

**TEACHERS' PERCEPTIONS OF PRINCIPALS' MANAGEMENT OF
SCHOOL-WIDE CHANGE STRATEGIES AND STUDENTS' ACADEMIC
PERFORMANCE IN PUBLIC SECONDARY SCHOOLS IN NAIROBI CITY
COUNTY, KENYA**

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DECLARATION

This thesis is my original work and has not been presented for award of a degree in any other university.

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DEDICATION

This research work is dedicated to the memory of my late husband Engineer Samuel Kimuya Kamau who encouraged me to pursue higher learning all the time.

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ABSTRACT

Student academic performance remains a top priority to educational stakeholders. Over the years, academicians and educational researchers have been exploring variables that hinder quality academic performance. In Kenya, students continue to register dismal performance at Kenya Certificate of Secondary Education examinations. Empirical research reveals a plethora of complex and interrelated factors within and outside the school that impact on student performance. Previous studies have documented the importance of teachers' perceptions, change strategies, and principals' management practices that impact on student performance. Because most of these analyses were based on a single aspect, there is currently no quantification of the interplay of these factors. This study, therefore, endeavored to investigate the relationship between teachers' perceptions of principals' management of school-wide change strategies and student performance at public secondary schools in Nairobi City County. The study was guided by six objectives: to establish the school-wide change strategies adopted by principals in public secondary schools; to determine the relationship between teachers' perceptions of principals' management of strategic planning guidelines strategy and student academic performance; to assess the relationship between teachers' perceptions of principals' management of collaborative and collegial support strategy and students' academic performance; to establish the relationship between teachers' perceptions of principals' integration of ICT in teaching and learning strategy and student academic performance; to determine the relationship between teachers' perceptions of principals' use of student councils and open forums strategy and students' academic performance; and lastly to establish the relative contribution of each of the independent variable on academic performance. The study adopted descriptive survey design. The target population comprised of 94 public secondary schools, 94 principals, and 3,040 teachers. The schools were sampled by first stratifying them into categories; national, extra-county, and county schools to ensure equal representation during sampling. Stratified simple random sampling methods were used to select schools, principals, and teachers. The sample size comprised 30 principals and 304 teachers. Data were collected using teachers' questionnaire and a principal's school data form. Data were analyzed through descriptive statistics such as means, standard deviations and inferential statistics including linear and multiple regression analysis. All hypotheses were tested at .05 alpha levels. Study findings showed that teachers' perceptions towards principals' management of strategic planning guidelines strategy were positively related to students' academic performance $F(1, 288) = 30.52, p < .001$; teachers' perceptions towards principals' management of collaborative and collegial support strategy were statistically correlated to students' academic performance $(F(1, 288) = 19.214, p < .001)$; there was a statistically significant association between teachers' perceptions of principals' management of ICT integration in teaching and learning strategy and students' academic performance $F(1, 288) = 42.37, p = .001$; and that teachers' perceptions of principals' management of student councils and open forum strategy was significantly related to academic performance $(F(1, 288) = 25.39, p = .001)$. In addition, multiple linear regression analysis revealed that all the independent variables together predicted approximately 40.5% of the variance in the KCSE mean scores; and teachers' perceptions of principals' management of ICT integration in teaching and learning had the highest contribution to KCSE mean scores. It was concluded that when several changes are implemented simultaneously, students' academic performance improved significantly. It was recommended that school principals should incorporate the necessary school-wide changes that influence students' academic performance.

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LIST OF ABBREVIATIONS AND ACRONYMS

ICT	Information Computer Technology
KCSE	Kenya Certificate of Secondary Education
KEMI	Kenya Education Management Institute
KESSEP	Kenya Education Sector Support Program
KNEC	Kenya National Examinations Council
MOE	Ministry of Education
MOEST	Ministry of Education, Science and Technology
SMASSE	Strengthening Mathematics and Science in Secondary Education
PERT	Programme Evaluation and Review Technique
PPBS	Planning Programming and Budgeting Systems
SDG	Sustainable Development Goals
SPSS	Statistical Package for Social Sciences
TPAD	Teachers Performance Appraisal and Development
TSC	Teachers Service Commission
UK	United Kingdom
USA	United States of America

CHAPTER ONE

INTRODUCTION

1.1 Overview

This chapter presents the overview of the study. It comprises: background to the study, statement of the problem, purpose of the study, objectives of the study, research questions, research hypotheses, significance of the study, assumptions of the study, limitations of the study, delimitations of the study, definition of significant terms and organizational structure of the study.

1.2 Background to the Study

Globally, educational management in the 21st Century is expected to focus on the achievement of the Sustainable Development Goals (SDGs) which were identified by 193 countries that came together in 2015, Kenya being one of them (UNDP, 2015). The report explains that these countries agreed on the vision 2030 Agenda on Sustainable Development Goals with each of the countries committing themselves to fight poverty and attain sustainable development within 15 years. Education, inequality, gender, and the digital revolutions for sustainable development were two of the modular building elements of SDG performance targets (Sachs, Traub, Mazzucato, Messner, Nakicenovic, & Rockström, 2019). According to a study conducted by Beare, Caldwell, and Millikan (2005), large and dramatic reforms are necessary for sustained student academic growth in the twenty-first century. West, Jackson, Harris, and Hopkins (2000), confirm that alterations of economic situations, technological improvements, changing markets, legislative revisions, and shifting client demands due to social and political shifts are all regarded causes driving institutional transformation.

Schools as organizations need to embrace a similar change process referred to in this study as school-wide change. The new thesaurus dictionary (2018) defines school-wide change as occurring or extending many changes throughout school time, “for example, school-wide support for the team” that is comprehensive change. Lick (2010), argues that school wide-change is the change in school physical environment, which includes comprehensive change in the curriculum, change in departments and teachers’ modern methods of teaching, change by involving students’ government, change that is unexpected, and most of all, change that would bring about improved students’ academic performance. Some schools in Australia changed the approach to teaching and learning in their diverse and multi-characteristic schools and this resulted to those schools leading in academic (Conway & Andrews, 2016). The study confirmed that those schools started leading in academic performance.

Cheng and movements Mok (2008) assert that many educational reforms and school processes have been implemented to pursue educational effectiveness and students’ academic performance in most countries in the world. Yeniceri (2002) stated that change describes a process that may be experienced by people in an organization in order that they may provide more products and services. Schools being organizations are tasked to apply the school-wide change in relation to organizational change. This change process if applied by the principals within the school wide-change strategies may bring the expected students’ academic improved performance.

School-wide change facilitates school improvement through educational innovations (Madsen, 2015). This has been a main concern of educational policy makers, administrators and teachers who endeavor to reform existing educational systems. One such strategy is to achieve school improvement by giving autonomy to the school as a center of teaching and learning. Barauch

(2004), called this process school-based management (SBM) and purported that in the SBM system, the role of the principal is crucial as an educational manager because the school should be run as an organization.

Education in the 21st century has been faced by rapid change and a complex society. Beare, Caldwell, & Millikan (2005), purport that complex and dynamic changes are required to sustain the students' academic improvement. Hrebiniak (2013), purport that continuous identification, development, testing, implementation, and evaluation of a multiple of learning technologies that include new applications of ICT in teaching and learning, are great changes likened to school-wide change and it is expected to initiate students' achievement leading to improved students' academic performance. Hrebiniak continues to stress that an educational environment should be the central objective of all the teachers and employees of the school which implies that the school needs to embrace school-wide change strategies of the 21st Century.

According to Benson (2015), there are three main catalysts for school wide-change which include; regulatory directives, crisis that exposes a problem and desire for improvement. He purports that such an idea can be utilized in planning of the school strategy for teaching and learning geared towards better students' academic performance. This initiative would be embraced in the management of school-wide change. Benson (2015) also found that the school strategy may drive the great desire for school change.

Speaking of school-wide change strategies in a school, the leading parameter is the school principal. A study by Aksu (2004) purports that the common understanding is that 'a school is as good as its 'principal' indicates the impact of the managerial competence, symbolized with the identity of the school principal. Aksu continues to assert that the ability of the teachers'

response to principals' expectations, may be associated with their positive response to great change. School principals are expected not only to exhibit good management ability in relation to managing the school-wide change, but also to supervise programs, managing and evaluating the change process (Gumuseli, 2009). Such a process would bring about improved students' academic performance.

Chan and Townsend (2000) claim that school-wide changes and reorganizations can be observed in many countries around the world including Canada and the United States of America (USA) as well as in the Asia-Pacific region, including Australia and New Zealand as well as China and Singapore. The search of effective schools, the shift to school-based management, the emphasis on strategic management plans in a school, the assurance of school education quality, the implementation of new changes in curriculum programmes and the application of ICT in teaching and learning, are typical of efforts on application of new educational reform (Caldwell & Spinks, 2005). This strategy may be referred to as school-wide change management strategies that require to be applied in order to achieve the improvement of the students' academic performance.

Doh (2012), revealed that school-wide interventions and agreements with continuous presence of the school principal provided higher success rates of students' academic performance. Implementation of school-wide change by creating collaborative teaching and learning is an enormous effort and hard endeavor for school change. Fullan (2011) noted if school-wide change is successful; it would give more chances for schools to improve students' academic performance. On the other hand, if school-wide change is a failure, it will discourage and cause frustration among students, teachers and other stakeholders. To maximize on school-wide

change, schools need qualified principals with the competency to handle the change process (Fink & Resnick, 2001).

Orphanos and Orr (2013) while investigating on the role of the school principals in implementing alternative programmes in New York found that principals required guidance on the changing policies and school level management alternatives. Abbas and Asghar (2010);Maicibi (2003), agree that organizations need to embrace school-wide change in order to have better students' academic performance.

In Canada, a study by Maharaj (2014) found that teachers' Performance Appraisal and Development (TPAD) was a significant tool that boosted teachers' teaching and supervision. This confirms that for better management of school-wide change, principals require a monitoring tool for measuring the expected individual teacher's performance. The findings that TPAD is needed for teachers' evaluation were supported further by (Elliot, 2015) who conducted similar study on TPAD in Melbourne Australia and gave a recommendation that TPAD should provide opportunities for teachers to contribute and to engage in teamwork and collaboration in teaching and learning.

In Africa region, education restructuring is evident. Most countries are struggling to implement the required school-wide change and innovation in education sector. Madsen (2015), purports that Principals need to embrace the school-wide change which involves a wide range of vital changes in which school principals as agents of change utilize to facilitate school improvement through educational innovations. In South Africa, the continuous poor performance of the learners is due to lack of facilities, learning materials as well as resources which is detrimental to the developing country as 37% of the population is made up of the youth (Berg, Taylor,

Spaull, & Armstrong, 2011). Berg et al confirmed that implementation of system-wide change strategy in South Africa was meant to build management capacity that would drive education change directed at improving teaching and learning in the school districts. Berg et al. (2011) also ascertains that South Africa's students' poor academic performance, as measured in local and international tests may be driven primarily by the language disadvantage. With respect to indirect influences in education in South Africa, it is argued that, language transcends both direct and indirect influences (Mji, 2006). Mji also recommended that speakers of the second language of instruction in South Africa, generally may need tuition in the second language which is English.

In a report from South Sudan, Ministry of General Education and Instruction Juba (MoGEI, 2017) reported that the country was still in the process of building an educated and informed nation and helping the country to make the transition from an oil dependent economy to a knowledge-based economy to achieve prosperity for all. A study in Egypt by Salem (2016) concluded that collaboration is important as a school wide-change strategy in that the process involves all stake holders and a range of changes geared towards students' improved academic performance. In Tanzania, Mkama (2015), in his study on policy and training, found that the country is yet to address the quality and better academic achievement of the learners. This implies that the country may need to embrace the school-wide change strategies.

Kenya, just like other developing countries, is in the race of attaining Sustainable Development Goals (SDGs) together with the Vision 2030 which envisions that Kenya would be an industrialized nation by year 2030 (Society for International Development, 2010). For the country to attain these goals, education requires management that is clearly established for all

stakeholders (Vision 2030 delivery secretariat, 2015). The development of educational change and training is part of the road map towards the realization of the social transformation hinged onto the social pillar of the Kenya Vision 2030 (Kaimenyi, 2015).

During the World Teachers' Day in 2016, the UNESCO Chief, in her message reported that teachers are important for providing equitable and quality education and that the MOE should adequately trained, recruited, remunerated, motivated and supported within well-resourced, efficient and effectively governed systems (UNESCO, 2018). To this end, the teachers and the principals need to be continuously trained with an effort of embracing the school-wide change strategies in the school process so as to attain the equitable and quality education which will lead to improved students' academic performance. Kenyan education system needs to manage education better for students to achieve improved academic performance. A report by United Nations Development Program (UNDP, 2017) ascertained that for students' academic performance to reach the expected goals and objectives of education the institutions relies heavily on the type of management that prevails in the institutions. Malusu (2007), purports that the increase in the need for secondary education provision in Kenya necessitates the provision of responsible management system in the institutions. This process calls for a transformation in school management that is dynamic and progressive and therefore the need for this study on principals' management of school-wide change strategies which may bring about the expected students' improvement in academic performance.

In embracing the school-wide change in Kenya, the Ministry of Education (MOE) through Teachers Service Commission (TSC) has introduced Teachers Performance Appraisal and Development (TPAD) tool for use by the principals and teachers in teaching and learning

evaluation with an intention of improving and monitoring curriculum delivery. Aloo, Ajowi and Aloka (2017) on TPAD application in Kenya concluded that the teachers were yet to master and to adhere to schemes of work and lesson plans so that it would make an impact on the students ‘academic performance as expected.

Since the implementation of the 8-4-4 system of education, the average performance nationally of the KCSE has fallen below the average mean of C plain which is 6 points out of the expected 12 points (MOE CDE office, 2016). Table 1 presents a summary of the overall national performance for the years under study.

Table 1: KSCE Results Nationally

Year	2015	2016	2017	2018
Total no. of candidates	522,870	577,253	625,773	660,204
C+ and above	165,766	88,929	70,073	90,377
Percentage	31.52	15.48	11.38	13.77
Grade E	5,209	33,399	35,536	30,840
Percentage	0.99	5.78	5.67	4.70
Grade A	2,636	141	142	315
Percentage	0.50	0.02	0.02	0.05

Note: Ministry of Education (2019)

As observed in Table 1, students attaining the grade of C+ and above over the years is below 50%. For instance, in 2017 only 11.38% of the KCSE candidates scored grade C+ and above. The performance of grade C+ and above is considered as quality grades that enable a student direct admission to university education.

Nairobi City County public secondary schools have been registering a downward trend in KCSE performance. This is despite most schools being adequately equipped. On the whole, Nairobi City County schools have better infrastructure and more trained teachers than other counties.

Therefore, it is expected to register better performance in national examinations which is not the case. The downward trend is captured in Table 2.

Table 2: KCSE Results at Nairobi City County

Year	2015	2016	2017	2018
Total no. of candidates	23,307	25,258	25,923	27,322
C+ and above	11,909	5,145	4,258	4,672
Percentage	51.09	20.36	16.42	17.10
Grade E	636	3,217	2,922	3,426
Percentage	2.72	12.73	11.27	12.54
Grade A	372	41	32	42
Percentage	1.59	0.16	0.12	0.15

Note: County Director of Education, Nairobi (2019)

From Table 2, it can be deduced that although total candidature increased over the years under study, the performance kept declining. For instance, students scoring a grade C+ and above decreased from 51.09% in 2015 to 17.1% in 2018. This sharp decline showed that it was necessary to investigate the issue of student performance as an effort to avert further decline. This study sought to address the academic performance issues by studying a wide spectrum of changes summed up as school-wide change strategies.

1.3 Statement of the Problem

In Kenya, the students' academic performance is measured through the national Kenya Certificate of Secondary Education (KCSE) examination within four years of secondary schooling. Most of the students do not attain the minimum grade for university entry which is grade C+ (7 points out of the maximum 12). More than 50% of all the students who sit for this examination over the period do not proceed to university as they do not attain the minimum 7 points. In the period of this study, the performance had fallen to very low percentage pass as seen in Table 1. Statistics from MOE indicated that between the years 2015 and 2018, KCSE

was performed poorly nationally with grade C+ and above being 15.48% pass on average, while the rest performed dismally with grades below C- (84.52%) which means that the majority of the candidates performed dismally.

Nairobi City County equally dropped where students who scored grade C+ and above were 20.36% of the total candidature on average in the County. This performance was noted with a lot of concern by the Education stake holders and parents. Nairobi County has better infrastructure and more trained teachers being the capital city than other counties and therefore it is expected to perform better than the average of the country's performance, which is not the case (Okode, 2013). Nairobi City County again dropped tremendously with the candidates who scored grade C+ and above as 4,258 out of 25,923. This was 16.42% pass of the candidates who sat KCSE in Nairobi City County. School improvement programs in academic performance have been initiated by the MOE, principals and teachers but evidence accrued from KCSE examination results seem to suggest that students' performance has consistently been below average as seen on table 2. To this end, this study sought to investigate whether the principals' management of school-wide change strategies would generate the expected impact on students' academic performance as perceived by the teachers.

1.4 Purpose of the Study

The purpose of this study was to investigate whether there is a relationship between the principals' management of school-wide change strategies and students' academic performance in public secondary schools in Nairobi County as perceived by the teachers.

1.5 Objectives of the Study

The study was guided by the following research objectives:

1. To establish the types of school-wide change strategies adopted by principals in public secondary schools in Nairobi City County as perceived by the teachers.
2. To determine the relationship between teachers' perceptions of principals' management of strategic planning guidelines strategy and students' academic performance in public secondary schools in Nairobi City County.
3. To assess the relationship between teachers' perceptions of principals' collaborative and collegial support strategy and students' academic performance in public secondary schools in Nairobi City County.
4. To establish the relationship between teachers' perceptions of principals' enhancement of ICT in teaching and learning strategy and students' academic performance in public secondary schools in Nairobi City County.
5. To determine the relationship between teachers' perception of principals' use of students' councils and open forums strategy in school management and students' academic performance in public secondary schools in Nairobi City County.
6. To determine the relative contributions of principals' management of strategic planning guidelines, collaborative and collegial support strategy, enhancement of ICT in e-learning strategy, use of students' councils and students' open forums' strategy and students' academic performance at public secondary schools in Nairobi City County as perceived by the teachers.

1.6 Research Question

The following research question was answered in the study.

1. What are the school-wide change strategies are adopted by school principals at secondary schools in Nairobi City County as perceived by the teachers?

1.7 Null Hypotheses

The following null hypotheses guided the study;

H₀₁: There is no statistically significant relationship between principals' management of strategic planning guidelines and students' academic performance at public secondary schools in Nairobi City County as perceived by the teachers.

H₀₂: There is no statistically significant relationship between principals' management of collaborative and collegial support strategy and students' academic performance at public secondary schools in Nairobi City County as perceived by the teachers.

H₀₃: There is no statistically significant relationship between principals' enhancement of ICT in e-learning and students' academic performance at public secondary schools in Nairobi City County as perceived by the teachers.

H₀₄: There is no statistically significant relationship between principals' management of students' councils and open forums strategy and students' academic performance at public secondary schools in Nairobi City County as perceived by the teachers.

H₀₅: There is no statistically significant relative prediction of students' academic performance by principals' management of strategic planning guidelines strategy, teachers' collaborative and collegial support strategy, enhancement of ICT in e-learning strategy, use of students' councils, students' open forums strategy and students' academic performance at public secondary schools at Nairobi county public secondary schools as perceived by the teachers.

1.8 Significance of the Study

The significance of a study is expected to reflect on the extent of the contribution it has made to improve the understanding, to change a concept or to promote a new hypothesis in a particular field of research study (Leedy & Ormrod, 2011). The findings are expected to be significant to

teachers in various schools as they are expected to use the school-wide strategies to bring the comprehensive change that would improve students' academic performance. The supervisory role of the principals is very crucial as it is expected to motivate teachers to continuously use the school-wide change strategies to improve the students' academic performance.

It is expected that the findings of this will be of beneficial to the Ministry of Education who may utilize the information to emphasize on teachers' commitment to school-wide change strategies to enable the realization of Vision 2030 strategy on educational reform. The findings may be significant to the TSC who are expected to use the school-wide change strategies to make the TPAD more effective and efficient for use by the teachers through collaboration and collegial support strategy which may improve the students' academic performance. The study findings may also be significant to school managers who are expected as stake holders to support the principals in their supervisory roles which may in return improve the students' academic achievement.

The study findings may be significant to the Ministry of Education as it is expected that the MOE may use the school-wide change strategies in formulating capacity building programmes to empower educational managers and teachers in terms of management of school-wide change strategies. The findings of the study would also be expected to be of significance to Kenya Education Management Institute (KEMI) in targeting training needs of principals and teachers so as to enhance school-wide change strategies that help improve students' academic performance. The findings are expected to form a base for study by other researchers in the area of school-wide change management.

1.9 Limitations of the Study

Limitations of a study concerns potential weaknesses that are usually out of the researcher's control and are closely related to the chosen research design and the statistical model constraints, funding constraints, or other factors. In this respect, a limitation is an 'imposed' restriction which is essentially out of the researcher's own control (Simon, 2011). This is further confirmed by Hodkinson and Hodkinson (2001) who purported that a limitation is some aspect of the study that the researcher knows may affect the results of the study but may not be able to control some intervening variables that can limit the study. In this study, a number of limitations were encountered which would have impeded the study. They included:

1. The researcher may not be able to completely control the attitudes of the respondents. To counter this, the researcher met with the selected teachers per school before giving out the questionnaire and explained the instructions on the questionnaire.
2. The researcher was not able to investigate in isolation other environmental related factors that may have influenced the principals' management of school-wide change strategies such as students' entry behavior, the location of the school, parents' interference and other stakeholders' issues.

1.10 Delimitations of the Study

Delimitations are the boundaries consciously set by the researchers. They are the boundaries or limits that the researchers may decide to set so that the study's objectives may not become too difficult to achieve. In this respect, it may be argued that delimitations are the limits under the researcher's own control (Simon, 2011). Simon further purport that delimitations are those characteristics that can limit the scope and define the boundaries of the study at hand. The delimiting factors may include the choice of objectives, the research questions, and the variables

of interest. They may also include theoretical perspectives which the researcher may have upheld as opposed to what could have been adopted, and the population the researcher may choose to investigate (Leedy & Ormrod, 2011).

The study was delimited to the principals and teachers of the 94 public secondary schools that had sat KCSE in Nairobi City County. This was because the principals are the chief executives of the schools and they supervise the teachers directly. The study was also delimited to the Nairobi County being the Capital city, which is expected to have better facilities than other counties and expected to have better students' academic performance which has not been the case (Table 2). Due to different environmental factors in different counties, the findings may not be generalized to the rest of the counties.

This study was also delimited to the responses from the teachers who are the implementers of school-wide change strategies initiated by the school principals. The responses were not extended to the learners as it may be difficult for them to assess principals' management of school-wide change strategies. The school data form filled by the principals was delimited to collecting principals' demographic information and school performance data as they would have been biased while assessing themselves on management of the school wide-change strategies. The students' achievement outcomes were delimited to the KCSE grades as actual scores are not published by the KNEC, the examining body.

1.11 Assumptions of the Study

Assumptions of the study are things that are somewhat out of researcher's control, but if they disappear the study would become irrelevant. Simon (2011) purports that assumptions are

factors potentially influential to the study for which the researcher has no hard data. The study was based on the following assumptions:

1. That the schools had adequate teaching and learning resources that were used by teachers to enhance teaching and learning.
2. That school principals and teachers responded to the questionnaires without any bias or favor.
3. That Kenya Certificate of Secondary Education Examination is a valid measure of student academic performance.
4. That the factors studied would continue to be relevant to academic success in schools

1.12 Operational Definition of Terms

The definitions of terms and concepts are explained according to the meanings used in this study.

Collegial support means ‘relating to’ or ‘involving shared responsibility, especially among a group of colleagues or friends. In the study, it means the assistance in a school work environment where responsibility and authority are shared by teachers in consultation of the principal including team teaching, and sharing of new knowledge, teaching and learning materials.

Perception refers to the way in which a concept is regarded, understood, or interpreted by the people concerned. In this study, it refers to a belief or an opinion often held by teachers and based on how they perceive the issues of school-wide change strategies and make them their own opinions.

School change management is the process of putting up a strategy for the implementation process for the required change in a school. In this study, it refers to principals’ incorporation of the school’s organizational change process and supervision of teachers by the principals which could help the school make successful transitions and reforms resulting in the realization of the expected students’ academic performance.

School-wide change strategy refers to strategies which are well designed to meet transition process that would deal with societal barriers, organizational issues, and interpersonal relationships affecting school. A transition from old to new paradigms, involving principals, teachers, students, school management and MOE who must be broadly and intimately involved in the process of change. In this study, it refers to a comprehensive transformation in the school physical environment, which involves change in the curriculum implementation, change in

departmental organization, inter-relationships in the teachers and the student body, unexpected change, and most of all, change that can bring about improved students' academic performance (Lick, 2010).

Strategic planning is a process which involves planning the business work strategies by creating specific key strategies, implementing and later evaluating the end results with an intension of improving the organization's overall long-term goals. In this study, it refers to the principal and the teachers' school management plan that is created to set priorities, focus on specific areas during the teaching and learning, using proper resource mobilization which strengthens planned operations and ensures all are working towards the achievement of the set goals within a specified period of time.

Students' council refer to a group of student leaders elected by the students' body, to work together with a teacher advisor within the framework of guided regulations, to provide a means for students to express themselves and for them to get involved in school management.

Students' open forums refer to the students' parliament where any student can speak out their minds and express their grievances and teachers can be called to account. No student is victimized for speaking his/her mind.

Teachers Performance Appraisal and Development tool (TPAD) refers to the tool used by the principals in monitoring and evaluating teachers at the school. This involves setting of the performance targets, with periodic assessment and the feedback to the principal on progressive performance of the teachers.

1.13 Organization of the Study

The study is organized into five chapters; Chapter one, the introduction, consists of the background to the study, statement of the problem, purpose of the study, objectives of the study, null hypotheses, significance of the study, limitations of the study, delimitations of the study, assumptions of the study and operational definition of terms.

Chapter two; Consists of the literature review which includes, introduction, the concept of school-wide change, student academic performance at KCSE, and the concept of organizational change. The chapter explores literature on the study variables under various thematic headings including; perceptions of teachers towards principals' management of strategic planning guidelines, perceptions of teachers towards principals' management of collegial and collaborative management strategy, perceptions of teachers' towards principals' management of students' councils and open forum strategy, and teachers' perceptions of principals' integration of ICT in teaching and learning and students' academic performance. It also contains theoretical framework, conceptual framework, and a summary of literature review.

Chapter three is the research methodology, which entails introduction, research design, target population, sample size and sampling techniques, research instruments, pre-testing of research instruments, instrument validity, instrument reliability, data collection procedures, data analysis techniques, and ethical considerations. Chapter four consists of results and discussions of findings while chapter five entails summary of the study findings, conclusions, recommendations, and suggestions for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter explores theoretical and empirical literature related to the topic under study. It consists of the following topics: the concept of school-wide change; student academic performance at KCSE; the concept of organizational change; teachers' perceptions of principals' management of strategic planning guidelines and students' academic performance; teachers' perceptions of principals' management of collegial and collaborative management strategy and students' academic performance; teachers' perceptions of principals' management of student councils and open forum strategy and students' academic performance; and teachers' perceptions of principals' management of integration of ICT in teaching and learning strategy and students' academic performance. The chapter also presents the theoretical framework, conceptual framework and summary of the reviewed literature.

2.2 The Concept of School-wide Change

Lick (2010), argues that school wide-change is the change in school physical environment, which includes comprehensive change in the curriculum, change in departments and teachers' modern methods of teaching, change by involving students' government, change that is unexpected, and, in particular, change that can lead to higher academic achievement among students. Schools like organizations need to undergo a transformational change so that the students' outcome in academics may improve.

Yeniceri (2002) also purport that the process of change is that transformation which an organization experiences in order to provide better products and services. Schools being

organizations are tasked to apply the school-wide change in relation to organizational change. Wang (2016) on management and school wide-change noted that successful schools enhanced students' outcome through redesigning school structures, enhancing continuous professional development programmes and the involvement of students' leaders. This process may be referred to as school-wide change. Wagner (2014), purport that to maximize the process of school change, he described four essential conditions as shared vision, good teaching and learning, continuous assessment and understanding of the urgent need for school change, relationships that are based on mutual respect, trust and engagement strategies by the teachers that could create commitment rather than mere compliance of the process. This process may be referred to as school-wide change.

2.3 Students' Academic Performance at KCSE

The KCSE performance has been of concern among education stakeholders since the inception of the 8-4-4 system of education in 1986. This is because of the dismal performance witnessed over the years. Most students do not attain the minimum grade for university entry which is grade C+ (7 points out of the maximum 12). Table 3 demonstrates the KCSE grading system in Kenya.

Table 3: KSCE Grading System

A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E
12	11	10	9	8	7	6	5	4	3	2	1

Note: KNEC 2018

Students' are expected to sit for a minimum of seven subjects at KCSE Examinations. A student's mean score is calculated on the basis of the best seven performed subjects which includes the compulsory subjects like mathematics, science and mathematics. University admission board places students for various degree courses on the basis of performance in the

seven subjects depending on the students 'degree courses. The mean scores attained in Nairobi County over the period of the study (2015 – 2018).shows that majority of the students who stacks examinations did not achieve the C+ minimum grade required for university admission. Those who attain grade C+ and above secure admission at the public universities. These students benefit by paying government-subsidized fees. Some of those who fail to join university join middle-level colleges for diplomas and certificates while the biggest number just drop out of school with no policy specified programmes. The mass failure is a great concern to the society and education stake holders. Students 'therefore need to improve in academic performance. This study investigated this phenomenon and made recommendations to the stake holders.

2.4 The Concept of Organizational Change

Globalization has made business organizations, governments, and non-profit institutions to undergo profound cultural changes and institutional reforms (Schrottner, 2010). The mobility of labor, multinational corporations, and regional and international institutions emerged as a result of globalization (Fessehatsion, 2017). Fessehatsion (Abbas & Asghar, 2010)(Rainey, 2009) continues to argue that a number of organizations around the world have invested significant resources in organizational change in order to better compete in the global economy. According to Burtonshaw-Gunn and Salameh (2011) the process of change has become a regular occurrence in business. In order to demonstrate increased stakeholder value, organizations strive to continually improve their business performance (Burtonshaw-Gunn & Salameh, 2011). However, to be successful, organizational management has to deal with resistance to change.

Since organizations are social systems where by two or more persons work in an organized manner so as to achieve the already set goals (Norlin, 2009); The process of school-wide change may therefore borrow from organizational change structures so that schools may achieve their set goals. Fessehatsion (2017) in his study asserts that the organizational structure for change ideologies has prompted educators and national policy makers to become creative such that they are in the process of implementing reforms and facilitating change in their education systems to cope with demands of the contemporary economy. The study stressed that school principals are obliged to facilitate change to meet the expected students' academic performance. School-wide change may borrow from organizational co-ordination systems for change as schools should be referred to as organizations. The school-wide change strategies would then be handy in this era of change in school organizations.

Research demonstrates that principals play vitally important roles in managing reform initiatives; they are indispensable change agents that influence school improvements and required change (Leithwood, 2002). The role of the school principal in school management is considered as very critical as they are the change agents; they facilitate the process of school reform through supervision of delivery of curriculum (Bolívar & Moreno , 2006).Fessehatsion (2017) stresses that the 21st Century principal requires skills for thinking quicker, working smarter, dreaming wider as they relate and supervise the teachers, students and other stake holders to attain the expected improvements in students' academic performance.

The principals should employ very innovative management ways to cope with the trends of change they initiate in the schools (Levine & Crom, 2005). Furthermore, Levin and Crom assert that tomorrows' managers need to establish a real vision and a sense of values for the

organizations and schools in their management structures. As the society become complex, the more sophisticated management for organizations may become (Fullan, 2011). Fullan also found that the theoretical reasons and tactical skills which are needed for change are moral purpose, understanding of the change process, the development of relationships among the people, knowledge building in the learners and coherence of the situations on the ground. He ascertains that managers should develop the skills and strategies needed so that they can manage organizational change effectively. School principals as managers are also expected to implement the organizational change in order for the schools to deliver the expected results. The findings of the study on school wide change strategies may therefore be handy for school principals as they embrace the great changes expected in school organizations.

Hussein (2004) stated that change in its simplest form is a process of moving from the current situation to a more efficient and effective form. This implies that change is the process through which one can learn to discover and change things progressively. Hussein concluded that change management should be effective, that is, change should have the ability to move the systems freely, be able to influence others by directing the working forces within the target systems and the management units. Hussein stresses that change can range from relatively simple short-term to the highly complex long-term transformations within the organizations. Schools like organizations need to embrace the change process in order to achieve the expected students' academic performance. Moran and Brightman (2001) defined change as the process of continually renewing the organization's intended direction, the structure, and the capabilities that would serve the ever transforming needs of the new and the old customers. Burnes (2009), views change as a present feature of an organization's life, which may be both at an operational level and strategic level. The process of organizational change may not be separated from

organization's strategy. They are both important as they contribute to the success of an organization. Organizational change may also have been referred to as organizational development which needs organizational transformation (Cummings & Worley, 2005). This is because the transformational change is progressive as it improves results or brings about successful outcomes. Therefore, due to the importance of organizational change in most of the organizations, the change management becomes a highly required skill (Senior, 2002). School principals therefore should be well trained and motivated to apply the required school-wide change strategies for the expected results within the expected timelines in the school organization.

Harvey (2008) argues that against an increasing globalization and rapid pace of technological innovation with a growing knowledge force coupled with high expected rate of success, the primary task which is very important in management today would be the supervisory role of the organizational change. Hayes (2007) perceives management as being about modifying or even transforming organizations in order to maintain and improve their effectiveness. This he concludes that it is the conscious use of planned strategy which is a characteristic of planned change management. (Childress, Elmore, Grossman, & Johnson, 2007) has also defined Change management as the use of systematic and progressive methods which can ensure that an organizational change is guided in the planned direction, can be conducted in a cost effective manner and completed within the targeted timeframe for the desired results. This shows that strategic planning in an organization is very important.

Jeremy (2004) confirmed that change management is a structured progressive and systematic approach towards achieving a sustained change in human behaviour within an organization.

Jeremy, in his study found that effective change management should focus on the processes, the managers, and the people who work in the organization. This compares well with the school-wide change where principals are expected to focus on the school's strategic planning, the teachers, and all stake holders so as to achieve the expected students' improved academic performance. This study seeks to investigate these phenomena. Burnes (2009) in his study concluded that whatever form the change takes, and whichever objective it seeks to achieve, organizations would not be expected to achieve success unless the managers understand the different approaches for the change to bring success it may be expected to achieve. Feldman and Pentland (2003), noted that organizational experiences inevitably may set precedents that would become difficult to change if need arises. This implies that principals in the school organizations need to be trained continuously to cope with the school routines and experiences that would inevitably set precedents among teachers and the stake holders that can become difficult to change and that which can hinder the achievement of the expected students' academic performance.

The principals should always be conscious of the teachers' perceptions which may be positive if teachers are progressively involved in the day-to-day running of the school. Feldman and Pentland (2003) warn that organization members may become so preoccupied with situation of coping with change that they may have no energy left to create new ideas, products or even relationships. Feldman and Pentland recommended that for any identified changes to be successfully adopted, the management requires to have well planned strategies for an overall coordinated change process. School-wide change process may be managed in such a way that teachers and students would find motivation to continuously adopt to the best practices of

change process so that they can always have energy to create new ideas progressively. This study set to fill up this gap.

Koegh and Whyte (2005) in their study identified effective change management program would involve mission and vision, stakeholders' support system, development of the right organizational structures, introduction of new technology, the designing of new individual roles, reward systems, and also the management processes. Such a process in a school organization is school-wide change, where a wide range of changes would be embraced to enhance the expected students' outcome. Koegh and Whyte also found that improved organizational performance is not only about the application of rules and regulations, but also requires the change management objectives and performance management targets to be seen that they are interconnected and are achievable.

Arnetz (2005), argues that some level of openness and engagement that happen throughout the change management life-cycle which transcends policies, procedures and statutory obligations in the organization, may be necessary to enable the previously identified strategies which may give the highest possible expected results. School-wide change process should apply the level of openness and engagement that may take place throughout the change management life-cycle in the school organization and teachers, as a team, are expected to perceive the change process positively so as to achieve the expected students' academic performance. This study set to fill up this gap.

Change management may involve authentic, visible ownership in order for the organization to accomplish success at the topmost echelons. To sustain the change effort, principals leading school-wide change should appreciate the change dynamics within their own school's setup and

work closely with teachers throughout the learning time. Jones and Harris (2014) conducted a research on how principals in various states were accomplishing successful organizational change through the process of generating social capital. Jones and Harris also purport that the extent to which an institution operates as a unified entity and the way the principal and teachers collaborate, will eventually determine the teachers' perception and therefore improved students' academic performance. The study also revealed that a well-managed professional collaboration is an important way in which principals could create and sustain the social collegial support to achieve the expected school-wide change process. They assert that while principals may have a basic role to play, they may not bring about meaningful change by themselves but must create corroboration with teachers and other stake holders so as to achieve the required school-wide change. Jones and Harris concluded that in the process of school-wide change effort, a number of stakeholders would be impacted especially the teachers, students, parents, as well as school partners and district leaders who would positively contribute to the expected students' academic performance. This study set to find out if such relationships existed and if they contributed to the students' academic performance.

Chang (2008) carried out a studying New Taipei City (Taiwan) on principals' change management processes as perceived by the teachers and also explored the dimension of change which might impact on the teachers' professional development. The study concludes that shaping the principal's change management skills through training could prompt to enhancing the teachers' professional development skills which may in turn contribute to the teachers' positive perception towards principals' management of the school-wide change strategies. Such change process may improve a teachers' delivery and therefore better students' academic performance.

Burnes (2009) ascertains that there is no particulate widely accepted clear and practical approach to change management in an organization, which explains entirely what changes organizations may need to make and how best they can implement them with optimal organizational performance. Caldwell and Spinks (2005), argue that a successful change project should invoke the Kurt Lewin's theory of change in that the process should involve the three steps of unfreezing the processes at the present level, then to then taking it to the new level, and re-freezing them at the new level. This process may be applied during the school-wide change process. Due to criticism leveled against planned approach to organizational change, the new approach gained ground. Change is seen as driving from the bottom going upwards (Burnes, 2009). According to open-systems theory, the organizations may constantly interact with their environments. They may need to structure themselves so as to deal with forces in the world around them (Price & Scott, 2011). Bowen (2009) defines Organizational development, as being reactive rather than being proactive to change process. Bowen purports that organizations respond to change as a complex educational strategy intended to change beliefs, attitudes, values, and structure so as to be able to adapt better to new technologies, new markets, new challenges, and the dizzying rate of wide change itself. He continues to stress that organization and therefore schools are also viewed as complex systems. Schools as complex systems may be run like organizations and therefore the need to view school change as school-wide change with a variety of changes.

Simon (2011) purports that a complex system is one which is made up of a large number of parts which have many interactions. The school-wide change process may apply the complex system process in that a wide range of systems in a school may need to change simultaneously for the school to be able to embrace successful students' performance. Taylor and Tyler (2016)

ascertain that a complex organization may be referred to as a set of interdependent parts, which when put together may make up a whole that is interdependent with the larger environment. In every organizational change, there may be a risk which may manifest itself through a decline in business performance (Burtonshaw-Gunn & Salameh, 2011). They further suggest that performance management systems and their related key performance indicators may be used to help the managers predict and mitigate the expected impact of the change management programmes which are expected to inspire and to re-align the culture and organizational targets which may have been set.

This process is likened to the processes in the Kurt Lewin's theory of change which is relevant to organizational change today. Organizational change is inevitable today because if organizations do not struggle to adapt to the change, they are likely to face decline in the volatile environment as suggested by the Kurt Lewins theory of change. Taylor and Tyler (2016) purport that winners normally would respond to the pace and complexity of change process. They would always adapt, learn and also act quickly. Losers would control and master the change in the environment which may sometimes takes place either late or even not at all. Schools like other organizations may borrow from Kurt Lewin's theory of change in which school principals struggle to adapt to change the processes or face decline in the volatile environment where teachers, students and other stakeholders may resist to the change required. This may be painful but when done well, the school system may maintain the change process as the fruits of success in students' academic performance are enjoyed by all.

Al-jaradat, Nagresh, Al-Shegran, and Jadellah (2013), in their study on the impact of change management on the performance of employees of the university libraries in Jordan, revealed that

change in the organizational structure was not flexible. Therefore, organizational structure may not have been appropriate for the business requirements within the University Library which led to overlapping powers and responsibilities. The study concluded that there was a positive relationship between the areas considered for change which were organizational structure, technology and the workers. The study recommended that for the change program to succeed, it is appropriate to focus on organizational structure, human relations and also the technology. It was concluded that when there is a balance between these aspects to improve the performance of employees, this in turn may be reflected in the quality of organizational productivity. Schools like organizations may borrow and apply the wide range of changes where the principal collaborates with teachers, workers and also stakeholders for the success of the students' academic performance.

In Kenya, Chieta, Okibo, Nyamwamu, and Njeri (2014) assessed the effect of change management strategies on students' academic achievement at national examinations in Kisii County. The study recommended that schools should embrace the use of motivation, benchmarking, and good management to achieve higher levels of performance in national examinations. This study set to expand on a wider spectrum of change to address the consistent dismal performance in students' academic performance in KCSE.

According to Chukwumah (2015) most secondary schools in Anambra State had developed their strategies. However, other crucial strategies such as targets, expected outputs, and achievement indicators were found to be under-implemented by teachers. This implied that the level of commitment by principals' supervision of teachers needed to be improved. This implied that the level of commitment by principals' supervision of teachers needed to be improved. The study

recommended that principals should be more intentional and involved in the development and implementation of their schools' strategic plans so that students can attain the required academic success. The principals as agents of change may embrace the school-wide change strategies during implementation so that the students and the teachers may succeed in the students' outcome and hence the need for this study.

Organizational change may be defined as a premeditated process, planned strategy, unusual and authentic effort that may be applied by the organization to enable it to reach newer goals or to achieve the set goals in a more effective manner (Altunay & Arli, 2012). Escalente (2005), discussed two types of change: planned and unplanned change. He purports that planned change may be considered to be desirable for the organizations, and it is a change realized through the participation and also the support of all the members of the organization. On the other hand, Escalente purports that the unplanned change may be regarded as the inevitable change that the organization may undergo, consciously or even unconsciously, which may be due to unexpected circumstances. Hoşgörür (2016), on views of the administration of primary schools, defined change as a renewing process, updating of situations that may create problems during the implementation process in an organization.

2.5 Perceptions of Teachers' Towards Principals' Management of Strategic Planning Guidelines and Students' Academic Performance

To improve the organizational performance of businesses and government departments, strategic planning has been proven to be an effective management tool internationally (Bryson, 2011). This is because it determines whether an organization will be successful or not. According to Nickols (2016), a strategy is a general action plan that is formulated to achieve a

long-term goal using resources deployed by the organizations. Nickols further assert that strategy is the direction and scope of an organizational plan over a period of time which is used to achieve organizational goals through its configuration of resources within a changing environment. This, he argues that it helps meet the needs of markets and also fulfills stakeholders' expectations. Nickols, in his study found that strategy is always identified within the institutions' and organizations' strategic planning process where they match their strategies with the prevailing environmental factors and therefore the process becomes the core business of the organizations' planning.

Strategic planning as defined by Edwards, Slyke, and Bryson (2018), for public and non-profit organizations is expressed as a guide to strengthening organizational achievements, an effort to bring about fundamental decisions and activities that could shape and guide the day to day activities of an organization in that it spells out what the organization does and the reason why it does it. A report by Rainey (2009) ascertains further that for an organization to deliver the best results, the strategic planning for the organization requires broad yet effective information gathering, the organization's development and wide exploration of strategic alternatives, and an emphasis on the consideration of the future implications of the current decisions. Harvey (2008) again defined strategic planning as a process whereby of goals are set, decision is made on actions to be taken to achieve those goals and the process to be taken to mobilize the personnel and the resources that are needed. Bryson(2011) argues that many organizations around the world have now taken in developing strategic plans because the old policies and strategies that were there before have failed due to lack of initiation of continuity strategies. He concludes that introducing strategic plans is the only solution to ensure quality output and improvement of the organizational standards which will eventually yield improved outcomes.

Chang (2008) asserts that a school's strategic plan should contain implementation strategies, actions and benchmarks for implementation, monitoring and evaluation, as well as the expenditure framework which allows adjustments in areas of management during its implementation. Chang further purports that the school's strategic plan should entail the school's analysis of its strategic issues for development, prioritization, planning to address such issues and, finally, implementing a plan to manage these issues by the principals for delivery of the expected students' academic performance. Chang concluded that such a plan can lead to school effectiveness, improvement, and development so that if properly implemented by the teachers, it can ensure that the learners receive quality education through proper supervision by the principals during the implementation process. Further, he explains that School Developed Strategic Plan (SDSP) is a live document which automatically links the whole school to continuous self-evaluation reports and performance appraisal, and objectives for the school to maintain continuous students' performance and evaluation. A study by Stosich (2014) purports that recent accountability policies have heightened pressure on school principals to use strategic planning data to improve students' achievements in school wide-program. In USA, a study of No Child Left Behind (NCLB) program (Linn, Baker, & Betebenner, 2002) explains that the "No Child Left Behind" refers to the No Child Left Behind Act of 2001 of a federal law passed in USA. NCLB represents legislation that attempts to accomplish standards-based education reform which strategized that 100% of students (including special education students and those from disadvantaged background) to be given equal opportunities in USA. In his study on NCLB strategy, Kucerik (2002) in USA found that the stake holders want principals, teachers and students held accountable for students' academic performance through a workable strategic plan. While accountability policies have led to substantial data about students' academic

performance, little data is collected on the organizational conditions that school principals would need to change to foster continuous improvement of students' achievements (Elliot, 2015). This study, set to investigate this phenomenon further.

Continuous improvement requires school principals to articulate a vision for improved instruction and students' learning and to develop systems for collecting, analyzing, and acting upon information data that supports the principals in realizing this vision (Fullan, 2011). In schools, this vision can only be influenced by the school principals as they are the vision carriers and must collaborate with the teachers to achieve students' outcomes (Sammons, Leithwood, & Hopkins, 2011). Different types of data in school management strategy is very important as it is used in organizing school results by analysis of Strengths, Weaknesses, Opportunities and Threats (SWOT) in improvement of students' performance and especially when the achievement has stagnated. In such circumstances, schools may use the Kurt Lewin's theory of change so as to freeze the status quo and embrace the 21st Century school change and later freeze the good practices so as to achieve the expected students' academic performance. When teachers' perception is positive on the school change, students are likely to perform better in academics. Schools are still struggling world over to achieve the idea of using data analysis for students' achievement. Sammons et al. (2011), noted that data use was no longer a choice for school principals but is a must. This study set to investigate the use of the strategic planning strategy by the school principals for students' improvement of the academic achievement to fill up this gap.

Education systems must have a powerful and coherent educational improvement strategy in order to improve students' academic achievement (Childress, Elmore, Grossman, & Johnson,

2007). Childress et al. assert that the strategic plan for management of human capital and the education system's improvement strategy are inextricably linked. According to Pearce and Robinson (2014), implementation of the strategic plan involves key activities which develop short term objectives which are implementable with developing policies that empower action. Njeru, Stephen and Wambui (2013) pointed out that a school that formulates and implements strategic plan derives benefits such as having negotiated and agreed clear goals and objectives that the principal and teachers can follow for students' academic achievement. Njeru et al (2013), continues to argue that communication of the set goals to various stake holders by the principal through provision of a base upon which progress can be measured; building strong and functional teams with teachers with a clear vision on how the school will run is an indication of school success. Such collaboration may provide the school management with new ideas which can steer the school to greater heights of excellence and commit the school funds to a well-organized and coherent performance agenda. Such a process may be referred to as application of strategic planning strategy within the school-wide change process. This study set to investigate this phenomenon in Nairobi County.

The education sector, like the economic sector, needs the use of human, material, and financial resources to function (Bell, 2002). Bell reiterates that secondary school sector is the springboard of all educational institutions where students are prepared to take a lasting decision of who they will be in the society tomorrow as they prepare to undertake a university study career. Bell (2002) continues to explain that this calls for the need to engage all stakeholders in strategic planning and school management which calls for full participation of principals, teachers and other stakeholders in form of collegial support which they found that it brings about students' achievement and school success. Strategic planning is one of the major steps that schools should

take to address the challenges they face in enhancing the quality of their educational objectives which will address the expected students' outcome (Njeru, Stephen, & Wambui, 2013).

In Kenya, some of the main challenges faced by the MOEST in implementing and actualizing Vision 2030 within the social pillar of education are students' academic performance, access, quality education, completion, retention, and relevance (MOEST, 2005). In 2005, MOEST through the Kenya Education Sector Support Programme (KESSP) came up with a program to work closely with a wide range of stakeholders in the education sector through the Sector Wide Approach Program (SWAP) for the development of the education sector in Kenya (MOEST, 2005). The program recommended that in ensuring that the challenges are mitigated, schools should prepare strategic plans that run between 3-5 years out of which they identify key strategies that are relevant for students' achievement. A study by Nyagah (2015), aimed at analyzing the factors that affect formulation of strategic plans in secondary schools in Mombasa County in Kenya found that management of schools, training of teachers and principals, and resources allocation to a large extent affect formulation and implementation of strategic plans in schools. The study further recommended that there was need to train the principals and teachers on the formulation and implementation of the schools' strategic plan. This study, set to investigate further this phenomenon.

In some countries, the government has made it mandatory for schools to formulate strategic plans, for example, the Australian Government has made a guideline of what schools should include in their strategic plans (State of Victoria, 2020). There is also lack of structures to monitor formulation of strategic plans by secondary schools. The principals, therefore, need to supervise the formulation and implementation of strategic plans so that it can eventually benefit

students. The report ascertains that among the strategies that are set by schools include formulation of mission statement, continuous assessment, benchmarking, and syllabus coverage to improve the students' academic performance. In a school set up, a strategic plan helps a school define what it intends to achieve when it comes to their students' academic success, objectives, and organizational goals. A combination of good planning and collaboration ensures that all stakeholders including parents, teachers, administrators, principals, board members, and community are all striving for the same goals. Ong (2016) stipulated that a strategic plan in a school is very significant in that it gives the principal and the teachers a sense of purpose and direction capable of guiding them in making everyday choices about what actions should be taken in order to produce the expected students' outcome (Victoria & Chikwature, 2016). The study by Victoria and Chikwature on the teachers' perceptions of the role of strategic planning in educational development, found that teachers did not fully understand the concept of strategic planning as the concept was still on trial. This study set to investigate further on the perceptions of the teachers on this phenomenon.

Organizational change is not only a multilevel construct, but a multi-faceted one. Specifically, organizational change refers to organizational members' change commitment and change efficacy to implement organizational change (Weiner & Lee, 2008). Organizational change is the movement of an organization away from its present state and towards some desired future state to increase its effectiveness. This is achieved through an ambitious strategic planning. A question may be asked; why does an organization such as the school need to plan to change the way it performs its activities? This is because the education environment is constantly changing, and hence the school organization must plan to adapt to these forces in order to remain relevant and effective (Blankstein, 2010). The implementation of the school strategic plan is the required

change that the schools need to implement. In the US, interest in applying strategic planning as a reform tool in education became popular in the early 1990s, and gained popularity in some states like Rhodes Island where strategic planning in school districts is mandated by state law (Ralph , 2012). Cooper (2003) concurs with Weiner (2009) that organizational change is not only a multilevel construct, but a multi-faceted one and the school as an organization should plan its strategic plan well. The study set to investigate these phenomena in Nairobi County.

Phiri and Chileshe (2016) undertook a study to evaluate the impact a strategic plan has on a students' academic performance. The findings revealed that a strategic management system placed the teachers in pre-determined positions for effective performance which resulted in improved student' academic performanc. Bryson (2011), ascertains that incorporating strategic planning, school districts have an uninterrupted record of embracing the process as a regular feature of their organizational life. Bryson further noted that an increasing focus on accountability and academic achievement contributed to the movement for school transformation as early as in 1990s. Bryson (2011) noted that to regularly engage in the process of examining the mission and vision, assessing current state, setting goals, determining action plans to achieve their goals, and measuring progress towards meeting the goals has become a characteristic of successful schools. Nothing affects a school more than its inability to create and execute a strategic plan (Hrebiniak, 2013). Hrebiniak ascertains that a good strategic plan can improve the students' academic outcome. Stephen and Jagongo (2016), found that to deliver the best results, strategic planning should cover a wide scope of internal and external information while seeking alternative measures to curb future implications resulting from current decisions. This study, set to investigate this phenomenon in Nairobi City County.

In Kenyan schools, strategic planning was introduced in 2008, after discovery that schools only operated on development plans adapted from the Ministry of States Agency for International Development (USAID). An investigation was carried out by the MOE, which established that plans in schools were more general and did not adequately focus on outputs and outcomes (Ministry of Education, 2008). Mwenda (2014), in a study on determinants of effective institutional strategic planning in public secondary schools in Meru district in Kenya, found out that despite the fact that 93% of the principals had received training on strategic planning, many had not effectively implemented it in their respective institutions. Murugu (2013), in his study on strategic performance in public secondary schools in Kenya also revealed that the very few schools with well executed strategic plans had better organized programs for students' academic performance. Another study carried out by Okode (2013) to determine the influence of secondary schools strategic planning on students' academic performance in Rachuonyo North District, Kenya revealed that the majority of the schools had mission statement written on walls and entrance of school gates. The study revealed that the statements or information on the walls was not well understood by the teachers and the timeline was not well stipulated in many schools, which led to a clash of programmes. This study set to expound on these findings and bring up more recommendations,

Chimuka, (2016) in his study on investigation of the effects of secondary schools strategic planning on students' academic performance in selected schools of Lundazi District in Zambia established that, the strategic plans were not well utilized and therefore only influenced students' performance to a little extent. Chimuka also found that schools that had put continuous assessment programme in place in assessing their students' made a considerable progress on the students' academic performance. Chimuka further established that improving teacher

preparedness on strategic planning was among the various strategies used by schools and this had positively influenced students' academic performance. The study further revealed that management and supervision of teaching and learning strategy influenced students' academic performance to a large extent. The overall findings by Chimuka, indicated that there was a positive and significant influence of the school strategic plan on students' academic performance with the greatest influence from teacher preparedness strategy. Gakenia, Katuse and Kiriri (2017) sought to examine the role of principals' execution of strategic plans on the performance of national schools in Kenya. The study revealed that the strategy execution is positively correlated to academic performance of national schools. This study set to investigate these phenomena in secondary schools in Nairobi County so as to make further recommendations.

2.6 Perceptions of Teachers Towards Principals' Management of Collegial and Collaborative Strategy and Students' Academic Performance

Collaboration within teaching and learning, means shared values and concepts within the groups of teaching and learning through the teachers which influences teaching process and therefore students' achievements (Shakenova, 2017). Shakenova further purports that it may be referred to as management shared decisions in making common decisions which play a pivotal role in students' academic improvement in a school. Cooperation between teachers, principals and other stake holders is also important. McIntyre (2018) linked exemplary results on student performance to the culture of teacher collaboration and shared responsibility for all students and also to principals' management of such collegial and collaborative strategy. McIntyre also purport that the principals' use of collaborative approach in management has gained popularity in school management and therefore the need for this study.

Davidson and Major (2014), ascertains that collaborative teaching and learning entails students working together in groups without teacher supervision but groups that are small enough so that all students can participate collectively in the task. Further, the teachers would supervise such activities from a distance. Davidson and Major also argue that for students' achievement to be successful, teachers' collegial relationships should be established which is accomplished by the establishment of healthy learning, communities of collaborative teachers and students. Collaborative community cultures which comprises of evolutionary relationships of transparency, trust, support among the principals and teachers where they all develop their own purposes as a community (Hargreaves & Hopkins, 2009). They further ascertain that contrived collegiality is made up of administratively contrived interactions which emanates from the teachers where they meet and work together to implement the laid down curricula and instructional strategies developed by the management. This study seeks to establish the extent of the use of this strategy in Nairobi County.

Goddard (2012), in his study found that some employees in their workplace are pleasant primarily because they created healthy relationships with expressive collaborative behavior that made them work happily. Lunenburg (2010), analyzed a large volume of research on organizational culture, leadership and change experts, and found that strong positive culture had several functions that facilitated productivity, improved collegial and collaborative aspects, built commitment activities to solve problems, supported change process, increased motivation, and diverted attention to daily behaviour on values. Woods (2002) contended that when the teachers collaborate, it impacted on school culture and therefore, the success or failure of efforts to improve student learning resided with teachers. Through surveys Woods also uncovered conflicts that frequently emerged when efforts of the school management tried to embrace the

professional autonomy, authority, and also the responsibility of teachers. The resistance conflicted with hierarchical and bureaucratic district and also the school culture. This study seeks to establish whether this phenomenon was established in Nairobi County.

The need for strong school management system on the part of both the principals and teachers is characterized by collaborative and inclusive teaching and learning involving all school teachers and the students working together for a common purpose (Link, 2013). Further, Bennaars (2004) assert that principals who are incompetent in school management are a big problem to the overall management and administration of education in any country. Principals must therefore initiate the change needed and manage the school-wide change strategies for students to improve in their academic work. Bennaars (2004) further observed that successful drastic changes in a work environment will always result when a visionary manager encourages and persuades the staff rather than commanding them towards a common goal. As Shapiro (2008) points out, teachers' perceptions can be influenced by the principals' good attitude as a mentor, responder, and above all an initiator in a school. Foster (2010), emphasizes that principals are directly involved in supervisory activities there by influencing the teaching and learning in the school towards improvement of students' academic performance. He ascertains that the rapid trend of globalization and technological changes has made it difficult for organizations to survive in the competitive world. This study therefore seeks to investigate the level of collaboration and collegial support strategy in the Nairobi County.

Due to globalization and technological changes, the importance of educational management has increased many folds (Balaji, 2013). Schools' management vary substantially in the manner to which teachers trust their principal (Lunenburg, 2010). Lunenburg purport that when a change is

proposed to the teachers and the trust is low, a natural first reaction will always be to resist that change but on the other hand, if the trust is high, the teachers are more likely to support the proposed change strategy. Further, he ascertains that when the teachers have distrust in school management, they can resist change, even when they understand that they can benefit from the change (Lunenburg, 2010). Positive perceptions of the teachers on principal's management of collaboration and collegiality within the school set up may be important as it may contribute to students' improved performance.

Goddard (2012) purports that collective efficacy may be referred to the capability a group to organize and execute the strategies required to reach the expected goal. Further, Goddard ascertains that collective efficacy is an important organizational which depends on communal ability and willingness to resolve problems together. Goddard also stressed that shared beliefs and collective efficiency in school-wide change implementation requires collective response by principals and teachers who need to work together to achieve the expected students' academic performance. Weiner (2009) in his study also ascertained that when schools' readiness to embrace school-wide change is high, the teachers are more likely to initiate change, exert greater effort, and also exhibit positive perception on the change, and display more collaborative behavior. This, Weiner ascertains, leads to better students' academic performance. This study seeks to find out the rate of collaboration and collegial support strategy existing in Nairobi county and that which contributes to the students' academic performance. This study seeks to find out if such a phenomenon existed among the principals and teachers in Nairobi County.

Australian Principals Associations Professional Development Council (Australian Council for Educational Research, 2007) report on national framework of competencies for school managers

ascertained that collaboratively designing and carrying out strategic plans in schools is important and should be embraced. Roscoe (2007), confirms that the supervisory management by the principals on the teachers has more effects on students' learning which confirm that the application of collaborative processes through which more collegial support management is applied; it in return influence students' academic performance. The study concluded that students' academic performance is more likely to improve when management processes are distributed throughout the school community and when teachers collaborate with each other and are empowered by the school management in areas of importance to them.

Harris (2008), undistributed management and organizational outcomes in England found that there is a relationship between collaborative management and organizational outcomes and also some evidence to suggest that the relationship is positive. Torres, Bulkley, and Kim (2020) on shared influence on school management and school-wide decision making in Denver USA, found that collaborative management between principals and teachers has strong ties to students' academic performance and teachers' commitment. Sherman (2000) purports that principals' job has evolved significantly over the last twenty years such that the principal in the 21st century is expected to constantly multi-task and shift roles at a moment's notice, focusing on students' achievement. Hirsh (2005), ascertains that an effective principal will always "walk the talk". This is possible through the continuous professional training of teachers and principals in establishing knowledge base so as to support the school-wide change reform. Meador (2019) established that for a principal to perform the administrative role well, the principal and the teachers must exhibit qualities that can make them achieve the school objectives hence the importance of training of the teachers and principals. This study seeks to establish the levels of preparedness to meet these phenomena in the Principals and teachers in the Nairobi County.

Few studies have addressed collegiality and collaboration and how they influence performance. Jerald (2006), in Chicago found a relationship between social support of warm caring school environment and strong academic pressure to positively improve the students' academic achievement. Jerald examined the relationship between principal's management behaviour and school learning culture. Jerald, found a strong positive relationship between principals' management of school processes, and students' outcome. Jerald also administered a school culture questionnaire and learned that common goals, confidence in school management, school regime, leader focus, communication, relationships, and organizational structure contribute to gains in student achievement. This study seeks to find out if such relationships existed among the principals and teachers in Nairobi County and whether they contributed to the students' academic improvement.

Ervin (2011) ascertained that the relationship between teacher collaboration and collegiality and student academic achievement in Georgia was that the level of principals' support and collaboration with teachers significantly predicted the students' academic performance. Shah (2012) on the importance and benefits of principals' and teachers' use of collegiality in schools' teaching and learning found that collegiality plays a vital role in implementing teacher professional growth and development, brings about job satisfaction, teachers' and principals' organizational and professional commitment, which results in good school quality and better students' academic performance. Treohan (2010) while exploring specific collegiality in perceptions of teachers and their relationship to students' achievement, revealed a positive relationship between collegiality practice by the teachers and students' academic performance. This study set to find out if such a relationship existed among the principals and teachers in Nairobi County and whether it influenced students' academic performance.

Martinez, Batanero and Sanchiz (2019), investigated the effects of collaboration among the teachers and principals and its effect on students' academic performance in mobile learning schools. The results showed that there were significant gains a result of effective collaboration which brings about students improved academic performance. Shah (2012), assessed the relationship, if any, between collegiality of teachers and students' academic achievement in schools. The results revealed that collegiality had a direct positive correlation with academic achievement of students. This analysis indicated that if the collegiality of teachers which involves sharing decisions and planning together is high, then the academic achievement of the students will be high. The study also concluded that there is a great need to develop the collegiality of the teachers in a school, because the academic achievement of the students is a vital point in an academic performance. The study also asserted that a teacher is a guide of the students, and that there should be all kinds of efforts from the part of teachers to remove all barriers like inferiority, superiority, cultural, and religious differences to develop the collegiality for improvement in academic achievement of the students. This study set to find out if such relationship existed among the principals and teachers in Nairobi |County and whether it impacted on the students' academic achievement.

Sadikoglu (2014) on application of total quality management of schools established that the principal is at the center of the management and the test of his or her management is to be found in the perceptions of his followers who are the teachers. Positive perceptions of teachers on the principals' management of school-wide change strategies, implementation of collegiality and collaboration among the teachers, may lead to improved students' academic performance. Shrifian (2011) on collegial management by the principals to improve the school effectiveness in Islamshahr, Iran, concluded that there was deep correlation between collegial management by

the principals and that as a result, there was positive relationship between collegial management and Students' academic performance. This study set to confirm such a relationship among the teachers and principals in Nairobi City County and whether it had any relationship with students' academic performance.

In Africa, Mafora (2013) on learners' and teachers' perceptions of principal's management of strategies in Soweto secondary schools in South Africa, a social justice analysis, found that students and teachers experienced schools' management as democratically untransformed and that schools had a climate fraught with unfairness in school management, inequity among school members and disregard for human rights and that it had intolerance of diversity. The study further ascertained that principals' and teachers' collegiality and collaboration has not been perceived positively which creates a barrier to democratic transformation and social justice and which threaten the management effectiveness and also students' academic performance. This study of teachers' perception of principals' management of collegial and collaboration strategy may be found useful in such an environment.

In Kenya, a report by Eshiwani (2004), purport that lack of training in management skills by principals is a major factor that contributes to poor performance in national examinations. Eshiwani also asserted that evaluation is a major process used to adjust strategies especially the collaboration and collegial support among the teachers so as to achieve the expected students' academic performance. Evaluation has also been used as the process of assessing actual performance in comparison to the expected and planned goals (Erpelding & Harrison, 2012). In secondary schools, when curriculum is developed, it must be assessed or evaluated to find out if the intended goals were achieved and therefore the need for collegiality and collaboration

among the teachers and principals. Wachira and Anyieni (2015), sought to establish how collegiality and collaboration influences the performance management of TSC staff. The study established that collegiality and collaboration have a significant effect on TSC management performance and recommended that TSC should apply collegiality and collaboration systems within its structures to enhance better performance management and better organizational outcomes. This study sought to investigate this phenomenon in Nairobi City County.

2.7 Teachers' Perceptions of Principals' Integration of ICT Strategy in Teaching and Learning and Students' Academic Performance.

Information and Communication Technology (ICT) is defined as a diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information (Victoria & Chikwature, 2016). Victoria & Chikwature argues that the use of ICT to achieve education and development goals is the great skill of the 21st Century. The study revealed that a well-designed technological solution can be used to disseminate resources, connect students to information, enhance teachers' practices and students' performance in all subject areas, improve school management and support data-driven policy making. Ghavifekr and Wan Rosdy (2015), purport that ICT will assist teachers to embrace the global requirements by replacing traditional teaching methods with a technology-based teaching and learning. Ghavifekr and Rosdy in their study on analyzing teachers' perceptions on effectiveness of ICT integration to support teaching and learning process in the classroom in Malaysia found that ICT integration has a great effectiveness for both teachers and the students. Further, the study found that teachers' well-equipped preparation with ICT tools and facilities improved students' achievements especially in academic excellence.

As defined by Kennah (2016), information and communication technology (ICT) is the combination of technologies for collection, storage, processing, communication, and delivery of information. Kennah adds that many sectors around the world have benefited from the use of ICT as a source of innovation and efficiency improvement. By increasing learners' creative and intellectual resources, ICT is an effective teaching and learning tool. It has been established that technology travels with people, and therefore ICT is seen as a growth engine and an instrument of empowerment with profound implications in terms of education, change, and socio-economic development (Escalente 2005). This study, set to find out the extent to which Nairobi County principals and teachers use the ICT technology to enhance students' academic performance.

ICT has brought a tremendous change in society by connecting the whole world. It has produced and enhanced change in teaching and learning all over the world. UNESCO (2011), described ICT as a tool that can complement, enrich and transform education for the learners. The UNESCO report further noted that ICT innovation has provided access to the whole world through collaboration with education providers. The report ascertains that the teaching and learning materials can be shared online with teachers and students and therefore making teaching and learning more motivating and enjoyable the students. The UNESCO report further concludes that the education sector, particularly the application of ICT has become so critical that it is part of the learning process for university students both outside and inside the classroom setting. The government and other stakeholders in the education sector such as university management and researchers have invested millions of dollars to adopt ICT in the education system during the last two decades (Jonassen, 2000). Most universities have fully adopted ICT and have recorded immense advancement in the application of ICT for the improvement of teaching and learning methods, research, and have created positive perception

of teachers on the change in the teaching and learning process. The researchers have not made it clear what impact the ICT application have made on the students' academic performance and other related achievements. This study set to find out the extent to which the teachers and principals have embraced this technology and its impact on students' academic performance.

USAID education policy implemented in the MOE (2016) was among the world's largest bilateral supporters of information and communication technology (ICT) projects in education. The policy used technology to increase access to basic education, to support the development of literacy and numeracy skills, to improve the management of schools and education systems, to enhance the relevance and quality of learning and to extend educational opportunities to marginalized and vulnerable populations, including those in crisis and conflict. In South Africa, despite the massive investment in the integration of ICT in many secondary schools, the practical use of the ICT tools by teachers remained in a preliminary stage with little significance in the educational outcome (Guma Ali, 2013). The study concluded that the program of "One laptop per child" initiative had not yielded significant results especially in less developed areas.

Suhr, Hernandez, Grimes, and Warschauer (2010), in Birmingham, USA on investigating whether a one-to-one laptop program could help improve English language arts (ELA) test scores of upper elementary students, found that students enjoyed using multimedia, searching the internet, and writing their papers on computer. The study also found that students wrote longer papers than was typical in non-laptop classes, and that the laptop students were able to revise their work better. The study by Suhr et al.(2010) explored the performance results by comparing changes in the ELA test scores of the group of students who entered a one-to-one laptop program in the fourth-grade to a similar group of students in a traditional program in the

same school district. The study revealed that the laptop students outperformed non-laptop students in their performance of ELA total score. This study set to investigate whether this phenomenon was used by the principals and teachers in Nairobi County and whether it impacted on the students' academic performance.

The United Nations Educational, Scientific and Cultural Organization (UNESCO), created and used the "One Laptop Per Child" (OLPC) initiative as a means of closing the digital divide gap between developed and developing nations on the use of ICT (MOE, 2016). Research had showed that the absence of efficient and right ICT development policies in most African countries including Cameroon had widened the information technology gap between the developed and the less developed countries (UNDP, 2015). The rationale of studying academic performance in the context of ICT adoption is to present a significant relationship that exists between the two variables. Research had shown that the use of ICT in education c increase students' motivation, deepen their understanding, and promote active collaborative and lifelong learning (Jonassen, 2000). Guma Ali (2013) ascertained that ICT had created a virtual interaction platform where teachers, parents and students could communicate easily through e-mail, Skype, teleconferencing, and videoconferencing. Ali ascertained that ICT had also led to a 24 hours easy and quick access to various learning resources globally which helped in saving time for both teachers and students.

The application of ICT in teaching and learning was changing the nature of teaching and learning. In the last decade, many studies had been undertaken on ICT implementation in education and reform in instruction technology (Gikundi, 2016). Imon (2017) on ICT integration in secondary education in Bangladesh found that the extent of ICT usage in the

classroom was minimal due to the challenges of unavailability of the ICT infrastructure. Wagner (2014) on the Global Achievement, described various 21st century teaching and learning skills that included; critical thinking and problem solving, robotic programming, collaboration across networks, and leading by influence as important for use in the new paradigm for school wide-change strategies. Some programs related to the school-wide change had come up in media for educational motivation for learning such as M-elimu, Edmodo program, effective oral and written communication such as “mind your language” on Kenyan media services (KTN, 2019). These programs supported the school wide-change strategies and if well strategized and managed would lead to improvement of students’ academic performance. This study set to investigate this phenomenon.

Laaria (2013), conducted a study on the impact of ICT on students’ academic performance in Tunisia. The study found that a distinctive though negative effect of ICT on performance was revealed which questions the effectiveness of educational policies in Tunisia. Hussain and Suleman (2017), also conducted a study on effects of ICT on students’ academic achievement and retention in Chemistry subject at Secondary Level in Karak District, Khyber Pakhtunkhwa Pakistan. The findings indicated that there was significant variance in academic achievement of control and experimental groups. It therefore revealed that information and communication technology positively affects students’ academic achievement and therefore the use of ICT in teaching and learning was found to be more compelling, effective and valuable in teaching of chemistry when contrasted with conventional techniques of teaching. The study recommended that information and communication technology should be used in teaching chemistry for enhancing students’ academic achievement at secondary level. This study also recommended that other subjects should also apply this method of teaching with ICT technology.

Mbaeze, Ukwandu and Anudu (2010), Basri and Alandejani (2018), Khan, Khan, Din, and Muhammad (2015) concurred that there exists a relationship between ICT adoption and students' academic performance. They also purport that the ICT integration in teaching and learning reduce the social disparities between students, since they collaborate in teams in order to achieve a given task. Students also assumed responsibilities when they used ICT to organize their work through digital portfolios or projects. This study investigated these phenomena in Nairobi County.

Abbas and Asghar (2010) on the analysis of literature reviewed and the results of real life cases of organizations shows, that management with the competencies of "Vision" and "Innovative Approach" along with other characteristics can prove more effective to conclude the complex phenomena of organizational change with success. Abbas and Asghar assert that the ICT technology should be embraced by the school principals as the new tool for innovation in the great change for teaching and learning to attain better students' academic performance.

In Kenya, a study by Oyeila (2016) on integrating ICT in Mathematics education at secondary level in Nairobi City County found that teachers were not well prepared and that schools were not well equipped with ICT infrastructure. Mbugua (2016), in his study on Integration of ICT in teaching in public secondary schools in Nakuru County, Kenya found that ICT facilities in the sampled schools were inadequate and that teachers had only basic or no ICT skills. Further, Mbugua found that financial constraints and lack of ICT resources were some of the challenges teachers faced in integration of ICT in teaching and learning. Mbugua also purport that there was a positive significant relationship between integration of ICT and students' academic

performance. Mbugua concluded that the integration of ICT was quite important at the current dispensation in teaching and learning.

An investigation by Laaria (2013), on Leadership Challenges in the Implementation of ICT in Public Secondary Schools in Kenya found that school principal determines how Information Communication Technology (ICT) is implemented and its subsequent impact on teaching and learning. Laaria concludes that this process involves the Principal as a school manager to lead and manage the implementation. Furthermore, he asserts that positive attitude of school principals towards the implementation of ICT would encourage the teachers and the students embrace the implementation which may improve the students' academic performance.

Numerous studies have been undertaken to investigate the relationship between ICT and students' academic performance, however, these studies have posed two core challenges: first, it is difficult to determine the performance of students since the common approach used by many researchers accredits the curriculum responsible for the performance achievement in terms of grade (Alandejani & Almadani, 2018). Ali, Zhou, Hussain, and Nair (2016), as well as Rose and Kadveka (2015), criticized these studies, blaming them of adopting a narrow approach, and suggest an alternative approach to consider the influence of ICT on students' attitude, competency, and skills in addition to curriculum. The study found that ICT facilities were inadequate and teachers had only basic or no ICT skills (Mbugua, 2016). This study investigated the status of the ICT integration in teaching and learning and the impact it was having on the students' academic performance in Nairobi City County.

2.8 Perceptions of Teachers Towards Principals' Management of Student Councils and Open Forums Strategy and Students' Academic Performance

A students' council is a body through which students in secondary schools are involved in the issues of school management. Student councils are expected to liaise with the school management, consult with teachers, subordinate staff, and also their parents for better governance of the students (Woods, 2002). According to Woods, student councils work for the betterment of the school and its students, thus contributing to a conducive environment for learning. Woods purport that well managed students' councils can improve academic standards while reducing dropout rates in school. Woods (2002) also noted that the students' councils can become part and parcel of the school management system and develop a feeling of belonging to the school and its activities among the student population. He found that the formation of the students' students' council provided students with opportunity to get the required skills in communication and planning, which are important in school management. However, Woods did not point out the influence of other institutional factors by students' council involvement in school management. This study was seeking to fill this gap.

Students' government forum from the University of North Florida defines open forums as students' councils' ways of gaining students inputs on college-wide issues (Cheng & Mok, 2008). They further noted that Texas Association of Student council (TASC) defines a student council as a students' group of leaders who works with an adult advisor to collaborate and associate with others to impact on their school community, which in turn impacts their city or town, which also impacts their state, which again impacts their country, which changes the world. Texas Association of Student council explains that students' councils as the students'

government use open forums for students to air their views without fear or intimidation. Koegh and Whyte (2005) confirmed that the well supported students' councils get involved in day-to-day school management. This is by way of offering support to the school management; it also gives support which improves staff and students' relationships by reduction indiscipline cases, also by minimizing unrest in schools there by contributing to the expected students' academic performance and co-curricular activities in the school. Koegh and Whyte added that students' councils' election process with teachers' guidance in secondary schools is considered an important way to raise awareness and collaboration among the students and the teaching staff.

Gentilucci and Muto (2007), purport that principals in the 21st century may need to find new strategies and tactics so that they can have direct and positive effects on Students' academic performance. Pinto (2014), on effective principal management behavior noted that students' participation in school management may be critical as the students are the focus by the teachers and may need to appreciate the kind of educational services delivered, and may also have insights into how well they may want to be served. This study investigated the extent to which the students' councils were involved by the principals in the schools' management in Nairobi |City County.

The process of shared decision-making through collaboration begins with keeping students and teachers informed about school issues (Campo, 2006). Campo ascertains that when students, teachers, and principals work together to make school decisions, collaboration takes place which may lead to improved students' academic performance. Campo also noted that when students and teachers are well informed about the working of the school, they would help resolve issues which have arisen leading to improved students' academic achievement. This was further

confirmed by Wamukuru (2006) who found that principals in their supervisory role are able to find out the strategies in which students may best achieve their objectives by collaborating with them and considering their opinion. He further concluded that globalization trends and new technologies within the instructional innovations were widely believed to be creating new markets and initiating a new revolution in educational management. Further, Douglass (2005) concluded that, students' surveys offer a valuable alternative in understanding and identifying learning outcomes in the broad areas of educational institutions. The studies did not compare the management involvement with students' academic performance and therefore there was need to do this study in Kenya.

Norlin (2009), explored areas that related specifically to involving the students' council like the student's ability to participate in the mediation process when they were in school, ability to understand the school process and conduct themselves appropriately having developed emotional maturity and lastly discuss issues on accommodation needs. The study did not address the effect of the students' academic achievements which would be addressed by this study. Irsheid (2018), in his study on the effectiveness of students' involvement in management process in schools found that involvement had an impact on increasing students' academic achievement in Jordanian schools. He ascertained that when the school management allowed students to take part in decision making in Ramtha City, Jordan schools, the process in return influenced managerial decisions as well as policy formulation in the schools. To this end, the schools were able to formulate policies that boost the academic achievement of the students. Further, the study showed that the ability to collaborate enhances the of students' academic performance. It was however noted that the student leaders needed to be trained in the management roles. Irsheid (2018) recommended that student leaders be given the

continuous training so as to have good working relationships with the school management so that in return, there would be success in students' academic performance. Therefore, this study was set to investigate this phenomenon in Nairobi City County.

In a report by the University of Zululand South Africa, Manduma (2015) in his study, explored on students' involvement in school management and established that principals' involving students in management of schools was one of the determinants of the students' academic achievement. In Tanzania, a study by Mnubi (2016) on practical aspects of gender-sensitivity in schools and whether the student councils were democratically elected to strengthen school management and whether there was democracy in involving male and female students in their elections. The study established that the use of student councils helped to improve the delivery of quality education in schools, teachers' responsibility and accountability. The study did not explore these effects on students' academic performance. This study was to fill up this gap.

Mwaniki (2011) on students' councils participation in school management at the secondary school level in Kenya, found that the school management process is still bureaucratic in nature and that power and authority was being vested in the principals and teachers while students' council was mainly through appointed school prefects by teachers while emphasis was on obedience to school rules and authority as opposed to student councils collaborating with school management and being involved in decision making. Kariuki (2014) on students' participation in school management and academic performance in Kenya found that there was a relationship between students' involvement in school management decision making and students' academic

performance. The relationship was however weak. Kamau (2017) on the influence of students' councils' involvement in school management of students' discipline, found that there was positive relationship between student leaders' discipline and the school general discipline. Kinyua (2015) on factors influencing effectiveness of students' council found that principals' management experience influenced the effectiveness of student councils and therefore the school discipline which in turn may influenced students' academic performance. These studies did not relate the use of students' council by the principals to the influence in students' academic performance. This study set to investigate further on the students' council involvement by the principal in school management and to find out if it contributes to students' academic performance.

A report by Republic of Kenya (2016) on the re-alignment of the education sector, found that students' involvement in decision making process produces motivation, a sense of belonging, a sense of ownership and therefore an overall higher academic performance. From Embu West Sub-County of Kenya, the Task Force found that students' involvement in the decision of their educational process produces better students' academic achievement. The report did not include other school-wide change strategies on students 'governance that could bring about improved students' academic performance and therefore the need for this study.

2.9 Theoretical Framework

The study was based on two theories; The Kurt Lewin's Theory of Change and Havelock's Theory. The theories are discussed below:

2.9.1 Kurt Lewin's Theory of Change

The theory on change proposed by Kurt Lewin has been used by scholars extensively in empirical researches while studying the organizational change, both locally and also internationally (Mohd & Esa, 2017). Kurt Lewin's basic model of change, explains that the theory of change is likened to the process of unfreezing, changing, and refreezing, which is a theoretical foundation upon which the change theory is built solidly (Otto, 2016). The key process is that humans do change, whether at the individual or at group level, is a profound psychological dynamic process which involves a painful unlearning of old and out dated skills without loss of ego, identify new and relevant skills, and its also difficulty re-learning to maintain the new skill as one cognitively attempts to restructure one's thoughts, perceptions, feelings, and attitudes (Jeremy, 2004). Jeremy asserts that Lewin model offers a practical understanding of the change process.

While all changes and individuals are unique, research has shown that there are actions in organizations which may be taken to influence people in their individual transitions (Abbas & Asghar, 2010). The authors purport that change management provides a structured approach that supports the individuals in their organization assisting them to move from their current states to their own future state. The principals' school-wide change strategy may borrow from the Kurt Lewin's change model in that principals may embrace a structured approach for supporting the teachers in their day today teaching and learning activities, identify the processes that have stagnated the change process, and invoke the painful unlearning the old and outdated skills without loss of ego, undergo the change process while embracing the new innovation and thereafter, identify and undertake the difficulty process of re-learning as they cognitively attempt to restructure their thoughts and perceptions, geared towards achievement of the

intended school-wide change strategies. This may be achieved by the principals through supporting the teachers to move from status quo to new strategies to achieve the expected students' academic performance. This may require positive teachers' perceptions towards principals' management of school-wide change strategies.

Kurt Lewin model proposes that in order for people to change, they need to change their current status after accepting that they need a change. Then they move into a state where they realize that change is both possible and is required. He ascertains that knowledge remains frozen until such time that the change is required comes along to 'unfreeze' the person from the old state. This may be through gaining new knowledge, information or learning experiences, but until that takes place nothing will change the situation (Jamal, Talib, & Akram, 2018). This process may be experienced in a school set up when teachers have negative perceptions on the management of principals' school-wide change strategies in that the students' academic performance may not be improving over a period of time. Kurt Lewin's change theory model suggests that organizational change should be considered as an important precursor to the successful change process in any organization settings including school Sweeney and Whitaker (2004), noted that failure to establish and to strategize good readiness for change may result to one-half the ratio of all unsuccessful management strategies in large-scale organizations. This scenario may be the problem in the non-performing schools where students' academic performance stagnates for a period of time due to lack of proper management of school-wide change strategies by the principals.

Drawing on the three-stage model of change by Kurt Lewing, change management expert analyst prescribed various strategic plans to create change by 'unfreezing' existing believes and

habits then creating strategies for change (Weiner, 2009). These strategies include identifying the discrepancy between current rate of performance and the desired performance rate levels, expressing dissatisfaction with the status quo, paving way for vision of a future improved performance, and embracing confidence that the expected results can be achieved. This process may be applicable in the management of schools where principals may embrace the school-wide change strategies where the teachers perceive either positively or negatively the implementation of school-wide change strategies by principals. This study seeks to investigate whether, the teachers' positive perception of the principal's management of the school-wide change strategies may bring about the expected improvement of the students' academic performance.

The researches on educational change management have largely referred to Lewin's model of change. Rohana and Aziz (2017) in their study on implementation of Kurt Lewin's change theory, ascertains that moving forward to identify with other developing countries, the educational system has to equip the future generation with the 21st Century skills. Lewin's theory ascertains that the school change if well strategized may change the attitudes of the students and therefore improving their academic performance. In the first stage of Lewin's theory; unfreezing, the school principal acts as the catalyzer towards the change. Norshidah (2015) in his study narrates that the principal has to put an effort in preparing the teachers over the required change to improve the students' academic performance as strategized. He stresses that in such a situation, the role of the school principal becomes highly important in influencing the behaviour and trust of the teachers in executing the process in the change strategy, especially in the classrooms. Jamila (2012) and Jeremy (2004) concur that the principal has to convince the teachers that the chosen change is relevant and suitable to the school culture, structure and the established school system so that the teachers could embrace the desired change that would

improve the students' academic performance. Harvey (2008), purport that in a school set up, teachers will have become accustomed to their way of doing things, so without unfreezing the old ways and habits, there would be a huge resistance to change. This stage essentially involves encouraging staff to embrace change, which would be achieved by embracing the required new change. The awareness must be created on how the current way of doing things is holding the school back from improving in students' academic performance. Old practices would be examined and removed to pave way for the change that is required. Once the teachers begin to realize the importance of achieving the set goals, they're most likely to embrace the development philosophy of continuous change (Price & Scott, 2011).

At the second stage of Kurt Lewin's theory as defined by Norshidah (2015), the author explains that the teachers have to increase the effort in the implementation of the new innovation in teaching and learning within in the strategy of school-wide change. He ascertained that the comprehensive change has to identify, plan and execute appropriate strategies in order to make sure that the change force exceeds the obstacle force. He further stressed that in guaranteeing that the change is successfully implemented, the school has to be provided with appropriate teaching and learning materials and also the ICT infrastructure. The third stage which is re-freezing, may take more time as it is the final stage point in the change implementation process. At this stage Leithwood (2002), purports that in the application of the Kurt Lewis theory of change, the new culture for the change process supposedly exists and it should be maintained. Mohd and Esa (2017), proposed that if change is to be successfully stabilized an organization, the management team has to embrace the change process so as to integrate the new elements of change into the system by giving the support, encouragement and strengthening the individuals' efforts in fitting themselves into the new normal.

In Malaysia, a study by Izani (2014), concluded that although the new culture has been integrated in the third stage of Kurt Lewin's change theory, to maintain the momentum of educational change has been inconsistent. Izani therefore suggested that the country needed continuous effort and determination from the management teams in ensuring that the stage of the freezing the best practices is maintained and improved continuously. Izani further observed that at this third stage, the teachers supposedly are already competent in the teaching of the strategized plan and therefore the elements are already used to the student-centered learning, especially in the classroom. Izani then concluded that when the organization has embraced the culture of the new change, this becomes the new normal and a continuous routine in the school, and therefore the stage of re-freezing is achieved. The teachers will therefore alter their knowledge, skills, attitudes and relationships so as to unfreeze them again from their current state when there would be a need. The implementation of the school-wide change strategies by the school principals may borrow the strategies from the Kurt Lewin's change theory so as to achieve the expected change that would be required for students' success in academic performance.

2.9.2 Havelock's Theory

Sillins and Mulford (2007) argue that since linear models are rigid and sometimes fail to account for the subtleties of real-life situations, a variety of models have emerged. According to Swanburg (2009), Havelock's theories of change are linear and similar to Lewin's theories of change, but with an emphasis on planning and the possibility that people and systems may be resistant to change. Otto (2016) posits that through Havelock's Theory of Change, we may understand the need for creating an ordered process from recognizing the need for change to the subject's capacity to manage a change system. This ideology may be relevant in the school-wide

change process. Change is a noble desire to improve self or a system, but often people fail to recognize that it requires a lot of strategy and energy from the management team in order to affect a lasting and positive change. Havelock's Theory of Change looks at change in a six stage process that acknowledges resistance to change and the need to carefully plan the change process (Ralph , 2012). The process followed could be useful in a school set up. The six steps address the process in a school set up.

- 1. Relationship:** Havelock states that there is need to establish a relationship with the system that needs to be changed. With regard to the educational system, this could be considered "pre-contemplation" as to the reasons why students' academic performance is low.
- 2. Diagnosis:** At the diagnosis phase, teachers' contemplation allows them to decide if a change is necessary.
- 3. Acquire resources for change:** Every stakeholder and especially the teaching staff understand that a change is needed. The solution-finding process should begin by gathering as much relevant information as is possible.
- 4. Selecting a pathway.** The fourth stage of Havelock's change theory is when a road map for change is established from the available options and then implemented by the teaching staff in the case of a school.
- 5. Establish and accept change:** Once the change has been implemented by all stakeholders, it must be accepted. It may be necessary for the principal to institute rules for teachers to follow in order to ensure that the change forms part of the new behavior routine. By accepting the change, students and teachers will have maintained or

improved the required academic performance of their respective groups of students in the classroom.

- 6. Separate from the person or organization that was changed.** At this stage, it is expected that the manager or the organization has learned about themselves and in the case of the school set up, the principal and the teachers become accustomed to the change process and they would maintain their new strategies for maintenance of students' academic performance.

In the application of the Havelock's theory of change in a school set up, the teachers and students may resist change while in response to external circumstances but with the implementation of the principals' supervisory role in the management of the school wide-change strategies they may eventually accept and maintain the change acquired. The school wide change will deal with crucial areas that altogether require change for the whole school system to embrace the required students' academic performance. This study is informed by the two theories of change, the Kurt Lewin's and the Havelock's theory of change which when applied by the principals and teachers during the process of school-wide change, the students will achieve the expected academic performance.

2.10 Conceptual Framework

A conceptual frame work is referred to as a model used for presentation which shows the relationship between the variables in the study, either graphically or diagrammatically (Orodho, 2004). The conceptual framework that was used in this study is presented in Figure 1.

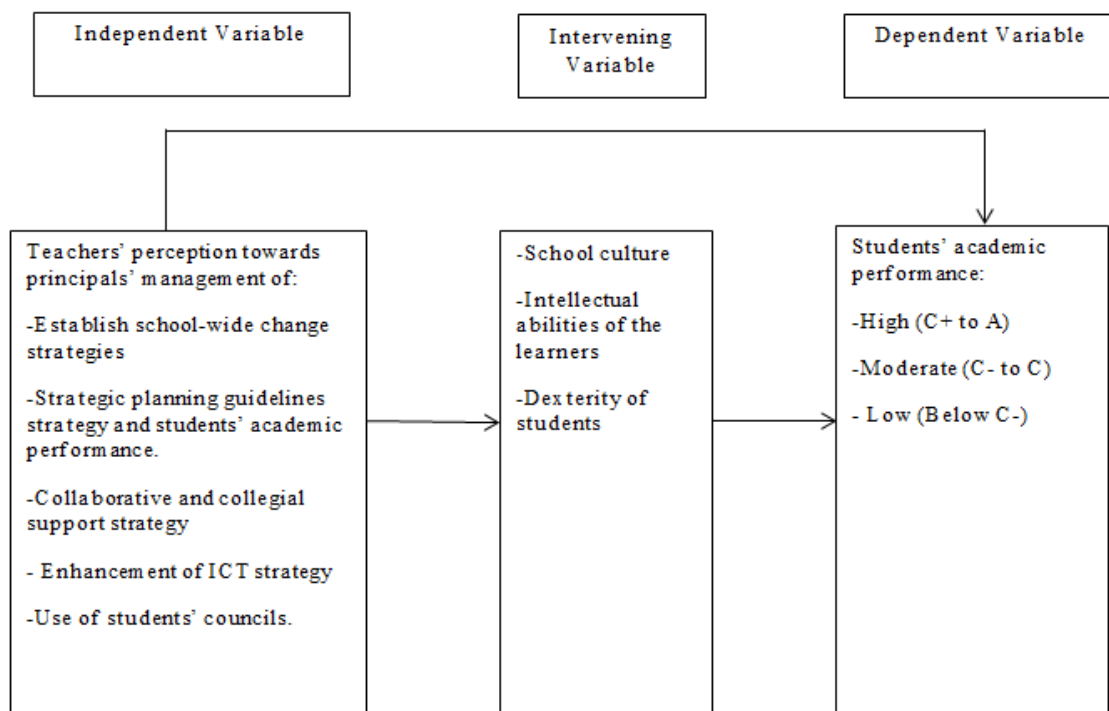


Figure 1: Hypothesized relationship between variables subsumed in the study

Figure 1 presents the conceptual framework of the study that follows the input-process-output (IPO) model to help in understanding the interrelatedness of the study variables. The IPO model postulates that inputs (principals' school-wide change strategies) are transformed into outputs (student academic performance) through the processes (coordination, communication, teaching and learning process, learners' attitudes). The independent variables (inputs) are the perceptions held by teachers towards principals' management of school-wide change strategies viz. strategic planning guidelines, collaborative and collegial support, integration of ICT in teaching and learning, and student councils and open forums. The intervening variables (process) explain causal links between the independent and dependent variables. The independent variables operating through the intervening variables influence the dependent variable; students' academic performance (output variable). That is, effectiveness of the coordination process,

communication, teaching and learning process, and learner attitudes constitute the cognitive and behavioral context within which the school-wide change strategies operate. Student academic performance is, therefore, a function of this cognitive and behavioral context (intervening variables). Secondary schools are expected to be responsive to changing environments. This means that schools can create effective buffer against external threats and at the same time they can manipulate their environment to improve student academic performance.

The principal is expected to play a very important role in the change within the institution. The principal should manage the school-wide change strategies through the implementation of the change required through collaboration with teachers and students, enhancement of ICT in teaching and learning, involvement of Students' government in management, use of strategic planning guidelines and training of the teachers. The required change is enhanced taking into consideration that some resistance to change may occur which may be minimized through collegial support, regular training and good counsel to the students and teachers. This being the desired school wide change within school, the expected students' academic performance may be achieved.

2.11 Summary of Literature Review

This chapter examined relevant research with regard to teachers' perceptions towards principals' management of school-wide change strategies and students' academic performance. Owing to limited literature on the topic in Kenya, most of the literature reviewed focused on international studies. Kurt Lewin's Theory of Change and Havelock's theory were identified as the theoretical models that could provide insight into teachers' perceptions on principals' management of school-wide change strategies and students' academic performance. Available

literature emphasized that one of the major steps that schools should take to address the 21st century challenges in enhancing quality educational is strategic planning guidelines strategy. Empirical results consistently showed that strategic planning is positively correlated with students' academic performance, however, when strategic plans are not well utilized, they have little or no influence on students' academic performance. Although a causal relationship between strategic planning guidelines is theoretically possible, empirical research has not established strong evidence for this. The reviewed studies too have not explored on the link between teachers' perceptions of principals' management of strategic planning guidelines strategy and student academic performance and therefore the need for this study.

Researchers seem to agree that collaboration and collegial support strategy has a direct and positive influence on students' academic performance, Research has also found a positive relationship between collegiality practice and students' achievement. Previous research has ignored the possibility that although the concepts of collaboration and collegiality have different meanings, they have similar impacts on work places. Most researchers have examined collaboration and collegiality as separate variables. By combining the two constructs, this study allows for synergy impacts on academic performance.

The nature of findings with regard ICT integration strategy suggests that integrating ICT into teaching and learning improves academic performance. Notably, there seems to be congruence between the findings across nations but with a few exceptions. Studies have shown that use of ICT tools in teaching and learning increased students' academic performance. Research in different countries in the world has demonstrated that the use of ICT in education can increase students' motivation, deepen their understanding, and promote active collaborative and lifelong

learning. The findings from this review reveal a lack of significant extant literature in Kenya on the role of ICT in academic performance. Indeed, when considered together, it is clear that results of previous studies on the role of ICTs in teaching and learning are inconclusive in that they cannot be regarded as robust or complete, and are often contradictory. Added to this, no significant work has considered teacher's perceptions of principal's management of use of ICT in teaching and learning as a strategy of improving student performance and therefore this study set to investigate on this phenomenon.

Student councils and open forums' literature revealed that effective involvement of student bodies in management of schools had impact on students' academic achievement. Although the current literature especially from countries outside Kenya had demonstrated that involvement of student councils in running of schools has positive impacts, the relative importance placed on these perceived benefits was not clearly demonstrated. The studies did not explore the link between teachers' perceptions on principals' management of the student councils and open forums strategy and students' academic performance especially in Kenya, Researchers had largely focused on change strategies that relate to academic performance. However, there were no research studies that had examined school-wide change strategies and its impact on students' academic performance in Kenya. This study is an opportunity to fill this knowledge gap that exists today.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology. The chapter is divided into sections namely; research design, target population, sampling techniques, sample size and sampling procedures, research instruments, piloting of the instruments, instrument validity, and instrument reliability, administration of the instruments, data analysis and ethical considerations.

3.2 Research Design

A research design is a strategy for identifying participants, research sites, and data gathering processes in order to investigate the research topic(s) for a study (Sweeney & Whitaker, 2004). Descriptive survey design was used in this investigation. A survey was conducted to collect authentic information from representative sample of respondents through self-report. Best and Khan (2002), opined that descriptive research focus on situations that exist, the perspectives which are expressed, the procedures that are occurring, outcomes that are apparent, and the emerging patterns. It is largely focused with the present; however, it frequently explores historical events and their consequences as they pertain to contemporary conditions. According to Kaya (2013), descriptive research entails gathering data in order to test hypothesis or solve problems pertaining to the current state of a research topic. The descriptive research study produces quantitative and qualitative data that could be interpreted using scientific calculations.

According to Kerlinger (2007), in descriptive survey an attempt is made to determine incidence, distribution, and interrelations among vital facts of people's characteristics, thoughts, beliefs, opinions, attitudes, feelings, perceptions, behaviour, and lifestyles.

The study fitted within the descriptive survey design. Within this design, the researcher collected information through survey methods such as self-administered questionnaires distributed to teachers to collect information on their perceptions on the school-wide change strategies used by the principals to enhance student performance. In addition, principals filled out school data forms to provide information on student academic performance at KCSE. The researcher was able to analyze the research question and verify the null hypotheses in order to describe, show relationships, and determine strength and direction of associations between and among the study variables. Parametric and non - parametric statistics were used to analyze the data.

3.3 Target Population

This study targeted all public secondary schools in Nairobi City County that had offered KCSE examinations for at least four years prior to the study (2015 - 2018), their principals, and teachers. Statistics at the Ministry of Education Nairobi City County (2018) showed that 94 public secondary schools had sat for KCSE examinations over the defined period. In the 94 public secondary schools, there were 94 principals and 3,044 teachers employed by the Teachers Service Commission (TSC, 2016). The schools in the target population were stratified according to school category and gender to ensure equal representation. National schools had an average of 90 TSC teachers, Extra County had 50 TSC teachers, County schools an average of 28 TSC teachers, and mixed schools had approximately 21 TSC teachers each. The target population summary is shown in Table 4.

Table 4: Target Population

School Category	Number of Schools	Number of Principals	Number of Teachers
National	5 (Boys = 3; Girls = 2)	5	5*90 = 450
Extra County	18 (Boys =6; Girls = 12)	18	18*50 = 900
County	29 (Boys = 14; Girls = 14)	29	29*28 = 812
Mixed	42	42	13*21 = 882
TOTAL	94	94	3,044

Note: Adapted from County Director of Education, Nairobi County Reports (2018)

Principals and teachers were considered an appropriate target population of the study because principals are the initiators of school-wide change strategies in schools while teachers are the key implementers of the school-wide changes. Therefore, they were in the best position to furnish the researcher with the information needed to test the hypotheses of this study.

3.4 Sample Size and Sampling Techniques

A sample is a portion of a larger group (Frankfort-Nachmias & Nachmias, 2008). According to Ray (2005), a representative sample with a minimum 10 percent to 20 percent of the population of interest is acceptable for empirical research. Similarly, Best and Kahn (2002) proposed that the minimal proportion needed to guarantee sample representativeness is 10percent; and Mugenda and Mugenda (2003) argued that a 10 percent of the target population is an acceptable, representative, and reliable sample size for smaller populations and a 30percent for larger populations. Since the teacher population was large, the researcher used 10% of the population as recommended by Mugenda and Mugenda (2003). This resulted to a sample size of 304 teachers ($3,044 \times 10\% = 304$). In determining the sample size of schools and principals, 30% criteria were used since the population was small. This resulted to 30 schools and 30 principals.

To choose 30 public high schools, a proportionate stratified random sampling procedure was employed. The stratification was based on school category and gender. This technique was employed to ensure a fairly equal representation of the schools because they had unequal numbers in each category as demonstrated in Table 4. The principals of the sampled secondary schools became automatic participants of the study. Within each stratum, selection of teachers was by simple random sampling method without replacement. This was achieved by writing out ‘Yes’ / ‘No’ responses on pieces of papers. The number of ‘Yes’ responses depended on sample size of teachers selected from each school (Table 6). The papers were folded, reshuffled and put in a basket. After reshuffling, the researcher requested teachers to pick a paper each. Those who picked a ‘Yes’ response was recorded and formed the study participants. Tables 5 and 6 presents the study samples of schools and teachers respectively.

Table 5: Sampling of Schools

Type of school	Population	Sample size	Sampling Percentage
National Boys	3	1	33.3
National Girls	2	1	50.0
Extra-County Girls	12	4	33.3
Extra-County Boys	6	2	33.3
County Girls	14	4	28.6
County Boys	15	5	33.3
County Mixed	42	13	33.3
Total	94	30	

Out of the 30 sampled public secondary schools, 304 teachers were picked utilizing simple random sampling without replacement procedures. Teachers who had stayed for one year and above were purposively selected and thereafter randomly selected within the pool. The 30% sampling formula stipulated by Mugenda (2003) was used to give the sample summary as shown in Table 6.

Table 6: Sampling of Teachers

School Category	Sampled Population Calculation	No. of Teachers from the Sampled Schools
National schools	$(2 \times 30\% \text{ of } 90) = 27 \times 2$	54
Extra- County schools	$(6 \times 30\% \text{ of } 50) = 15 \times 6$	90
County schools	$(9 \times 30\% \text{ of } 28) = 9 \times 9$	81
County Mixed schools	$(13 \times 30\% \text{ of } 21) = 6.1 \times 13$	79
Total		304

Table 6 indicates that data were collected from 27 teachers from each of the National schools, 15 teachers from each of the Extra-County schools, 9 teachers from each of the County schools, and 6 teachers from each of the County Mixed secondary schools.

3.5 Research Instruments

According to Nahid (2003), use of multiple sources of data collection strengthens construct validity and reliability of the study since they provide measures of the same phenomenon. For this study, the researcher designed and developed two sets of instruments; teachers' questionnaire and a school data form for principals.

3.5.1 Principals' School Data Form

The principals were requested to fill out a school data form (Appendix A). The first section of the instrument had five items on principals' demographics. The second section had two items. The first item was a table soliciting data on students' academic performance at KCSE for the past four years prior to the study (2015 - 2018). A second item in section two required principals to give the number of teachers in their schools.

3.5.2 Teachers' Questionnaire

A questionnaire is defined by McIntyre (2018) as a written sequence of questions that are responded to by a statistically significant number of respondents in a study. A questionnaire is said to obtain statistical data on individuals or their views. For teachers, the researcher created a 5-point agreement Likert scale type questionnaire (Appendix B). The ratings ranged from 5 to 1, with 5 being strongly agree and 1 being strongly disagree.

A Likert scale questionnaire presupposes a linear magnitude or intensity of an attitude on a scale ranging from agree completely to disagree completely; and it is possible to measure the attitudes (Brown, 2010). Likert scale questions do not require a straightforward yes / no response from the study participants, but rather permit for levels of opinions or no opinions whatsoever. As a result, quantitative data is generated, which the researcher may easily examine (Jamieson, 2004).

Teachers' questionnaire was divided into seven sections. Section A contained items requesting demographic information about teachers while B had questions on drastic changes in schools. Section C consisted of 10 Likert scale statements seeking teachers' perceptions towards principals' strategic planning guidelines strategy; Section D had 10 Likert scale statements seeking teachers' perceptions towards principals' collaborative management strategy; Section E had 10 Likert scale type statements seeking information concerning teacher perceptions towards principals' integration of ICT strategy in learning, Section F had 10 Likert scale type statements that sought information on teachers' perception towards principals use of students' open air meetings as a school wide strategy while section G had 10 Likert scale type statements that sought teachers' perceptions towards principals' collegial support and collaboration strategy.

3.6 Pre-testing of the Instruments

The researcher pre-tested the instruments to enhance their validity and reliability. According to Perneger et al. (2015), pre-testing is the testing of research instruments such as interview schedules and questionnaires. Pre-tests are referred to as the preliminary tests of the measures that are used on a small sample of the population that is to be studied. Perneger et al., add that pre-testing is a significant aspect of the research procedure since that is the main chance for a researcher to gauge the meaning which is attributed to survey questions. They recommend that a default sample size of 30 participants is appropriate. Converse and Stanley (2006) add that a pretest is used to identify issue areas in the research instrument and to ascertain that the sequence of items in the survey or interview guide will not affect how participants respond to questions. This also helps to ensure that the items are clearly expressed and that the answer alternatives are meaningful, thorough, and exclusive of each other; not only in their own perspective but also from the participants' viewpoint. Pretesting ensures that all mistakes related with research study are minimized, which greatly improves data integrity.

This research study pre-tested the research tools using five schools that were picked at random; one from each stratum. Six teachers were also randomly sampled per school. Teachers were selected from a pool of those who had taught in the school for more than one year. This made a total of 30 teachers who participated in the pre-test. The five principals from the selected schools participated in the pre-test. The schools that participated in the pretest were eliminated from the actual study.

3.7 Instrument Validity

Dudovskiy (2018) refers to validity as the extent to which a research tool tests what it was projected to ascertain. The researcher confirmed both content validity and face validity. The researcher examined the responses from pre-tested instruments to see whether they reflected the construct as stated in the study objectives. Based on the pre-test analysis, the researcher made appropriate revisions, modifications, and additions to the study instruments. As advocated by Kombo and Tromp (2006), further discussions with supervisors were made to ensure content validity. Items that failed to measure variables that they were designed to test either adjusted or deleted.

3.8 Instrument Reliability

Instrument reliability is a technique of confirming that every instrument used to measure research variables consistently produces similar results when used multiple times (Shuttleworth, 2018). According to Mohajan (2017), reliability of a research instrument is the consistency of the scores obtained. If the items on a scale "wrap around each other" and represent same construct, the measure is said to have strong internal consistency reliability (Pearce & Robinson, 2014).

For this study, Cronbach alpha reliability coefficient was calculated to determine the internal consistency of the constructs in the teachers' questionnaires. According to Mohajan (2017), Cronbach alpha is used to examine internal consistency of constructs whenever a survey questionnaire has Likert - type scales with multiple responses. Hair, Black, Babin, Anderson, & Tatham (2010) present a well acknowledged general rule for establishing internal consistency employing Cronbach's alpha as presented in Table 7.

Table 7: Cronbach's Alpha Level of Reliability

Cronbach's alpha	Internal consistency
$\alpha \geq 0.9$	Excellent
$0.8 \leq \alpha \leq 0.9$	Good
$0.7 \leq \alpha \leq 0.8$	Acceptable
$0.6 \leq \alpha \leq 0.7$	Questionable
$0.5 \leq \alpha \leq 0.6$	Poor
$\alpha \leq 0.5$	Unacceptable

Although no absolute rules exist for internal consistencies, a number of researchers (Mugenda, 2003; Pearce & Robinson, 2014) agree that internal consistency coefficient of 0.70 and above is considered reliable. In this study, the questionnaire for the teachers yielded a reliability alpha of 0.753 hence the questionnaire was deemed reliable.

3.9 Data Collection Procedures

To start with, the researcher acquired an introduction letter from the School of Education, Maasai Mara University that was utilized to obtain a research permit from the National Commission for Science, Technology, and Innovation (NACOSTI). The Deputy County Commissioner and the County Director of Education in Nairobi County were each given a copy of the research permit. After obtaining permission to conduct the research, the researcher scheduled appointments to visit the sampled schools. When the researcher arrived at each school, she first established rapport with the teachers and the principal before presenting the instruments. The participants were requested one to complete the instruments within a week after which the researcher picked up the answered instruments.

3.10 Data Analysis Techniques

According to Bowen (2009), data analysis is a process of ordering, organizing, and giving interpretation substantial quantity of data gathered. Best and Khan (2002) posit that data

analysis and interpretation constitute the use of deductive and inductive logic to inquiry. The researcher began this investigation by revising and reviewing data sets to detect any misspelled words and incorrectly answered or unanswered to questions. Thematic method was used to analyze qualitative information, which was presented in narrative form. Statistical data were analyzed using descriptive and inferential statistics and reported in tabular and textual form.

In quantitative analysis, summary statistics suitable for the measurement scale were employed to characterize the distribution of variables, based on the kind of variable. The statistics included mean and standard deviation for continuous variables such as KCSE scores and age of the respondents; and proportions for categorical variables such as gender. First, the dependent variable was measured using descriptive statistics. The dependent variable, student academic performance, scores ranged from grade A = 12 points to grade E = 1 point. A weighted composite mean was calculated on the overall school performance at KCSE for over a period of four years prior to the study (2014 -2018). The schools KCSE mean scores were interpreted as: 6.5 – 12 = high performance; 5.5 –6.4 = average performance; and below 5.4 = low performance.

Second, teachers' perceptions of principals' management of school-wide change strategies were measured for each objective. Teachers' questionnaires had 5-point Likert type scale items that measured the independent variable. Each independent variable was measured with 10 items formatted on a 5-point Likert scale that ranged from 5 = *strongly agree* to 1 = *strongly disagree*. A mean and *SD* were calculated for each statement followed by a weighted composite (overall mean) to describe each independent variable. Positive perceptions were defined as having a

mean of 2.5 or above, while negative perceptions were defined as having a mean of less than 2.5.

Later, statistically weighted means were used to run the linear and multiple regression analysis for testing of the hypotheses. Multiple regression analysis was used to determine the relative importance of each independent variable against the dependent variable. Hypotheses were tested at alpha 0.05 level of statistical significance. The levels were interpreted as suggested by Coolican (1990):

Significant: $0.05 > p < 0.01$

Highly significant: $0.01 > p < 0.001$

Very highly significant: $0.001 > p$

The linear regression model for hypotheses 1 to 4 is: $Y = a + bX + \epsilon$

Where:

Y – Dependent variable

X – Independent variable

a – Intercept

b – Slope

ϵ – Residual (error)

The model for multiple regression analysis for hypothesis 5 is:

$$Y = a + bX_1 + cX_2 + dX_3 + eX_4 + \epsilon$$

Where:

Y – Dependent variable

X₁, X₂, X₃, X₄ – Independent variables

a – Intercept

b, c, d, e – Slopes

ϵ – Residual (error)

3.11 Ethical Considerations

Ethical considerations are principles which investigators must adhere to when doing their study (Akaranga & Makau, 2016). Integrity in a study is typically used to manage the relationship between researcher and study participant, as well as between researchers and disciplines that they research (Flick, 2007). Before embarking on the data collection, the researcher presented the research proposal to the Ministry of Education research institute in Kenya known as the NACOSTI. NACOSTI ethics review committee ensures researchers do not violate any of the set ethical guidelines. This enabled the researcher to obtain approval and a permit to conduct research in Nairobi City County secondary schools. Authorization was also granted by the County Commissioner's office and the County Director of Education's office.

In this study, the researcher took into account the participants' readiness to engage in the study and requested only those who were ready to do so. First, the researcher explained the objective, relevance, length, and significance of the research to the participants and this enabled them to offer informed permission. The respondents were further informed that they were at liberty to respond to whichever questions they preferred, however, the researcher recommended that they respond to all of items. The researcher also informed the respondents that their answers would be handled anonymously. Participants were also treated with dignity, courtesy, and their rights were protected.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

Chapter four contains statistical analysis, interpretation, and discussions of findings. The study sought to investigate the relationship between teachers' perceptions of principals' management of school-wide change strategies and students' academic performance in public secondary schools in Nairobi City County, Kenya. The following hypotheses were tested in the study: there is no significant relationship between teachers' perceptions on principals' management of strategic planning guidelines strategy and student academic performance; there is no significant relationship between teachers' perceptions on principals' collaborative and collegial support strategy and student academic performance; there is no significant relationship between teachers' perceptions on principals' integration of ICT in teaching and learning strategy and student academic performance; there is no significant relationship between teachers' perceptions on principals' management of student councils and open forum strategy and student academic performance; and there is no significant contribution from teachers' perceptions of principals' management of school wide change strategies and student academic performance. In addition, one research question was answered for the qualitative data. Data were analyzed using descriptive statistics (measures of central tendency) and inferential statistics (linear and multiple regression). The analyzed data were presented in tabular and textual form.

4.2 Questionnaire Return Rate

In survey research, return rate also known as completion rate is the number of people who answered the survey divided by the number of people in the sample (Barauch, 2004). As substantiated by Baruch, a questionnaire return rate is the proportion of the questionnaires

returned after completion by the respondents. The response rate is usually expressed in the form of a percentage. Baruch continues to purport that the response rates are often used as a measure of the quality of survey data because non-response is often not random. In interviews, response rate is defined as the total number of completed interviews divided by the total number of participants with whom contact was made (American Association for Public Opinion Research, 2015).

In this study, out of the 304 questionnaires distributed to teachers in the sampled schools, 290 (96.3%). Out of the 30 principals, 29 (96.6%) returned duly filled out school data forms. These return rates, according to Baruch and Holtom (2008), were adequate for data analysis and drawing of conclusions.

4.3 Demographic Information of the Respondents

Respondents' demographics refer to the individual attributes of the population under study which the researcher seeks to analyze. Personal information of the participants serves a crucial role in articulating and interpreting responses to the problem under investigation. The demographic information of principals and teachers was collected such as gender, age, academic qualifications and headship or teaching experience was collected to characterize the study participants and to help in the interpretation of data. For instance, gender is a significant factor in a particular social context that is impacted by a number of socioeconomic phenomena. Age is also an essential factor in interpreting participants' perspectives because it shows the maturity level of individuals. Data on teachers and principals' demographic characteristics are presented in Table 8.

Table 8: Distribution of the Respondents by Demographic Characteristics

Variable		Principals		Teachers	
		Freq	Percent	Freq	Percent
Gender	Male	13	44.8	106	36.5
	Female	16	55.2	184	63.4
	Total	29	100.0	290	100.0
Age in years	21- 30	0	0.0	49	16.9
	31 - 40	0	0.0	61	21.0
	41- 50	6	20.7	93	32.1
	Over 50	23	79.3	86	30.0
	Total	29	100.0	290	100.0
Highest Academic Qualifications	S1 / Diploma	0	0.0	17	5.9
	B. Ed	7	25.0	168	57.9
	PGDE	0	0.0	13	4.5
	M. Ed	6	21.4	21	7.2
	Masters (other areas)	14	46.4	68	23.5
	Ph. D	2	7.1	3	1.0
	Total	29	100	290	100.0
Duration served as principal / teacher in years	< 1	1	3.5	9	3.1
	1- 5	7	24.1	54	18.6
	6 – 10	8	27.6	41	14.2
	> 10	13	44.8	186	64.1
	Total	29	100.0	290	100.0
Duration served in current station in years	< 1	4	13.8	16	5.5
	1 – 5	17	58.6	108	37.2
	6 – 10	4	13.8	66	22.8
	> 10	4	13.8	100	34.5
	Total	29	100	290	100.0

The background information of the principals revealed that there were slightly more 16 (55.2%) female principals than males. All principals were above 41 years of age. It was also evident that most principals 22 (74.9%) had the requisite academic qualifications to head a school which is a Master in Education and above (Teachers Service Commission Strategic Plan - 2019-2023). It was further observed that most principals 13 (44.8%) had served for over 10 years. A five-year

service could be considered as relatively adequate time to gain the necessary experiences in school management.

Equally, a majority 17 (58.6%) of the principals had headed their current stations for between 1 - 5 years. This meant that principals were familiar with their schools and were likely to manage school-wide change strategies effectively. The recommended length of stay in one station is five years (Teachers Service Commission Strategic Plan: 2019-2023) which is sufficient time to implement a change strategy and experience observable outcomes.

The demographic data showed that there were more 184 (63.4%) female teachers than males in secondary schools within the city. The ages of teachers revealed a relatively younger workforce compared to that of the principals. Slightly over a third (16.9% = 20 – 30 years; 21.0% = 31-40 years) were 40 years and below. It was also evident that all teachers possessed the minimum academic qualifications to teach at secondary school which is a Diploma in Education (TSC Strategic Plan, 2019 - 2023). Only a paltry of teachers reported a work experience of equal to or less than five years. That is, one teacher had an experience of less than one year 1 (3.1%) and 54 (18.6%) had served for between 1 and 5 years. Over half of the teachers 186 (64.1%) had served for a long duration of over 10 years.

4.4 Descriptive Analysis of Academic Performance as Measured by Student Performance at KCSE Examinations

The dependent variable in the study was academic performance as measured by student performance at KCSE examinations. In this study, academic performance was conceptualized as the overall mean KCSE score of a school for a period of four years. The scores range from Grade E = 1 point to Grade A = 12 points. A composite mean score for each school was

computed by first adding the mean KCSE scores for the four years (2015- 2018) and then dividing it by the number of years. The cumulative mean scores were then collapsed into three levels that were interpreted as high performance, average performance and low performance.

Table 9 presents the results.

Table 9: Levels of Students’ Academic Performance

Grade	Scale	Verbal	Numerical
C ⁺ - A	6.5 - 12	High performance	3
C- - C	5.5 – 6.4	Average performance	2
E - D ⁺	1.0 – 5.4	Low performance	1

The analysis of school academic performance is presented in Table 10.

Table 10: Students’ Academic Performance at KCSE as Presented by School Mean Scores

Performance	2015		2016		2017		2018	
	F	%	F	%	F	%	F	%
6.5 – 12.0	15	50.0	12	40.0	9	30.0	10	33.3
5.5 – 6.4	2	6.7	2	6.7	2	6.7	3	10.0
1.0 – 5.4	13	43.3	16	53.3	19	63.3	17	56.6
Total	30	100.0	30	100.0	30	100.0	30	100.0

As indicated in Table 10, over the years, more than half of Nairobi County's schools were performing beneath average (2016 = 53.3%; 2017 = 63.3%; 2018 = 56.6%). Only in 2015 that half of the schools 15 (50%) in the County had a high performance. This unsatisfactory performance persists despite the schools in Nairobi City County being comparatively better equipped in terms of resources than schools in the rest of the country.

4.5 School-Wide Change Strategies Adopted by Principals in Public Secondary Schools in Nairobi City County

The first objective sought to establish the types of school-wide changes that principals had adopted in public secondary schools at Nairobi City County. In this respect, teachers were requested to indicate significant changes they had witnessed in the last four years that had been initiated by their principals and which they felt contributed to student academic performance. The questionnaire item was open ended to give the teachers the opportunity to express their own opinions without limitations.

Using deductive approach, the responses were analyzed thematically. The qualitative approach involved familiarization, codification, theme generation, theme review, theme definition and labeling, and theme interpretation (Simwaka et al., 2020). Themes that emerged from the responses were analyzed and aligned to the four identified school-wide change strategies that were of interest in this study. Table 11 summarizes teachers' responses.

Table 11: Themes Underlying Teachers' Responses on School-wide Change Strategies Observed in Schools

Theme	Sample Responses
Strategic planning	Bench marking with high performing schools, goal setting in academics/subjects, started school feeding programme, provided boarding facilities, school nurse employed, lunch programme, provision of learning materials
Collaboration and collegial support	Capacity building of teachers, team work, parental involvement in student academic work, collective environmental evaluation, professional coaching, peer modeling
Enhancement of ICT and e-learning	Computer labs, cyber schools, ICT integration in teaching and learning
Student councils and open forums	Formed family units, student give speech during assembly, involvement in deciding co-curricular activities, attitude change forums, guidance and counselling sessions, involvement in student discipline, involvement in administration

N = 290

Results in Table 11 revealed that teachers were aware of school-wide change strategies that had been implemented in their schools by the principals. The four themes emerged from the teacher responses. It was evident that school strategic plans outlined varied targets that ranged from short term to long term goals.

A further question requested the teachers to rate the extent to which they felt the school-wide changes in their schools contributed to academic improvement on a 5-point Likert scale; 5 = *Best improvement*, 4 = *Good improvement*, 3 = *Fairly good improvement*, 2 = *Fair improvement*, and 1 = *No change*. The responses were grouped according to identified themes that were in line with the study objective indicators in Table 11 and coded in line with the objectives as presented in Table 12.

Table 12: Teachers’ Opinions of Contributions of School-wide Change Strategies on Academic Performance

Grouped Responses	No change	Fair improvement	Fairly good improvement	Good improvement	Best improvement
Strategic planning	9 (3.0)	23 (7.8)	57 (19.7)	134 (46.3)	67 (23.2)
Collaboration and collegial support	0 (0.0)	48 (16.7)	48 (16.7)	194 (66.6)	0 (0.0)
ICT and e-learning	0 (0.0)	24 (8.3)	78 (27.1)	115 (39.6)	73 (25.0)
Students’ council involvement	4 (1.3)	15 (5.2)	49 (16.9)	145 (50.0)	77 (26.6)

N=290

As observed in Table 12, teachers felt that all the school-wide change strategies had brought about ‘good improvement’ in their schools. For instance, two thirds, 194 (66.6%) of the teachers felt that collaboration and collegial support brought about good improvement in academic performance. Another 145 (50%) and 134 (46.3%) of teachers were of the opinion that involvement of student council in school administration and following strategic planning guidelines contributed towards good improvement in academics respectively. These favourable ratings showed that teachers appreciated that changes are intended to make all schools perform well and they were aware that student academic performance is a function of several factors thus the need

4.6 Teachers’ Perceptions of Principals’ Management of Strategic Planning Guidelines Strategy and Students’ Academic Performance

Objective two sought information on teachers’ perceptions on principal’s management of strategic planning guidelines strategy and students’ academic performance. A strategic plan is significant in that it provides the principal and teachers with a sense of meaning and guidance, as well as directing them in deciding about what activities to take in order to achieve the expected students’ academic performance (Hrebiniak, 2013; Victoria & Chikwature, 2016).

Teachers were requested to rate 10 items that measured their perceptions on a 5-point Likert scale ranging from 5 = *strongly agree* to 1 = *strongly disagree*. The researcher converted the Likert scale into means and the acceptance mean score was 2.5. The means were interpreted as either; 2 = positive perceptions (2.5 - 5.0) or 1 = *negative perceptions* (1.0 - 2.4).

In analyzing the data, a statistically weighted mean was calculated for each of the 10 statements to show teachers' perceptions. The 10 statements were then integrated into a single composite score (weighted overall mean), which was made up of a sequence of Likert-type questions indicating related constructs that was used to measure teachers' perceptions on principals' management of strategic planning guidelines. Table 13 presents the mean responses of the teachers' perceptions.

Table 13: Teachers' Perception of Principals' Management of Strategic Planning Guidelines Strategy and Students' Academic Performance

Statement	N	M	SD
Principal initiates school's strategic plan with time lines which teachers use to improve students' academic performance	290	3.88	0.97
Principal applies pressure towards setting targets and rewards target achievement by teachers which helps to improve students' academic performance	290	3.88	0.96
Principal initiates shared management practices with teachers to foster ownership of school's vision and mission which helps improve students' academic performance	290	4.02	0.90
Principal supervises teachers' professional documents through lesson observation using TPAD which has helped improve students' academic performance	290	4.14	0.86
Principal supervises teachers on student centred methods of teaching/learning which has improved students' academic performance	290	3.87	0.85
Principal addresses causes of dismal performance through supervision of continuous evaluation and revision which has helped improve students' academic performance	290	4.02	0.88
Principal provides adequate teaching and learning resources for teachers and students which hinders students' academic performance	290	3.80	0.94
Principal provides teachers with professional development through regular training which hinders improvement of students' academic performance	290	3.89	1.01
Principal initiates development and implementation of the timely feedback policy to learners and parents which motivates students to improve their academic performance	290	3.88	0.89
Principal supports teachers in ensuring timely coverage of syllabus and revision which hinders students' improvement in academic performance	290	3.72	0.94
Overall mean	290	3.91	0.87

From Table 13, it was evident that teachers agreed ($M = 4.14$, $SD = 0.86$) that principals' supervision of teachers' professional documents using TPAD had contributed to improved

students' academic performance. Teachers also agreed that principals initiate shared management practices with teachers to foster ownership of school's vision and mission which improves students' academic performance ($M = 4.02$, $SD = 0.90$). Teachers also agreed ($M = 4.02$, $SD = 0.88$) that when principals addressed causes of dismal performance through supervision of continuous evaluation and revision, this helped to improve students' academic performance. Teachers agreed ($M = 3.88$, $SD = 0.97$) that principals had initiated school strategic plans with time lines which teachers use to improve students' academic performance and principals that apply pressure towards target setting and rewards target achievement by teachers which helps to improve students' academic performance ($M = 3.88$, $SD = 0.96$). Overall teachers agreed ($M = 3.91$, $SD = 0.87$) that principals' use of strategic planning guidelines strategy influenced students' academic performance. Strategic guidelines that were directly related to teaching and learning were highly rated with a M above 4.0.

The overall agreement rating was interpreted as positive perceptions as it was within the range of positive (2.5 - 5.0). Therefore, teachers had positive perceptions towards principals' management of strategic planning guidelines as a means of improving students' academic performance. These results agreed with those of Chimuka (2016); Edwards et al. (2018); Gakenia et al. (2017) and Phiri and Chileshe (2016) who found that use of strategic planning guidelines for students' academic performance placed the staff members in pre-determined positions for effective performance which resulted in improved student performance.

Test of Hypothesis

H₀₁: There is no significant relationship between teachers' perceptions of principals' management of strategic planning guidelines and students' academic performance at public secondary schools in Nairobi City County.

The first hypothesis suggested there was no significant relationship between teachers' perceptions of principals' management of strategic planning guidelines and students' academic performance at public secondary schools in Nairobi City County. Because the Central Limit Theorem justifies parametric analysis of means of Likert scale values, the analysis of variance technique that was found suitable was linear regression. Therefore, a linear regression analysis was performed with the composite school mean score and the composite mean of teachers' perceptions on principals' management of strategic planning guidelines strategy variable. The three linear regression output tables present the results; Table 14, 15, and 16.

Table 14 shows the amount of variation of the dependent variable (academic performance) which may be accounted for by the independent variable (teachers' perceptions of principals' management of strategic planning guidelines) and statistical significance of the regression model. This is the information needed to predict the dependent variable using the independent variable.

Table 14: Overall Model Fit

Number of observations	290
F (1, 288)	30.5275
Prob. > F	0.000
R - squared	0.0958
Adjusted R - squared	0.0692
Root SME	1.5821

From the overall model fit summary, it was found that strategic planning guidelines explained a significant amount of the variance in the value of student academic performance ($F(1, 288) = 30.5275$, $p < .001$, $R^2 = .095$, $R^2 \text{ Adjusted} = .069$). The $R^2 = 0.096$ indicates that 9.6% of the variance in KCSE scores could be explained perceptions held by teachers on principals' management of strategic planning guideline strategy. This indicated that, overall, the model statistically significantly predicted the dependent variable; academic performance.

The analysis of variance (ANOVA), as shown in Table 15, provided numerical data on the variability as well as how well the model described the variation for the observations, the values projected by the model, and the disparity between the actual observed value of the dependent variable and its predicted value by the linear regression by for every data set.

Table 15: ANOVA

Source	SS	df	MS	F	Prob. > F
Model	76.41409	1	76.41409	30.5275	0.000
Residual	720.8994	288	2.50312		
Total	797.31359	289	2.75887		

The model is summarized in the first line of Table 15. The model's sum of squares (SS) is 76.41 with 1 degree of freedom (df). The mean square (MS) of this line is 76.41. The matching F statistic was 30.5275, with a statistical level of significance of 0.001. Therefore, the model was significant at 0.01 percent and the null hypothesis was rejected. It was concluded that 'there was a statistically significant relationship between teachers' perceptions of principals' management of strategic planning guidelines and students' academic performance'.

Table 16: Regression Analysis of KCSE Performance Data with Management of Strategic Planning Guidelines

Mean score	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Strategic Planning guidelines	0.03145	0.007524	4.18	0.000	0.016683	0.046216
_cons	0.733987	0.249633	2.94	0.003	0.244036	1.223939

The value of the coefficient was 0.031. Because the coefficient's p-value was 0.000, it was statistically significantly different from zero when assuming an alpha of 0.05. Therefore, one-unit increase in teachers' perceptions on principals' management of strategic planning guidelines strategy was associated with a 0.031 unit increase in KCSE mean. This meant that when teachers positive perceptions towards principals' management of strategic planning guidelines increased, teachers were likely to achieve the set targets in the guidelines thus increasing student academic performance. The final predictive model was:

$$\text{KCSE score} = 0.73 + (0.31 * \text{strategic planning guidelines}).$$

4.8 Teachers' Perception of Principals' Management of Collaborative and Collegial Support Strategy

Objective three gathered information on teacher perceptions on principals' management of collaborative and collegial support. Collaboration and collegiality amongst teachers are a potent energy that has a positive impact on the entire school environment. According to Link (2013), a good school management system is characterized by collaboration and inclusiveness in education; and participative management involving all educational stakeholders engaging collaboratively towards a common goal. In answering this objective, teachers rated their perceptions on a 5-point Likert scale ranging from 5 = *strongly agree* to 1 = *strongly disagree*. In analyzing the responses, the researcher converted the Likert scale into means and 2.5 was

considered the acceptance score. The scales were collapsed into two levels and interpreted as; 1.0 - 2.4 (*negative perceptions* = 1); and 2.5 - 5.0 (*positive perceptions* = 2).

To begin with, a statistically weighted mean was calculated for each of the 10 statements to show teachers' perceptions on principals' management of collaborative and collegial support strategy. Finally, the 10 statements, which were made up of a sequence of Likert-type items that represented the variable, were combined into a single composite score (weighted overall mean) to measure teachers' perceptions on principals' management of collaborative and collegial strategy. Table 17 presents the means of the teachers' perceptions.

Table 17: Teachers’ Responses on their Perceptions towards Principals’ Management of Collaborative and Collegial Support Strategy

Statement	N	M	SD
The principal involves the teachers in the school’s administration strategy which helps to improve students’ academic performance	290	4.07	0.88
The principal supports teachers by providing materials for creativity and innovation in teaching which improves students’ academic performance	290	4.10	0.76
The principal does not accept managerial criticism from teachers and students which hinders timely improvement of students’ academic performance	290	2.36	1.09
The principal articulates the school values, beliefs and vision by consulting teachers which helps students to improve in academic performance	290	4.02	0.89
The principal does not share with teachers about future trends that he/she believes are likely to improve the teaching standards thus hindering students’ academic performance	290	1.86	0.89
The principal encourages and supports individual teachers to identify the students’ academic challenges and assist them which helps students to improve in academic performance	290	4.08	0.86
The principal does not provide platform for feedback from the teachers which hinders improvement of students’ academic performance	290	1.93	1.00
The principal regularly motivates teachers who perform team teaching and marking which helps to improve students’ academic performance	290	3.60	1.18
The principal encourages collaboration by initiating new ideas and innovation in teaching methods which contributes to improvement of students’ academic performance	290	3.95	0.91
Overall mean	290	3.33	0.53

Data Table 17 shows that teachers agreed that principals' management of collaborative and collegial support strategy influences students' academic performance. The specific agreement statements included: principals support teachers by providing materials for creativity and innovation in teaching ($M = 4.10$; $SD = 0.76$); principals encourage and support individual teachers to identify students' academic challenges ($M = 4.08$; $SD = 0.86$); principals involved teachers in making school's administration strategy which helps to improve students' academic performance ($M = 4.07$; $SD = 0.88$); and that principals articulated school values, beliefs and vision by consulting teachers ($M = 4.02$; $SD = 0.89$). The overall mean rating was ($M = 3.33$; $SD = 0.53$). This meant that teachers held positive perceptions towards principals' management of collaborative and collegial support strategy for improving student academic achievement.

These findings were consistent with the TSC strategic plan (2015-2019), which aims to enhance teacher competency, ethics and performance management, developments, and innovations in the delivery of teaching services in order to improve student outcomes.

According to the Session Paper No. 1 of 2019, the main goal of educational changes is to increase the quality of teaching services by enhancing teachers' professional competencies and ethics, as well as equipping them with the appropriate trainings. The principals in embracing the collaborative and collegial support strategy may have encouraged the teachers to embrace the new changes in the school that are geared towards learner improvement. These findings are consistent with those of Weiner (2009), who found that when schools are ready for change, teachers are likely to enact change, expend higher effort, show greater tenacity, and exhibit more positive behaviors. This leads to high level collaboration which in return leads to better students' academic performance.

Testing Hypothesis

H₀₂: There is no significant relationship between the teacher perceptions of principals' collaborative and collegial support strategy on students' academic performance in public secondary schools in Nairobi City County.

The second null hypothesis that was tested suggested that, 'there is no significant association between teachers' perceptions of principals' collaborative and collegial strategy and students' academic performance in public secondary schools in Nairobi City County.' The null hypothesis was tested using linear regression technique, which was considered appropriate statistics. This is supported by the Central Limit Theorem, which justifies parametric analysis for Likert scale means. Linear regression analysis was conducted with the composite school KCSE mean scores and means of teachers' perceptions towards principals' management collaborative and collegial support strategy variable. The results are presented in the three regression output tables, that is, Table 18, 19, and 20.

Table 18: Overall Model Fit

Number of observations	290
F (1, 288)	19.214
Prob. > F	0.000
R - squared	0.0625
Adjusted R - squared	0.0417
Root SME	1.6109

From the overall model fit summary, it was found that collaborative and collegial support strategy explained a moderate amount of the variance in the value of student academic performance at KCSE ($F(1, 288) = 19.214$, $p < .001$, $R^2 = .063$, $R^2 \text{ Adjusted} = .042$). The $R^2 = 0.063$ which suggested that collaborative and collegial support strategy may predict 6.3% of the variability in KCSE results.

Table 19: ANOVA

Source	SS	df	MS	F	Prob. > F
Model	49.8666	1	49.8666	19.214	0.000
Residual	747.4469	288	2.5953		
Total	797.3135	289	2.7588		

With one degree of freedom (df), the model's sum of squares (SS) was 49.87; and resultant mean square (MS) was 49.87.

The corresponding F statistic was 19.214 with a significant level of 0.001 indicating that the model was significant. As a consequence, the null hypothesis was rejected. It was concluded that there was a statistically significant relationship between teacher perceptions towards principals' management of collaborative and collegial support strategy and student academic achievements. Table 20 presents the coefficients that show the change related with a one-unit variation in the independent variable on the dependent variable when all other variables are kept constant. A coefficient describes the magnitude of independent variable's contribution to the dependent variable.

Table 20: Regression Analysis of KCSE Performance Data with Management of Collaborative and Collegial Support Strategy

mean score	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]
Collaborative and collegial support	0.047958	0.009201	5.21	0.000	0.029899 0.066017
_cons	0.34051	0.275885	1.23	0.217	-0.20097 0.881987

As shown in Table 20, resultant coefficient was 0.05. This meant that for every unit increase in teachers' perceptions on principals' management of collaborative and collegial support strategy, a 0.05-point increase in KCSE mean score was reliably predicted. That is, when teachers' perceptions increased positively towards principals' management of collaborative and collegial

support strategy, it was expected that KCSE mean score would increase by 0.05 of a point. This meant that teachers were likely to use more collaborative teaching strategies and work as a team in teaching, thus increasing student academic performance. The final predictive model was:

$KCSE \text{ score} = 0.34 + (0.05 * \text{use of collaborative and collegial strategy})$.

The findings supported Hargreaves and Hopkins' (2009) argument that a greater collaborative and collegial workforce increases learner engagement and performance. They were also consistent with the findings of Lara-Alecio, Tong, Irby, Guerrero, Huerta, and Fan (2012), who revealed that learners whose instructors took part in collaborative practices such as teaching approaches performed better in science and reading than learners whose instructors did not participate in such professional growth exercises.

The findings also aligned with those of Fakomogbon (2017), who found a substantial increase in the variance between students' pretest and posttest scores during the mobile learning experience. The most effective collaborative learning style was the think-aloud-pair problem-solving strategy. Additionally, all cooperative teaching methods were much more efficient in teaching in a mobile learning context than non-collaborative teaching methods. The findings were also in line with Shah (2012), who found significant relationship between collegiality of teachers and academic achievement.

Nevertheless, the findings differed from those of Treohan (2010), who reported no substantial variation in collegiality opinions between categories and sub-categories in relation to learner performance. Therefore, there is need for development of collegiality among teachers in a school because academic achievement is a vital point in a students' study life.

4.9 Teachers' Perception of Principals' Management ICT Integration Strategy in Teaching and Learning and Students' Academic Performance

The fourth objective solicited information on the relationship between teachers' perceptions of their principals' enhancement of ICT in teaching and learning and students' academic performance in public secondary schools. ICT has connected the whole world. According to a UNESCO (2011) report, ICT has contributed to the significant changes observed within education and society. As a result, there is accelerated transformation in teaching and learning around the world. To address the objective, teachers were asked to indicate their views on management of technology integration in learning and students' achievements in learning. During the analysis of the Likert scale questions, the researcher converted the Likert scale in to means where a mean of 2.5 and above was considered as positive perceptions. The scales were later collapsed into two levels and interpreted as; 1.0 - 2.4 (*negative perceptions* = 1); and 2.5 - 5.0 (*positive perceptions* = 2). Table 21 shows the results.

To analyze data for this objective, a statistically weighted mean was calculated for each of the 10 statements to show teachers' perceptions. The 10 statements that comprised a series of Likert-type items representing same construct were combined into a single composite score (weighted overall mean) to measure teachers' perceptions on principals' management of use of ICT strategy in learning.

Table 21: Teachers' Perception towards Principals' Integration of ICT an Teaching And Learning and its Influence on Student Performance

Statement	N	<i>M</i>	<i>SD</i>
The principal supports the use of information and communications technology (ICT) in classroom teaching (e-learning) which has helped to improve students' academic performance	290	4.05	0.96
The principal has facilitated the ICT equipment (computers and projectors) which are strategically placed for e-learning environment which has helped to improved students' academic performance	290	3.91	1.05
The principal emphasizes the use of ICT in classroom teaching through the use of an e-learning time table which has helped to improve students' academic performance	290	3.73	1.08
The principal has provided the ICT programme for processing students' examinations for faster exam feedback which hinders improvement of students' academic performance	290	3.75	0.94
The principal has forged partnership with parents and organizations to address the ICT resources and training of teachers which has helped to improve the students' academic performance	290	2.25	1.17
The principal motivates teachers to use ICT in preparing remedial e-materials for quick revision and understanding which improves the students' academic performance	290	3.75	1.01
The principal has equipped the school with enough computers, projectors and e-learning materials for teachers and students which facilitates students' improvement in academics	290	2.30	1.24
The principal has provided the teachers with internet access for preparation and updating of e-learning materials which facilitates improvement of students' academic performance	290	3.19	1.25
The principal encourages teachers to buy their own laptops which are maintained by the school hence motivating teachers to utilize better teaching materials which has helped improve students' academic performance	290	2.73	1.16
The principal is computer literate and uses e-learning programmes in his/her class teaching which serves as a role model for teachers and which contributes to student improved academic performance.	290	3.43	1.12
Overall mean	290	3.31	0.90

Table 21 indicates that teachers agreed that principals: supported integration of ICT in learning which had helped to improve students' academic performance ($M = 4.05$; $SD = 0.96$); made

internet accessible in school for e-learning which has helped to improved students' academic performance ($M = 3.91$; $SD = 1.05$); and they motivate teachers to use ICT in preparing remedial e-materials for quick revision and understanding which improves the students' academic performance ($M = 3.75$; $SD = 1.01$). These statements showed that teachers held positive perceptions towards principals' management of ICT strategy as a means of improving students' academic performance.

However, teachers were skeptical that principals had forged partnerships with parents and organizations to address the ICT resources and training of teachers which would help to improve the students' academic performance ($M = 2.25$; $SD = 1.17$). Teachers equally felt that schools were not adequately equipped with ICT facilities ($M = 2.30$; $SD = 1.24$). These findings contravened the report on the Sessional Paper (No 1 of 2012) which require that principals and teachers be trained in order to embrace the new technological change in educational provision. The overall mean ($M = 3.31$, $SD = .90$). This indicated that teachers held positive perceptions towards principals' management of ICT integration strategy in teaching and learning and students' academic performance in public secondary schools. When teachers view ICT positively, they are likely to embrace it in their pedagogy thereby enhancing student academic performance.

The findings are consistent with those of Ghavifekr and Rosdy (2015), who found that instructors' positive attitudes about the efficiency of integrating technology in instruction supported the learning process.

A linear regression analysis with performance data from 2015 to 2018 and teachers' mean perceptions was run to test the null hypothesis.

Testing Hypothesis

H₀₃: There is no significant relationship between teachers' perceptions of principals' management of integration ICT strategy in teaching and learning and students' academic performance in public secondary schools in Nairobi City County.

The third null hypothesis stated that there was no significant relationship between teachers' perception towards principals' management of integration of ICT strategy in teaching and learning and students' academic performance in public secondary schools in Nairobi City County. Given that Central Limit Theorem supports parametric analysis of means of Likert scale values, linear regression was taken to be an appropriate for the test of hypothesis. Therefore, the composite school KCSE mean score and means of teacher perceptions on principals' management of ICT integration in learning. The results are presented on the three regression output tables; Table 22, Table 23, and Table 24. First, a model fit summary is discussed

Table 22: Overall Model Fit

Number of observations	290
F (1, 288)	42.3781
Prob. > F	0.000
R – squared	0.1283
Adjusted R – squared	0.0972
Root SME	1.5534

From the model summary, it was found that teachers' perceptions on principals' handling of ICT integration in instruction explained moderate amount of variance in the value of student academic performance at KCSE ($F(1, 288) =$, $p < .001$, $R^2 = .0128$, $R^2 \text{ Adjusted} = .0972$). The

$R^2 = 0.13$ suggested that 13% of differences among KCSE scores could be explained by perceptions held by teachers on principals' management of ICT strategy in teaching and learning.

Table 23: ANOVA

Source	SS	df	MS	F	Prob. > F
Model	102.2712	1	102.2712	42.3781	0.000
Residual	695.0423	289	2.4133		
Total	797.3135	290	2.6666		

The model had one degree of freedom (df) and a sum of squares (SS) of 102.27. The resultant mean square (MS) was 102.27 and had a corresponding F statistic of 42.38 which was significant at alpha the 0.001. These results indicated that the model was a significant predictor of KCSE performance, $F(1, 288) = 42.38, p = .001$. The significance value, $p = 0.001$ is less than $p = 0.05$, the regression model significantly predicts KCSE score. Therefore, the null hypothesis was rejected. There is a statistically significant relationship between teachers' perceptions of principals' integration of ICT strategy in teaching and learning and students' academic performance'.

Table 23: Regression analysis of KCSE performance data with enhancement of ICT in teaching and learning strategy

mean score	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
Enhance ICT in e-learning	0.044626	0.006044	7.38	0.000	0.032763	0.056488
_cons	0.39692	0.188449	2.11	0.035	0.027053	0.766787

A linear regression was carried out to investigate whether teachers' perceptions on principals' management of ICT in teaching and learning could significantly predict students' performance at KCSE. The regression findings showed that the model accounted for 13% of the differences

in KCSE mean scores; and that it was an important determinant of exam performance, $F(1, 288) = 42.38, p < 0.05$. With a coefficient of 0.04, it meant that for every unit increase in teacher perceptions toward principals' management of ICT integration strategy in teaching and learning, a 0.04 unit increase in KCSE mean score was predicted. The final predictive model was:

$$\text{KCSE score} = 0.39 + (0.044 * \text{integration of ICT}).$$

The findings reiterate those of Jehan and Feras (2018); and Muhammad, Irfanullah, Siraj-u-Din, Hafiz, and Rafid (2015), who all found a substantial association between technology utilization and learners' educational achievement. Similarly, Obiageli and Adigwe (2017), observed that learners instructed through technology performed better academically.

However, the findings contradict those of Hussain and Suleman (2017), who revealed no significant difference in academic accomplishment in chemistry between control and treatment categories on a pre-test. The findings further refute Mbaeze et al. (2010) findings that use of ICTs had no statistically significant relationship with students' academic performance.

4.10 Teachers' Perception of Principals' Use of Students' Councils and Open Forums Strategy in School Management and Students' Academic Performance

The fifth objective sought information on relationship between teacher perceptions towards principals' management of student councils and open forums strategy in school management and its contribution to academic performance. Campo (2006) ascertains that the process of shared decision-making begins with keeping the students and teachers informed about school issues. When students and teachers are well informed about the working of the school, they help in resolving issues which arise. The students, teachers and principals therefore work together to

make school decisions. To answer the objective, teachers were requested to use a 5-point Likert scale ranging from 1 to 5, with 1 being strongly disagree and 5 being strongly agree to gauge their perceptions. During analysis, Likert scale items were converted into means where a mean of 2.5 and above was considered positive perceptions. The means were collapsed into two levels and interpreted as: 1.0 - 2.4 (*negative perceptions* = 1); and 2.5 - 5.0 (*positive perceptions* = 2). The results are presented in Table 25.

The objective was analyzed by first calculating a statistically weighted mean for each of the 10 statements to show teachers' perceptions. The 10 statements that comprised a series of Likert-type items representing same construct were combined into a single composite score (weighted overall mean) to measure overall teachers' perceptions on principals' management of student councils and open forums strategy.

Table 24: Teachers’ Perceptions of Principals’ Management of Student Councils and Open Forums and Student Academic Performance

Statement	N	M	SD
The principal organizes open forums for students to air their views without fear of intimidation which motivates students to improve in academic performance	290	4.01	1.01
The principal organizes meetings, seminars and workshops regularly for the school prefects to improve their management skills which helps improve students’ academic performance	290	3.88	0.95
The principal listens to students’ suggestion and considers them for implementation which facilitates students’ motivation to improve their academic performance	290	3.31	0.84
The principal encourages talent development for students which motivates students and in turn improve in their academic performance	290	4.24	0.73
The principal emphasizes on students to respect school regulations and vision which influences improved students’ academic performance	290	4.43	0.74
The principal rewards students for good performance which motivates the students to improve in their academic performance	290	4.38	0.76
The principal initiates guidance and counseling to students with individual problems which motivates to improve in their academic performance	290	3.36	0.83
Students feel free to approach the principal on any matter affecting them which motivates them to improve in their academic performance	290	3.19	0.97
The principal is readily available to hold open forums with the students on all important matters which motivates students to improve in their academic performance	290	3.99	1.06
Principal’s gives students an opportunity to choose their leaders with guided democracy which motivates students to improve in their academic performance	290	4.25	0.86
Overall mean	290	4.03	0.62

Data in Table 24 revealed that teachers agreed that principals emphasize on students to respect school regulations and vision which influences improved students' academic performance ($M = 4.43$; $SD = 0.74$); principals reward students for good performance which motivates them ($M = 4.38$; $SD = 0.76$); they principal's administration gives students an opportunity to choose their leaders with guided democracy ($M = 4.25$; $SD = 0.86$); and they encourage talent development for students which motivates students and improves academic performance ($M = 4.24$; $SD = 0.73$). The overall mean, $M = 4.03$; $SD = 0.62$, showed that teachers held positive perceptions that when principals involve students in school management; academic performance is likely to improve. The data shows that principals largely involve students in running the school.

The findings are in agreement with Campo (2006) who averred that the process of shared decision-making begins with keeping the students and teachers informed about school issues. Campo further confirmed that when students, teachers and principals work together to make school decisions, collaboration is likely to take place which may lead to improved students' academic performance. A linear regression analysis with student performance data from 2015 to 2018 was run with students' councils and open forums variable to test the hypothesis.

Testing Hypothesis

H₀₄: There is no significant relationship between the teachers' perceptions towards principals' management of students' councils and open forums, and students' academic performance in public secondary schools in Nairobi City County.

The fourth null hypothesis stated that there was no significant relationship between teachers' perceptions towards the principals' management of students' councils, open forums and students' academic performance in public secondary schools. Linear regression analysis was

conducted with the composite school KCSE mean score and mean of teachers' perceptions on principals' management of students' councils, open forums. The results are presented on Table 25, 26, and 27. First, a model fit summary is discussed under Table 25.

Table 25: Overall Model Fit

Number of observations	290
F (1, 288)	25.39
Prob. > F	0.000
R – squared	0.0810
Adjusted R – squared	0.0573
Root SME	1.59502

The R Square (R^2) row contains the value of most interest here. R^2 lies between 0 - 1 and shows how weak or strong the model is. It is called the strength of the whole regression model. The $R^2 = 0.08$; implied that 8% of differences among KCSE mean scores could be accounted for from increased use of student councils and open forums strategy in school administration. Therefore, use of student councils and open forums explained a moderate amount of the variance in the value of student academic performance at KCSE (F (1, 288, = 25.39, $p < .001$, $R^2 = .08$, R^2 Adjusted = .06).

Table 26: ANOVA

Source	SS	df	MS	F	Prob. > F
Model	64.61596	1	64.61596	25.39	0.000
Residual	732.6975	288	2.54409		
Total	797.3135	289	67.16005		

The model's sum of squares (SS) was 64.62 with 1 degree of freedom (df); and the mean square (MS) was 64.62. The corresponding F statistic was 25.39 and had a significance level of 0.001. Therefore, the model was considered an important projector of KCSE achievement scores, F (1, 288) = 25.39, $p = .001$. Since the significance value was less than $p = 0.05$, the alternative

accepted: ‘There is a statistically significant relationship between teachers’ perceptions of principals’ management of student councils and open forum strategy and student academic performance.

Table 27: Regression Analysis of KCSE Performance Data with Student Councils and Open Forums Strategy

mean score	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
student councils and open forum	0.041602	0.008422	4.94	0	0.025072	0.058133
_cons	0.349741	0.289069	1.21	0.227	-0.21761	0.917094

A linear regression was carried out to test whether teachers’ perceptions on principals’ management of student councils and open forum significantly predicted students’ performance at KCSE examinations. It was found that an increase in positive perception of teachers on principals’ management of student councils and open forum strategy resulted into a 0.34 of a point increase in student academic performance. That is, it could be reliably predicted that when teachers perceived inclusion of students in school management by the principals positively, student academic performance improved. The final predictive model was:

$$\text{KCSE score} = 0.04 + (0.34 * \text{use of student councils and open forums}).$$

4.11 Relative Contribution of School-wide Change Strategies on Academic Performance as perceived by the Teachers

To test hypothesis five: H_{05} ‘there is no significant prediction of students’ academic performance by teachers’ perceptions towards principals’ management of strategic planning guidelines, teachers’ perceptions towards principals’ collaborative and collegial support strategy, teachers’ perceptions towards principals’ enhancement of ICT in e-learning, teachers’

perceptions towards principals’ use of students’ councils, and students’ open forums in school administration at public secondary schools’ a multiple regression analysis was performed. The student mean score formed the dependent variable while the means of teachers’ perceptions on the four school-wide strategies constituted the independent variables. The results are presented in the three regression output tables; Table 28, 29, and 30

First, a model fit summary is discussed under Table 28. The model fit summary table shows the strength of correlation and percentage variability in the dependent variable (students’ academic performance) as accounted for by all the independent variables (school- wide change strategies).

Table 28: Overall Model Fit

Number of observations	290
F (4, 285))	4.43
Prob. > F	0.000
R – squared	0.4046
Adjusted R – squared	0.3133
Root SME	.791917

The combined linear effects of the predictor variables explained 40.5% variance in the students’ academic performance ($R^2 = 0.4046$). This implied that increased use of school-wide change strategies explained a moderate amount of the variance in the value of student academic performance at KCSE ($F(4, 285) = 4.43, p < .001, R^2 = .405, R^2 \text{ Adjusted} = .313$). That is, when teachers appreciated the way principals managed school-wide change strategies, they implemented the changes in their classroom performance and this contributed to increase in student academic performance.

Table 29: ANOVA

Source	SS	df	MS	F	Prob >F
	322.5746		2.780816	4.43	0.000
Strategic planning guidelines – H ₀₁	77.82278	1	3.112911	4.96	0.000
Collegial and collaborative Support – H ₀₂	37.44565	1	1.970824	3.14	0.000
ICT in learning – H ₀₃	79.04844	1	2.92772	4.67	0.000
Students’ council, open forum H ₀₄	54.85142	1	2.886917	4.6	0.000
Residual	474.7389	1	0.627132		
Total	797.3135	4	0.913303		

Table 29 illustrates the ANOVA test of the model’s significance. There were four degrees of freedom and 4 predictor variables. The regression effect was statistically significant; $F(4, 873) = 4.43, p = 0.001$). The significance value, $p = .0001$ was less than $p = 0.05$; therefore, the regression model significantly predicted KCSE scores. The null hypothesis was therefore rejected and the alternative accepted: ‘The school-wide change strategies vis-à-vis teachers’ perceptions towards principals’ management of strategic planning guidelines; teachers’ perceptions towards principals’ collaborative and collegial support strategy; teachers’ perceptions towards principals’ management of ICT integration in learning; and teachers’ perceptions towards principals’ use of student councils and open forums in school administration significantly predicted students’ academic performance.

Table 30: Regression Analysis of KCSE Performance Data with School-wide Change Strategies

Mean Score is the DV	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
Strategic Planning guidelines – H ₀₁	0.01864	0.009741	1.91	0.021	0.03776	0.000476
Collegial and Collaborative Support – H ₀₂	0.00214	0.011881	0.18	0.041	0.02546	0.021177
ICT in Learning – H ₀₃	0.03273	0.007314	4.48	0.000	0.018375	0.047084
Students Open forum Council H ₀₄	0.00361	0.0106	0.34	0.037	0.02442	0.017195
Constant	0.381484	0.332829	1.15	0.000	0.27176	1.034728

A multiple linear regression analysis was used to measure the school-wide change strategies that significantly contributed to students' academic performance as measured by KCSE scores. As observed in Tables 29 and 30 approximately 40.5% of the variance in the KCSE scores could be accounted for by all the independent variables together and all the entered predictors were significantly related to KCSE mean score; $F(4, 873) = 4.43, p = 0.001$).

The model was statistically significant at $p < 0.05$. It was observed that for every unit increase in use of strategic planning guidelines, a 0.01864 unit increase in KCSE mean score was expected holding all other variables constant; for every unit increase in use of collaborative and collegial support, it was expected that KCSE mean scores would increase by 0.00214 of a point without variation in other study variables; and for every unit increase in use of student council and open forums, there would be a 0.00361 point increase in KCSE mean scores holding all other factors steady. This meant that when teachers held more positive perceptions on how principals managed school-wide change strategies, it was likely that they would embrace the strategies in

their pedagogical practices. Since teachers' pedagogical practices have a direct influence on learner performance, this would result to improved student academic performance.

ICT integration in teaching and learning was highly statistically significant ($p=.0001$) and had positive coefficient of 0.03273. For every unit increase in use of ICT in teaching and learning, there was a 0.0327 unit increase in the predicted KCSE mean score holding all other factors constant. The t -statistic further confirmed that of the use of ICT ($t = 4.48, p = .001$) had the highest predictive power; the smaller the value of the significance and the larger the value of t -statistic, the greater the contribution of that predictor. The final predictive model was:

$$\text{KCSE Predicted} = 0.381484 + 0.01864 \cdot \text{*strategic plan.} + 0.00214 \cdot \text{*collaborative support} + 0.03273 \cdot \text{*ICT} + 0.00361 \cdot \text{*student council forum}$$

From the findings, it was clear that when teachers perceived that their principals were managing school-wide change strategies properly, they were likely to embrace and implement the said strategies in their pedagogical practices. This in turn would contribute to increase in student academic performance.

These findings were comparable to those of Sprague and Walker (2002), who opined that school-wide preventive programs fit with the overall mission of schooling, which is to promote academic performance, citizenship, and healthy living for learners. Similarly, Taylor-Greene and Kartub (2000) reported that when Centennial School implemented a school-wide positive behaviour support strategy, antisocial behaviour significantly decreased. Teachers also reported significant positive student outcomes. However, Cain and McLaren (2019) observed that in Australia, multiple change strategies had been implemented in education including changes to curriculum, testing, teacher standards, and funding models but student outcomes did not improve. Of the four school-wide change strategies, positive perceptions on management of

integration of ICT strategy had the greatest contribution to improved student academic performance.

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CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of the findings, conclusions that were drawn from the findings and recommendations. Recommendations were made both on practice and research. In addition, the chapter presents areas that were suggested for further research.

5.2 Summary of the Study Findings

The purpose of this study was to examine the relationship between the teachers' perceptions of principals' management of school-wide change strategies and students' academic performance as measured by KCSE examinations in public secondary schools in Nairobi City County Kenya. The study was guided by six objectives: to establish the school-wide change strategies adopted by principals in public secondary schools; to determine the relationship between teachers' perceptions of principals' management of strategic planning guidelines strategy and students' academic performance; to assess the relationship between teachers' perceptions of principals' management of collaborative and collegial support strategy and students' academic performance; to establish the relationship between teachers' perceptions of principals' integration of ICT in teaching and learning strategy and students' academic performance; to determine the relationship between teachers' perceptions of principals' use of students' councils and open forums strategy in school management and students' academic performance; and lastly to establish the relative predictive contribution of each of the independent variables to the dependent variables. One research question and five null hypotheses that were constructed in line with the study objectives were answered and tested respectively.

The first objective revealed that several school-wide change strategies had been initiated by school principals as observed by teachers. The school-wide change strategies contributed to the improvement of the students' academic performance. Teachers highlighted such changes as, availability of computer laboratories, provision of internet, democratic election of student council members and their involvement in student discipline, capacity building programs for teachers, provision of teaching and learning materials, school feeding programs, and benchmarking with high performing schools. The changes aligned with the four school-wide change strategies that were the focus of this study.

Findings on the second objective showed that teachers had positive perceptions towards principals' management of strategic planning guidelines strategy as a way of increasing student academic performance ($M = 3.31$, $SD = 0.87$). Changes addressed in the strategic planning guidelines and that were perceived to have contributed greatly to academic performance were; supervision of teachers' professional documents using TPAD, sharing management practices with teachers to foster ownership of school's vision and mission, and applying pressure towards target setting and rewarding target achievement. Linear regression analysis revealed that there was a statistically significant relationship between teachers' perceptions of principals' management of strategic planning guidelines strategy and students' academic performance ($F(1, 288) = 30.5275$, $p < .001$). Use of strategic planning guidelines accounted for 9.5% variance in KCSE mean scores ($R^2 = .095$). When teachers' perceptions increased by one unit, it was expected that students' performance at KCSE would increase by 0.31 points ($0.73 + 0.31$ [strategic planning guidelines]). That is, when teachers adhered to strategic planning guidelines, they were likely to improve in their performance which would in turn impact learner performance positively.

From the third objective, it was found that teachers held positive perceptions towards principals' management of collaborative and collegial support strategy as a means of improving student academic performance ($M = 3.33$; $SD = 0.53$). Specifically, teachers had high opinions on such factors as: principals support teachers by providing materials for creativity and innovation in teaching; principals encourage and support individual teachers to identify students' academic challenges; and principals involve teachers in making schools' administration strategy. Results from linear regression analysis showed that there was a statistically significant relationship between teachers' perceptions of principals' management of collaborative and collegial support and student academic performance $F(1, 288) = 19.214, < .001$. Use of collaborative and collegial strategy accounted for 6.3% of variance in KCSE mean scores among the schools. Teachers' perceptions on the strategy predicted for 0.05 unit increase in KCSE mean scores.

The fourth objective, revealed that teachers had positive perceptions towards principals' management of ICT integration in teaching and learning as a way of improving students' academic performance ($M = 3.10, SD = .90$). Teachers were of the opinion that placement of ICT equipment at strategic places for e-learning; the emphasis of the principal on the use of ICT in classroom instruction; provision of ICT program for processing students' examinations for faster exam feedback greatly aided in improving students' academic performance. The linear regression analysis confirmed these positive perceptions. There was a statistically significant relationship between teachers' perceptions of principals' management of integration of ICT strategy in teaching and learning and students' academic performance $F(1, 288) = 42.38, p = .001$. The predictive model was: $KCSE\ score = 0.39 + (0.044)$. That is, when teachers held positive perceptions towards principals' management of integration of ICT strategy in teaching and learning, it was expected that KCSE mean score would increase by 0.44 points. This meant

that teachers would use more technologies in teaching and learning thereby improving student academic performance. The strategy also accounted for 13.0% variance in the KCSE mean scores among schools.

Objective five revealed that teachers had positive perceptions towards principals' management of student councils and open forums strategy as a means of improving students' academic performance ($M = 3.43$; $SD = 0.62$). They had positive views on factors like principals organize open forums for students to air their views without fear of intimidation, principals organize for meetings, seminars, and workshops regularly for the school prefects to improve their management skills, principals encourage students to freely approach them on any matter affecting students. Linear regression analysis showed that there was a statistically significant relationship between teachers' perceptions of principals' management of students' councils and open forums strategy and academic performance ($F(1, 288) = 25.39, p = .001$). Use of student councils and open forum strategy explained 8% of the variance in the KCSE mean scores among schools. The use of this strategy in school administration significantly predicted student performance at KCSE examinations; for every unit increase in teachers' perceptions of principals' management of student councils and open forums strategy, a 0.34 unit increase in KCSE mean score could be predicted. When teachers appreciated the role of student councils and open forum in school management, this democratic process would impact positively on academic decisions thus improving student academic performance.

The last objective revealed that all the independent variables together accounted for approximately 40.5% of the variance in the KCSE mean scores in schools; and they were significantly related to KCSE mean score; $F(4, 285) = 4.43, p = 0.001$). Of the four school-wide

change strategies, teachers' perceptions on principals' management of ICT integration in teaching and learning had the highest predictive contribution to KCSE mean scores. For every unit increase in teachers' perceptions on principals' management of ICT integration in teaching and learning, there an expected 0.0327 unit increase in KCSE mean score holding all other factors constant. When teachers perceived integration of ICT positively, they were likely to use more technology in their pedagogical practices, thus improving learner performance. The t - statistic further confirmed that teachers' perceptions on principals' management of ICT integration in teaching and learning strategy ($t = 4.48, p = .001$) had the highest predictive power. Therefore, proper management of school-wide change strategies is likely to result to increase in student academic performance.

5.3 Conclusions

The study made the following conclusions:

The major task in the research was to investigate the association between perceptions of teachers on principals' management towards school-wide change strategies and students' academic performance in public secondary schools in Nairobi City County. Student academic performance in Nairobi City County has been on decline as observed in the national examinations. This dismal performance prompted the researcher to carry out this study.

From hypothesis one, it was found that there was a significant relationship between teacher perceptions towards principals' management of strategic planning guidelines and student academic performance. This means that although strategic planning guidelines do not by itself influence students' academic performance directly, the guidelines help schools to tailor their academic programs towards focused goals. When learning practices are guided, teachers work

within the set schedules to attain the set goals. This in turn influences student academic performance. Constant pronouncements by teachers and principals on the guidelines keep learners on high achievement track.

From null hypothesis two, it was revealed that there was a significant relationship between teacher perceptions of principals' management of collaborative and collegial support strategy and student academic performance. The study concluded that when principals embrace a culture of collaborative and collegial staff professional development, teachers were likely to feel supported, cared for, and respected. They would in turn strive to equip themselves with current pedagogical competencies and practices that would improve classroom practices leading to improved academic performance. When teachers expressly interact and embrace collaboration to communicate or counsel each other regarding student performance, positive effects on students' performance can be established.

From hypothesis number three, it was established that teacher perceptions towards principals' management of integration of ICT in teaching and learning influences students' academic performance. This being the era of digital technology, principals who invest in ICT infrastructure and its utilization tend to increase learner performance. When teachers are well equipped with technological pedagogical content knowledge and hold positive perceptions towards integration of ICT in teaching and learning, they present learners with ICT learning opportunities for improved academic performance.

From hypothesis four on teacher perceptions towards principals' management of student councils and open forums strategy were was found to have a positive association with students'

academic performance. This meant that when teachers opine that students should participate in making decisions that affect their academic life, students are likely to implement such decisions thereby improving in academic performance.

The last hypothesis tested which of the four school-wide change strategies was likely to influence academic performance greatly. Integration of ICT in teaching and learning strategy had the highest influence in students' academic performance. It was concluded that since teachers of the 21st century are expected to be digitally literate, it was likely that most of them had embraced use of technologies to a greater extent in their classroom practices.

5.4 Recommendations

According to the study findings, it was suggested that:

1. The Ministry of Education should embark on intensive training of school principals in drafting of strategic planning guidelines. It may be that the strategic planning documents may not have been utilized by teachers due to lack of clear understanding and therefore the teachers and principals may require refresher courses on strategic planning.
2. Principals should be encouraged to engage all stakeholders especially student councils to promote inclusiveness in the management of school affairs for better student academic performance. Therefore, it is recommended that secondary school principals, as change agents be empowered on how to deal with student bodies to curb low academic performance.
3. Principals should devise ways of increasing collaboration and collegial support among teachers. This may be done through in-service training programs. This would in turn aid

in creating conducive working environments that facilitate professional development and quality academic performance.

4. Schools should enhance integration of ICT as a school-wide change strategy as it was noted to have the greatest influence on student academic performance. Since ICT integration is a continuous process, schools need to develop a comprehensive strategic plan for the integration of ICTs into its academic programs as part of its basic teaching and learning function.
5. The Ministry of Education needs to keep on conducting needs assessment to establish training needs for principals on management of school-wide change strategies. A mentorship program is strongly recommended for newly appointed and serving principals in schools that are underperforming so that they too could embrace the management of the school-wide strategies for the students' improvement in academic performance. This would involve organizing for induction and in-service courses for the principals.

5.5 Suggestions for Further Research

Although attempts have been made in this study to document information about teachers' perceptions of principals' management of school-wide change strategies, there may be important information still lacking. Further research on the following topics may be necessary:

1. To increase the generalizability of the findings, further research on teachers' perceptions of principals' management of school-wide change strategies and its impact on students' academic performance should be done with a wider target population that should include private secondary in Nairobi and other counties in Kenya.

2. To investigate the challenges faced by principals' management of the school wide change on strategic planning guide-line on students' academic performance in some particular schools where the principals are already having infrastructure challenges.
3. A study can be conducted to determine the extent to which principals have been trained on the management strategic planning guidelines as a school-wide change strategy. This is in accordance with strategic planning guidelines in the sessional paper no. 14 of 2012.
4. Although the teachers agreed that the principals implemented and supported the use of ICT in teaching and learning, the significance in students' performance was minimal. Research should be done to establish the challenges facing implementation of the ICT programme and how students should embrace the programmes in other counties.
5. On the principals' management of collaborative and collegial support strategies more research could be carried out on principals from other counties to establish the need to train them on the need for collaborative and collegial support strategies as this has been seen to work in other countries where research has been carried out.

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APPENDICES

APPENDIX I: SCHOOL DATA FORM

Introduction

Dear Sir/Madam,

I am a PhD student currently pursuing a degree of Doctor of Philosophy in Education at Maasai Mara University. My Research topic is on principal's School wide change management in Kenyan Education system. The study explores the Effects of teachers' perception of the Principals' management of the school wide change strategies on Students' academic performance in Public Secondary Schools, Nairobi County.

Section A: Principals' Demographic Information

This questionnaire is strictly meant for academic research purposes and all the data and information will be treated as confidential: Please give your answer by putting a tick in the appropriate box (√)

A1.1; demographic information

1. What is your gender?

a) Male Female

2. What is your age bracket?

a) 21 – 30 years b) 31 – 40 years

c) 41 – 50 years d) over 50 years

3. What is your highest professional qualification?

a) S1/Diploma b) B.Ed.

c) PGDE d) MEd

e) Masters [] f) Doctorate []

4. How long have you been a Principal?

a) Less than 1 year [] b) 1 – 5 years []

c) 6 – 10 years [] d) Over 10 years []

5. How long have you been a Principal in your present school?

a) Less than 1 year [] b) 1 -5 years []

c) 6 – 10 years [] d) Over 10 years []

Section B: Academic Performance

Kindly provide the information about the KCSE performance in your school for the last 4 years by indicating the number of candidates per year and the percentage score in the following category; C+ and above. (Please also provide a copy of the analyzed results for the same period).

Fill the table below

year	Total No. of candidates	Mean grade out of 12 points	No. with Grade C+ and above	percentage
2015				
2016				
2017				
2018				

(Note: Kindly provide a copy of KCSE examination analysis for the last 4 years).

THANK YOU FOR YOUR PARTICIPATION

APPENDIX II: TEACHERS' QUESTIONNAIRE

Introduction

Dear Sir/Madam, I am a PhD student currently pursuing a degree of Doctor of Philosophy in Education at Maasai Mara University. My Research topic is on Principal's School wide change management in Kenyan public schools. The study explores the Effects of teachers' perception of the Principals' management of the school wide change strategies on Students' academic performance in Public Secondary Schools, Nairobi city County Kenya. **Please answer all the questions.**

Section A : Demographic Information

This questionnaire is strictly meant for academic research purposes and all the data and information will be treated as confidential: Please give your answer by putting a tick in the appropriate box (√)

1. What is your gender?

a) Male Female

2. What is your age bracket?

a) 21 – 30 years b) 31 – 40 years

c) 41 – 50 years d) over 50 years

3. What is your highest professional qualification?

a) S1/Diploma b) B.Ed

c) PGDE d) M.Ed.

e) Masters f) Doctorate

4. How long have you been a teacher?

- a) Less than 1 year [] b) 1 – 5 years []
- c) 6 – 10 years [] d) Over 10 years []

5. How long have you been a teacher in your present school?

- a) Less than 1 year [] b) 1 -5 years []
- c) 6 – 10 years [] d) Over 10 years []

6. How long has the current principal served in your school?

- a) Less than 1 year [] b) 1 -5 years []
- c) 6 – 10 years [] d) Over 10 years []

Section B: What 3 (three) changes have the Principal introduced over the last 4 years which have had an impact on the students’ academic performance?)

Please rate the impacts on a scale of 1 to 5 where: 1 = No change, 2=Fair improvement, 3=Fairly good improvement, 4=Good Improvement, 5=Best Improvement, (5 rating the best change impact)

Please state the change in the school and then circle the number that rates the change impact.

Change	1	_____				
Rating		1	2	3	4	5
Change	2	_____				
Rating		1	2	3	4	5
Change		_____				
Rating		1	2	3	4	5

3

Section C: Drastic change in school in the last 4 years

What are your views on the drastic changes that have occurred in your school in the past 4 years?

Use the following statements to indicate the extent to which you; 5= strongly agree (SA), 4= Agree (A), 3=Undecided (U), 2=Disagree (D), 1=strongly disagree (SD). With the statements below by putting a tick in the appropriate box (✓) where (SA)) is the highest score

Drastic changes in your school	SA	A	U	D	SD
There has been good students' academic improvement					
There has been strong student motivation towards academic performance					
There is good improved infrastructure development which has contributed to students' academic performance					
The installation of CCTV cameras and security personnel in all arrears has provided good learning environment					
There is strong involvement of stakeholders which makes learning programs manageable for students' academic performance					
There is good utilization of digital(e-learning) material in teaching which improves academic performance					
There is a functional guidance and counseling program happily used by students which motivates students to improve in academic performance					

Section B1.4: Principals’ application of strategic planning guidelines strategy (TSC Tool) on academic performance

What are your views on the Principal’s application of strategic planning guidelines strategy (TSC Tool) on school’s academic performance?

Use the following statements to indicate the extent to which you; 5= strongly agree (SA), 4= Agree (A), 3=Undecided (U), 2=Disagree (D), 1=strongly disagree (SD). With the statements below by putting a tick in the appropriate box (✓) where (SA) is the highest score.

	Statement	SA	A	U	D	SD
1	The principal has initiated the school’s strategic plan with time lines which teachers use to improve students’ academic performance					
2	The principal applies pressure towards setting targets and rewards target achievement by teachers which helps to improve students’ academic performance					
3	The principal initiates shared management practices with teachers to foster ownership of the school’s vision and mission which helps improve students’ academic performance					
4	The principal supervises professional lesson plan documents by teachers through lesson observation using TPAD (TSC evaluation tool) which has helped improve students’ academic performance					
5	The Principalsupervises teachers on student centred method of teaching and learning which has helped to attain improved					

	students' academic performance					
6	The Principal addresses the causes of dismal performance through supervision of continuous evaluation and revision which has helped improve students' academic performance					
7	The Principal does not provide adequate teaching and learning resources for teachers and students which hinders students' academic performance					
8	The Principal does not provide teachers with professional development through regular training which hinders improvement of students' academic performance					
9	The principal initiates the development and implementation of the school's timely feedback policy to learners and parents which motivates students to improve their academic performance					
10	The principal does not support teachers in ensuring timely coverage of syllabus and revision which hinders students' improvement in academic performance					

Section D: Principals' Application of Collegial and Collaborative Support Strategy on Students' Academic Performance

What are your views on the principal's application of collegial and collaborative support strategy on school's academic performance?

Use the following statements to indicate the extent to which you; 5= strongly agree (SA),

4= Agree (A), 3=Undecided (U), 2=Disagree (D), 1=strongly disagree (SD). With the statements below by putting a tick in the appropriate box (√) where (SA) is the highest score.

	Statement	SA	A	U	D	SD
1	The Principal involves the teachers in the school's administration strategy which helps to improve students' academic performance					
3	The Principal supports teachers by providing materials for creativity and innovation in teaching which improves students' academic performance					
4	The Principal does not accept managerial criticism from teachers and students which hinders timely improvement of students' academic performance					
5	The Principal articulates the school values, beliefs and vision by consulting teachers which helps students to improve in academic performance					
6	The Principal does not share with teachers about future trends that he/she believes are likely to improve the teaching standards thus hindering students' academic performance					
7	The Principal encourages and supports individual teachers to identify the students' academic challenges and assist them which helps students to improve in academic performance					

8	The Principal does not provide platform for feedback from the teachers which hinders improvement of students' academic performance					
9	The Principal regularly motivates teachers who perform team teaching and marking which helps to improve students' academic performance					
10	The Principal encourages collaboration by initiating new ideas and innovation in teaching methods which contributes to improvement of students' academic performance					

Section E: Principals' Enhancement of 21st Century Skills in Teaching and Learning Strategy on Academic Performance

What are your views on the principal's enhancement of ICT in teaching and learning on students' academic performance?

Use the following statements to indicate the extent to which you; 5= strongly agree (SA), 4= Agree (A), 3=Undecided (U), 2=Disagree (D), 1=strongly disagree (SD). With the statements below by putting a tick in the appropriate box (✓) where (SA) is the highest score.

	Statement	SA	A	U	D	SD
1	The Principal supports the use of information and communications technology (ICT) in classroom teaching (e-learning) which has helped to improve students' academic					

	performance					
2	The Principal has facilitated the ICT equipment (computers and projectors) which are strategically placed for e-learning environment which has helped to improved students' academic performance					
3	The Principal emphasizes the use of ICT in classroom teaching through the use of an e-learning time table which has helped to improve students' academic performance					
4	The Principal has not provided the ICT programme for processing students' examinations for faster exam feedback which hinders improvement of students' academic performance					
5	The principal has forged partnership with parents and organizations to address the ICT resources and training of teachers which has helped to improve the students' academic performance					
6	The Principal motivates the teachers to use ICT in preparing remedial e-materials for quick revision and understanding which improves the students' academic performance					
7	The Principal has not equipped the school with enough computers, projectors and e-learning materials for teachers and students which hinders students' improvemen5t of academic					

	performance					
8	The Principal has not provided the teachers with internet access for preparation and updating of e-learning materials which hinders improvement of students' academic performance					
9	The Principal encourages teachers to buy their own laptops which are maintained by the school hence motivating teachers to utilize better teaching materials which has helped improve students' academic performance					
10	The Principal is computer literate and uses e-learning programmes in his/her class teaching which serves as a role model for teachers and which contributes to students' improved academic performance.					

Section F: Principals' Application of Students' Open Forum and Council in School Management Strategy and Academic Performance

What are your views on the principal's application of students' open forum and council in school management strategy on students' academic performance?

Use the following statements to indicate the extent to which you; 5= strongly agree (SA), 4= Agree (A), 3=Undecided (U), 2=Disagree (D), 1=strongly disagree (SD). With the statements below by putting a tick in the appropriate box (√) where (SA) is the highest score.

Statement	SA	A	U	D	SD
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1	The Principal organizes open forums for students to air their views without fear of intimidation which motivates students to improve in academic performance					
2	The Principal organizes meetings, seminars and workshops regularly for the school prefects to improve their management skills which helps improve students' academic performance					
3	The Principal does not listen to students' suggestion nor consider them for implementation which hinders students' motivation to improve their academic Performance					
4	The Principal encourages talent development for students which motivates students and in return improve in their academic performance					
5	The Principal emphasizes on students to respect school regulations and vision which influences improved students' academic performance					
6	The Principal rewards students for good performance which motivates the students to improve in their academic performance					
7	The Principal does not initiates guidance and counseling to students with individual problems which hinders motivation to improve in their academic performance					
8	The students do not feel free to approach the principal on any matter affecting them which hinders students' motivation to improve in					

	their academic performance					
9	The Principal is readily available to hold open forums with the students on all important matters which motivates students to improve in their academic performance					
10	The Principal's administration gives students an opportunity to choose their leaders with guided democracy which motivates students' to improve in their academic performance					

THANK YOU FOR YOUR PARTICIPATION

APPENDIX III: UNIVERSITY CLEARANCE LETTER



MAASAI MARA UNIVERSITY (OFFICE OF THE DIRECTOR, POSTGRADUATE STUDIES)

TEL. No.0722346 419
Email: graduatestudies@mmarau.ac.ke

P. O. Box 861-20500
NAROK, KENYA

Ref: Ref/MMU/AA0328/45/ VOL 1 (39)

Date: 17th April, 2019

Council Secretary,
National Council for Science and Technology,
P.O. Box 30623-00100
NAIROBI-KENYA

Dear Sir/Madam,


RE: APPLICATION FOR RESEARCH PERMIT: REG. NO. DE01/0011/2010-

CONSOLATA MUTHONI KIMUYA

I wish to recommend the above candidate for a permit to enable her collect data for her research. She defended her proposal at the School of Education successfully and has made the necessary corrections. The title is *Teachers' perception of principals' management of school-wide change strategies on students' academic performance in public Secondary Schools in Nairobi City County, Kenya*. She therefore qualifies for a permit to conduct research.

Any assistance accorded to her will be highly appreciated.

Thank you


Dr. Kodak O.B.

DIRECTOR BOARD OF POSTGRADUATE STUDIES



APPENDIX IV: RESEARCH AUTHORIZATION – NAIROBI CITY COUNTY



Republic of Kenya
MINISTRY OF EDUCATION

STATE DEPARTMENT OF EARLY LEARNING & BASIC EDUCATION

Telegrams: "SCHOOLING", Nairobi
Telephone: Nairobi 020 2453699
Email: rce@kenya.go.ke
sdem@kenya.go.ke

REGIONAL DIRECTOR OF EDUCATION
NAIROBI REGION
NYAYO HOUSE
P.O. Box 74629 – 00200
NAIROBI

When replying please quote

Ref: RCE/NRB/GEN/1/VOL. 1

DATE: 10th June, 2019

Consolata Muthoni Kimuya
Maasi Mara University
P O Box 861
NAROK

RE: RESEARCH AUTHORIZATION

We are in receipt of a letter from the National Commission for Science, Technology and Innovation regarding research authorization in Nairobi County on "Teachers' perception of principals' management of school-wide change strategies on students' Kenya academic performance in Public Secondary Schools in Nairobi City County, Kenya".

This office has no objection and authority is hereby granted for a period ending **23rd May, 2020** as indicated in the request letter.

Kindly inform the Sub County Director of Education of the Sub County you intend to visit.



JAMES KIMOTHO
FOR: REGIONAL DIRECTOR OF EDUCATION
NAIROBI

c.c

Director General/CEO
Nation Commission for Science, Technology and Innovation
NAIROBI



APPENDIX V: RESEARCH AUTHORISATION - NACOSTI



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 3310571, 2219420
Fax: +254-20-318245, 318249
Email: dg@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

NACOSTI, Upper Kabete
Off Waiyaki Way
P.O. Box 30623-00100
NAIROBI-KENYA

Ref. No. **NACOSTI/P/19/88023/30502**

Date: **27th May, 2019**

Consolata Muthoni Kimuya
Maasai Mara University
P.O. Box 861
NAROK.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *“Teachers’ perception of principals’ management of school-wide change strategies on students’ academic performance in Public Secondary Schools in Nairobi City County, Kenya”* I am pleased to inform you that you have been authorized to undertake research in **Nairobi County** for the period ending **23rd May, 2020**.

You are advised to report to **the County Commissioner and the County Director of Education, Nairobi County** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit a **copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

GODFREY P. KALERWA MSc., MBA, MKIM
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The County Commissioner
Nairobi County.

COUNTY COMMISSIONER
NAIROBI COUNTY
P. O. Box 30124-00100, NBI
TEL: 341666

10/06/2019

The County Director of Education
Nairobi County.

National Commission for Science, Technology and Innovation is ISO9001:2008 Certified

APPENDIX VI: RESEARCH PERMIT

THIS IS TO CERTIFY THAT:

**MS. CONSOLATA MUTHONI KIMUYA
of MAASAI MARA UNIVERSITY, 0-200
Nairobi, has been permitted to conduct
research in Nairobi County**

Permit No : NACOSTI/P/19/88023/30502

Date Of Issue : 27th May,2019

Fee Received :Ksh 2000

**on the topic: TEACHERS' PERCEPTION
OF PRINCIPALS' MANAGEMENT OF
SCHOOL-WIDE CHANGE STRATEGIES
ON STUDENTS' ACADEMIC
PERFORMANCE IN PUBLIC SECONDARY
SCHOOLS IN NAIROBI CITY COUNTY,
KENYA**

**for the period ending:
23rd May,2020**

**Applicant's
Signature**

**Director General
National Commission for Science,
Technology & Innovation**



APPENDIX VII: NAIROBI CITY COUNTY MAP

