for student-teacher, student-student interaction, access and collaboration to worldwide information and learning resources contained thereon. Therefore, government needs to integrate ICT into curricula at all stages so as to consolidate the gains realized under ICT. The country’s quality of education and access is enhanced by digital content development.

Despite all these efforts, incorporating technology in instructional process in the education sector in Kenyan is still in its growth stage and the necessary school penetration both in depth and breadth is yet to be achieved. Appropriate integration of ICT in instructional process requires an all-inclusive approach, cooperation with some bodies that are nationally recognized and mandated to capacity build teachers and educational managers at different level. According to Anyieni & Kwamboka (2015) on ICT integration into education system in Kenya, there are weak school-based management practices and this influence school leadership on incorporation of ICT in secondary schools. Evaluation of management practices at the school level has not been given any research. This study will focus on management practices like planning, organizing, controlling and directing functions with an aim of establishing their impact on the integration of ICT in the classrooms.

Statement of the Problem

This study is informed by reports given by various managers in education in Nandi County during forums for teachers and principal which painted a negative position as far as ICT integration during instructional process is concerned. A report from Teachers Service Commission Sub-County Director of Education (TSC-SCDE) Nandi-East sub-county on Teacher Professional Appraisal and Development (TPAD) ratings h

showed low scores of between 0 and 1.5 out of 5 for teachers on teaching standard number three which deals with Innovation and Creativity in teaching (Philip, 2020). Annual reports from the SMASE programme and CEMASTE In-Service Education and Training (INSET) within Nandi County indicate that, there is low involvement of ICT during instructional process in secondary schools in the county (Kiige & Atina, 2016). Simin Ghavifekr (2016) observed that future studies need to consider other aspects of ICT incorporation especially from the administrative point of view such as strategic planning and policy making. Kimani (2016), on composites affecting inclusion of Information Technology in instructional with knowledge acquisition process in public secondary schools found out that management practices greatly impact development of ICT in high schools. Therefore, this study determined influence of planning practices on the integration of ICT in instructional process in Public Secondary Schools in Nandi East Sub-County, Kenya.

EMPIRICAL LITERATURE REVIEW

According to Gurr et.al, (2006), principals have a primary objective of providing leadership in institutions and in so doing it is mandatory that they become inspirational and visionary and seek to nurture the similar traits in others. The key areas of principals in incorporating ICT in teaching are realized through a wholesome support for the other staff and through a development of skills in others. Managers in this case, the principal, their deputies, heads of departments, must plan for the future, and develop strategic objectives guiding ICT integration in their school, hence securing goals. The vision of ICT implementation and integration to learning and teaching nurtures and enthusiasm within the students as it places the student in the center of the learning process. An accurately defined ICT vision encompasses, improving access and equality of use, Planning, funding and implementation, understanding ethical and legal issues and having an awareness of learning theories, curriculum development and pedagogy (Hatery and Schiller, 2003). The critical role which a Principal plays as a dominant leader in a schools' community is centered on setting vision, sharing the vision and developing the zeal among other players in the community to bring the vision to its fruition. There are various aspects that determine principals' attitudes to the planning phase of ICT tools in a school and their ICT adaptation methods, top being the principals' knowledge, skill, and philosophy. According to Mukwa Wanjala, and, Khaemba (2011), the ideal ICT implementation in education requires sufficient training to give teachers the ability to incorporate and confidently make use ICT facilities in daily school operations. If the personnel are well trained, their ability to recognize, incorporate and appraise computer tools to support school management improves greatly.

An investigation that was carried out by Boit and Menjo (2005) revealed that information and communications technology (ICT) as an administrative tool in high schools has not been used successfully to attend to administrative concerns. This was discovered as a result of the findings of the investigation. Though 31% of teachers have gone through some school workshops and formal training, 60% can still utilize computers for management functions as a result of insufficient training. When it comes therefore to the planning function, principals are the management heads in the school. Education level of the principal is one of the key aspects influencing ICT amalgamation in majority of high schools. Many Principals within the counties lack adequate Information Technology knowledge to lead their teams in integrating technology either in administration or classroom activities. This has made it even harder for ICT to permeate the high school system in Kenya due to this lack of training and education backing it up. On the other hand, organizational culture, structure,

reputation, coherency, and financial situation are examples of internal elements that have the potential to have an impact on planning (Bennett et al., 2000). In most cases, it is accurate to claim that educational institutions are characterized by a number of distinctive qualities.

In spite of the presented critique, various research have concluded that effective educational planning could be functional as it is enhanced in an efficient, flexible, participative and dynamic manner (Bell, 2002; Hopkins and MacGilchrist, 2008). Some of the organizational planning refers to teacher planning. Some of the previous research which is focused on teacher planning have been centered on the planning models (Brophy, 2012). According to Miima (2014), a policy is a guide against exploitation, and helps in allocation of resources in accordance with the school needs. Integration of ICT into the learning institutions globally exerts an amount of pressure on the teaching staff so as to adopt the ICT into the classroom environment to use it in learning so as to have good results (Kozma, 2003). In so far doing, ICT integration has only been partially achieved with varied reactions into ICT integration ranging from resistance, to the inclusion of ICT into the old practices for instance development of school websites to provide arithmetic solutions, a school's portal for dynamic learning and an integration of a portal for digital projects (Kozma, 2003).

METHODOLOGY

The study used cross-sectional research design. A cross-sectional survey research design was adopted because it provides a systematic description that is factual and accurate, as stated by Amin (2005). Data analysis adopted an explanatory, exploratory sequential method, because it is more of quantitative research method (Creswall, 2014). Data collection instruments used were interviews and questionnaires which suited descriptive design (Frankel and Wallen 2013). This research used non-probability sampling methods, and more specifically purposive sampling, to select five secondary schools along with their respective five (05) principals, 25 head of department, and 57 head of subject. These five schools were chosen because they were the only ones that had access to an information and communication technology (ICT) infrastructure. These schools were sampled because ICT infrastructure and training of the entire teaching staff was done. They include Samoei Boys secondary school, KTGGA Taito secondary school, Sochoi Girls Secondary school, Lelwak Boys High school and Our Lady of peace Girls secondary school. In these schools all the principals, deputy principals, HODs and heads of subjects were targets of the study. The study employed descriptive statistics using mean, frequencies and percentages to analyze the data.

RESULTS AND DISCUSSION

The study attempted to assess the HODs response on Planning Practices and The Integration of ICT. Results are presented in table 1 below. The majority of respondents; 66.7%, believe that the school has established clear aims and objectives for ICT integration, with 8.8%, 19.2%, and 5.3% strongly agreeing, neutrally, and disagreeing, respectively, as shown in Table 1. When asked whether the school had established ICT integration policies, 38.6% of respondents strongly agreed and 35.1% agreed with the statement. In contrast, 3.5% of respondents who were asked their opinion were indifferent, while 22.8% disagreed with the statement.

Table 1: HODs response on Planning Practices and The Integration of ICT.

Statement	1(%)	2(%)	3(%)	4(%)	5(%)
The school has put in place clear goals and objectives of ICT integration		5.3	19.2	66.7	8.8
The school laid down policies on ICT integration		3.5	22.8	35.1	38.6
The school has budgetary allocation for ICT integration			8.8	80.7	10.5
The school has rules and regulations in the implementation of ICT integration			1.8	10.5	91.2
Since all key stakeholders are involved in Planning process it therefore secures commitment to the ICT strategy			5.3	86	8.7

Source: Field data, 2022

According to the replies obtained, the majority of schools have adopted and implemented ICT adoption and integration strategies. This is consistent with the findings of Wang and Woo (2007), who suggested that ICT integration planning can occur in three distinct areas: curriculum, subject, and lesson. On the question of budgetary allocation for ICT integration in schools, the majority of respondents 80.7% agreed that the school administration made some budgetary allocation for ICT integration, whereas 10.5% and 8.8% of respondents were neutral on the topic. The majority of respondents 91.2% strongly agreed that their schools had the essential rules and regulations for the implementation of ICT integration when asked if their schools had such rules and regulations. Few respondents 1.8% disagreed that their schools had never had an ICT integration policy. Of the remaining respondents, 10.5% were agnostic on the matter, while 10.5% were indifferent. 86% of respondents agreed that all stakeholders were involved in the planning process, assuring the participation of all-important participants in the implementation of ICT integration in secondary schools. On the issue of stakeholder involvement, 8.7% of respondents were vehemently in agreement, while 5.3% of respondents disagreed with the statement. The results concur with Kibera (2013), who argued that all these stakeholders should be involved to help reduce the complexity of ICT software projects through proper ownership in order to increase the probability of success.

Table 2: Head of subject's response on planning practices on ICT integration

Statement	1(%)	2(%)	3(%)	4(%)	5(%)
Clear goals and objectives for the integration of ICT have been established at the school.		8	24	60	8
The school laid down policies on ICT integration		4	4	44	48
The school has budgetary allocation for ICT integration			8	64	28
The school has rules and regulations in the implementation of ICT integration			4	12	84
Since all key stakeholders are involved in Planning process it therefore secures commitment to the ICT strategy			4	80	16

Source: Field data, 2022

The findings in table 2 reveal that 60% of those who participated in the survey felt that the schools in which they worked had established clear goals and objectives that may help with ICT integration, whereas 8% of those who participated in the survey strongly agreed with this statement. On the other hand, 24% of those who responded did not have an opinion on the matter, while 8% of those who responded did not agree with the

statement. When respondents were asked to comment on ICT policies, 48 % strongly agreed that their schools had well laid out policies on how to integrate ICT. Other respondents agreed that their schools had ICT integration policies 44%, whereas 4% of respondents were neutral on the issue and disagreed over it in a sequential fashion. The majority of respondents 64% were of the view that their schools did have well-laid out rules and regulations addressing the integration of ICT. This was in response to the question of whether or not their schools had rules and regulations regarding the integration of ICT. In addition, 28% of respondents strongly agreed with the statement, while 8% of respondents were indifferent and did not know much about the standards and rules that regulate the integration of ICT in their schools. According to the responses, the vast majority of respondents believed that key stakeholders were involved during the planning process of ICT integration and, as a result, could secure their commitment to ICT strategy. The majority of respondents agreed that ICT integration improved on their dedication, lending credence to the theory. On the other hand, 16% of those who responded strongly agreed, while 4% of them were ambivalent and could not comment on the engagement of the stakeholders.

Table 3: Principals interview response on planning practices on ICT integration

Statement	Yes (%)	No (%)	Not sure (%)
The school has put in place clear goals and objectives of ICT integration	80	20	-
The school laid down policies on ICT integration	60	40	-
The school has budgetary allocation for ICT integration	60	20	20

Source: Field data, 2022

According to the data in table 3, the majority of those who were interviewed 80% were of the opinion that their schools had clear goals and objectives regarding the integration of ICT, whereas 20% of those interviewed had the opposite attitude. In addition, sixty percent of those polled agreed that their schools had established policies on the incorporation of ICT, while forty percent of them never agreed with this assertion. The majority of those who were interviewed 60% were of the opinion that the school did have budgetary allocations for the integration of ICT. On the other hand, 20% of those who were interviewed were of the opinion that the school did not have budgetary allocations for the integration of ICT. The results are in line with those of Al Mofarreh (2016) on the adoption of an ICT strategy in Saudi secondary schools. According to that report, just a tiny proportion of schools and instructors in the Kingdom of Saudi Arabia (KSA) seem to be using ICT to raise the caliber and efficiency of classroom instruction.

CONCLUSION AND RECOMMENDATION

The findings conclude that the information and communications technology (ICT) resources are inadequate in many secondary schools. This has affected teacher content delivery during lessons. In addition, some teachers have received some kind of training in information and communications technology (ICT), but it is abundantly evident that this training has had very little influence, or any impact at all, on the abilities and self-confidence of teachers to utilize ICT in their classrooms. These factors, which have a negative effect on teachers' readiness for, and confidence in, utilizing ICT, need to be addressed with by the numerous stakeholders, including, and especially the Department of Education, as well as the school management, and private partners. This is because these factors have a detrimental effect on teachers' ability to use ICT.

The study recommends that for successful utilization and implementation of ICT by teachers, top management must put in place all the functions of management (Planning, organizing, directing and controlling) as advanced by Henri Fayol, specifically directing and controlling functions of management must be mainstreamed. The school management should align the strategic plans of the school with the current trend of integrating ICT into teachers' content delivery in class. The ministry of Education should ensure that all schools should be connected to the national grid so that ICT services are integrated.

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