

**VALUE ADDITION TO THE HOLISTIC DEVELOPMENT OF STUDENTS
IN PUBLIC SECONDARY SCHOOLS IN KENYA: A CASE OF NANDI
COUNTY**

**BY
BARNO GRACE CHELIMO**

**A THESIS SUBMITTED TO THE SCHOOL OF EDUCATION
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD
OF THE DEGREE OF DOCTOR OF PHILOSOPHY IN EDUCATIONAL
PLANNING, DEPARTMENT OF EDUCATIONAL MANAGEMENT,
UNIVERSITY OF ELDORET, KENYA**

OCTOBER, 2023

DECLARATION

Declaration by the candidate

This thesis is my original work and has not been submitted for any academic award in any institution and shall not be reproduced in part or full or in any format without prior written permission from the author and /or the University of Eldoret.

_____ **Date** _____

Barno Grace Chelimo

EDU/D.PHIL/PGPE/1001/13

Declaration by supervisors

This thesis has been submitted for examination with our approval as university supervisors:

_____ **Date** _____

Prof. Kisilu Kitainge

School of Education

University of Eldoret, Kenya

_____ **Date** _____

Prof. Zacharia Kosgei

School of Education,

Moi University, Kenya

DEDICATION

This thesis is dedicated to my DAD, the late J.K Barno.

ABSTRACT

Education processes should lead to the cumulative acquisition of knowledge, skills, and values needed for holistic development. However, the current assessment practices in the Kenyan education system focus on the cognitive part of learning at the expense of the affective and psychomotor domains. Schools should, therefore, implement methods for assessing learners' potential and the crucial elements of holistic development. This study examined the value-addition of learners' holistic development in different public secondary schools in Kenya. The study's objectives were to determine value addition on student academic performance, talents, and life skills by different categories of public secondary schools in Nandi County. Holistic learning and Multiple Intelligence Theories guided the study. The study adopted a post-positivist research paradigm and a mixed research design that used questionnaires and document analysis to collect information from School principals and Form four students. The study's target population was 192 secondary schools, 192 Principals, and 10,499 students. The respondents were stratified into National, Extra-County, County, and Sub-County Schools. The study used stratified, proportionate, and purposive sampling to select respondents who included 144 principals from 2 National schools, 4 Extra County schools, 26 county schools, and 112 sub-county schools. Multiple regression analysis determined the value-added to academic performance, the Wilcoxon signed-rank test determined the value-added on talents, and one-way ANOVA was used to determine the value-added of life skills. The residual values of multiple regression analysis were National, Extra-County, County, and sub-county were -2.541, -3.152, -2.690, and -4.094, respectively. These residuals show that in all the categories, there was no value addition to the learners' academic performance in the selected schools. However, all school categories improved in talent (P.000), including volleyball, basketball, athletics, music, and drama. Netball improved in county schools but not in extra-county or sub-county schools. In terms of life skills, all school types added value to critical thinking. This study has suggested that schools adopt a robust assessment method to show how they have holistically added value to the learner. The process should examine the cognitive, affective, and psychomotor domains and the physical and social domains of the student's development. Furthermore, the Ministry of Education should cascade the competency-based curriculum introduced recently at the lower primary level to all levels of the education system.

TABLE OF CONTENTS

DECLARATION	ii
DEDICATION	iii
ACKNOWLEDGEMENT	xvii
ABSTRACT.....	V
TABLE OF CONTENTS.....	v
LIST OF TABLES	x
LIST OF FIGURES	xiv
CHAPTER ONE	1
INTRODUCTION TO THE STUDY.....	1
1.0 Introduction.....	ERROR! BOOKMARK NOT DEFINED.
1.1 Background to The Study	1
1.2 Statement of the Problem.....	6
1.3 Purpose of The Study.....	7
1.4 Objectives of The Study.....	7
1.5 Hypotheses.....	7
1.6 Research Questions	7
1.7 Assumptions of the Study	8
1.8 Significance of the Study	8
1.9 Justification of the Study	8
1.10 The Scope of the Study	9
1.11 Limitations of the Study.....	9
1.12 Theoretical Framework.....	11
1.12.1 The Theory of Multiple Intelligence.....	11
1.12.2 Holistic Learning Theory	12
1.13 Conceptual Framework.....	14
1.14 Operational Definition of Key Terms	XV
1.15 Chapter Summary	16
CHAPTER TWO	17
LITERATURE REVIEW	17
2.1 Introduction.....	17
2.2 Categories of Public Secondary Schools in Kenya.....	17

2.2.1 Kenyan National Public Secondary Schools.....	18
2.2.2 Kenyan Extra- County Public Secondary Schools.....	20
2.2.3 Kenyan County Public Secondary Schools.....	20
2.2.4 Kenyan Sub-County Public Secondary Schools.....	21
2.3 National Examinations and the Holistic Development of Learners In Kenya.....	21
2.4 Holistic Development of Learners	23
2.5 Assessment Of Holistic Development of Learners.....	25
2.6 Life Skills and Holistic Development.....	29
2.7 Talents and Holistic Development of Learners	32
2.8 Value Addition as a Measure of Holistic Education.....	39
2.8.1 Factors Influencing Value Addition.....	40
2.8.1.1 Continuous Assessments and Value Addition	41
2.8.1.2. Teacher Performance Appraisal and Value Addition	43
2.8.1.3 Classroom Push and Pull Factors and Value Addition	44
2.9 Gaps in the Literature.....	49
2.10 Chapter Summary	50
CHAPTER THREE	51
RESEARCH DESIGN AND METHODOLOGY	51
3.1 Introduction.....	51
3.2 The Study Area	51
3.3 Research Paradigm.....	52
3.4 Research Design.....	53
3.5 Target Population.....	56
3.6 Study Sample and Sampling Techniques.....	57
3.7 Research Instruments	58
3.7.1 Questionnaires.....	58
3.7.2 Document Analysis.....	60
3.8 Validity and Reliability of Research Instruments.....	60
3.8.1 Validity of Research Instruments.....	60
3.8.2 Reliability of the Research Instruments	61
3.9 Data Analysis Procedures	63
3.10 Ethical Considerations	64

3.10.1 Informed Consent.....	65
3.10.2 Disclosure	65
3.10.3 Understanding	66
3.10.4 Voluntariness	66
3.10.5 Privacy and Confidentiality	67
3.10.6 Anonymity	68
3.10.7 Justice.....	78
3.10.8 Researcher’s Responsibility.....	69
3.10.9 Research Authorization.....	69
3.11 Chapter Summary	70
CHAPTER FOUR.....	71
DATA PRESENTATION, ANALYSIS, INTERPRETATION AND DISCUSSION	71
4.1. Introduction.....	71
4.1.1 Research Hypotheses	71
4.1.2 Research Questions.....	70
4.2 Demographic Information of Respondents.....	71
4.3 Test of Normality and Multi-Collinearity of Measures	72
4.3.1. Test of Normality of Data	72
4.3.2 Test of Multicollinearity of Measures.....	73
4.4 Value-Added to Student Academic Performance by Secondary Schools of Different Categories in Nandi County	74
4.4.1 Value Addition to the Student Academic Performance by Public National Secondary Schools In Nandi County.....	74
4.4.2 Value Addition to the Student Academic Performance by Public Extra County Secondary Schools	79
4.4.3 Value Addition to the Student Academic Performance by Public County Secondary Schools	82
4.4.4 Value Addition to the Student Academic Performance by Public Sub- County Secondary Schools	85
4.5 Value Addition to Student’s Talents by Public Secondary Schools of Different Categories in Nandi County	89
4.5.1 Value Addition on Football by Public National, Extra County, County, and Sub-County Public National Secondary Schools in Nandi County	90

4.5.2 Value Addition on Volleyball Participation by Public National Secondary Schools in Nandi County	94
4.5.3 Value Addition to Student’s Participation in Basketball by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County	97
4.5.4 Value Addition to Student’s Participation in Racket Games by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County .	100
4.5.5 Value Addition to Student’s Participation in Swimming by Public National, Extra County, County, and Sub-County Secondary Schools In Nandi County	103
4.5.6 Value Addition to Students’ Participation in Athletics by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County	105
4.5.7 Value Addition to Student Participation in Music by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County	108
4.5.8 Value Addition to Student’s Participation in Drama by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County	111
4.5.9 Value Addition to Student’s Participation in Netball by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County	113
4.6 Value Addition on Students’ Life Skills by Public National, Extra County, County, and Sub County Secondary Schools in Nandi County	116
4.6.1 Value Addition on Critical Thinking by Public National, Extra County, County, And Sub-County Public Secondary Schools in Nandi County	116
4.6.2 Value Addition on Self-Esteem by Public National, Extra County, County, and Sub-County Public Secondary Schools in Nandi County	120
4.6.3 Value Addition on Decision-Making by Public National, Extra County, County, And Sub-County Secondary Schools in Nandi County.....	121
4.6.4 Value Addition on Problem-Solving by Public National, Extra County, County, And Sub-County Secondary Schools in Nandi County.....	122
4.6.5 Value Addition on Effective Communication by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County.....	124
4.6.6 Value Addition on Coping with Emotions and Stress by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County	126
4.6.7 Value Addition on Self-Awareness by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County.....	128
4.6.8 Value Addition on Empathy by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County	130
4.6.9 Value Addition on Interpersonal Relationships by National, Extra County, County, and Sub-County Public Secondary Schools in Nandi County.....	132

4.6.10 Value addition on Teamwork by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County.	133
CHAPTER FIVE	137
SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS	137
5.1 Introduction.....	137
5.2 Summary Of Findings.....	137
5.2.1 Value Addition to Student Academic Performance by Public Secondary Schools of Different Categories in Nandi County.....	137
5.2.2 Value Addition to Student’s Talents by Public National, Extra County, and Sub-County Public Secondary Schools in Nandi County	137
5.2.3 Value Addition to Student’s Life Skills by Public Secondary Schools of Different Categories in Nandi County.....	140
5.3 Conclusions.....	143
5.4 Recommendations.....	143
5.5 Suggestions for Further Research	144
REFERENCES.....	146
APPENDIX I: MAP OF NANDI COUNTY	183
APPENDIX II: KREJCIE AND MORGAN TABLE OF DETERMINING SAMPLE SIZE	184
APPENDIX III: LETTER OF INTRODUCTION TO THE SCHOOL PRINCIPALS	185
APPENDIX IV: PRINCIPAL’S QUESTIONNAIRE	186
APPENDIX V: LETTER OF INTRODUCTION TO THE STUDENTS	187
APPENDIX VI: STUDENTS’ QUESTIONNAIRE	188

LIST OF TABLES

Table 3.1: Study sample	58
Table 4.1 Demographic information of the total number of respondents per category of school and gender	71
Table 4.2: Test of Multicollinearity of Measures	73
Table 4.3 Descriptive Statistics-National schools	74
Table 4.4 Model Summary - National Schools	75
Table 4.5 ANOVA Output- National schools	76
Table 4.6 Coefficients for National schools	76
Table 4.7 Residual Statistics- National schools.....	77
Table 4.8 Descriptive Statistics - Extra County schools	79
Table 4.9 Model Summaries for Extra County Schools.....	80
Table 4.10 ANOVA Output Analysis for Extra County Schools.....	80
Table 4.11 Coefficients for Extra County schools	80
Table 4.12 Residual Statistics for Extra County Schools.....	81
Table 4.13 Descriptive statistics-county schools.....	82
Table 4.14 Model Summary for County Schools	83
Table 4.15 ANOVA Output Analysis for County Schools	83
Table 4.16 Coefficients for County Schools	84
Table 4.17 Residual Statistics for County Schools.....	84
Table 4.18 Descriptive statistics-sub-county schools.....	85
Table 4.19 Model Summary for Sub-County Schools	85
Table 4.20 ANOVA Output Analysis for Sub-County Schools.....	86
Table 4.21 Coefficients for Sub-County schools.....	86
Table 4.22 Residual Statistics for Sub-County Schools.....	87

Table 4.23 Test statistic- Football for National, Extra County, county, and sub-county public secondary Schools	90
Table 4.24 Wilcoxon Rank – Football for National, Extra County, county, and sub-county schools	91
Table 4.25 Test statistic– Volleyball for National, Extra County, county, and sub-county public secondary Schools	94
Table 4.26 Wilcoxon Rank – Volleyball for National, Extra County, county, and sub-county public secondary schools	94
Table 4.27 Test statistic – Basketball for National, Extra County, County, and Sub-County public secondary Schools	97
Table 4.28 Wilcoxon Rank-Basketball for National, Extra- County, County, and sub-county schools	97
Table 4.29 Test statistic – Racket games for National, Extra County, county, and sub-county public secondary Schools.....	100
Table 4.30 Wilcoxon Rank – Racket games for National, Extra County, county, and sub-county public secondary Schools.....	100
Table 4.32 Wilcoxon Rank - Swimming for National, Extra County, county, and sub-county public secondary Schools.....	103
Table 4.33 Test Statistic– Athletics for National, Extra County, County, And Sub-County Public Secondary Schools	105
Table 4.34 Wilcoxon Rank - Athletics for National, Extra County, county, and sub-county public secondary Schools.....	105
Table 4.35 Test statistic – Music for National, Extra County, county, and sub-county public secondary Schools	108

Table 4.36 Wilcoxon Rank –Music for National, Extra County, county, and sub-county public secondary Schools	109
Table 4.37 Test statistic – Drama for National, Extra County, county, and sub-county public secondary Schools	111
Table 4.38 Wilcoxon Rank – Drama for National, Extra County, county, and sub-county public secondary Schools	112
Table 4.39 Test statistic – Netball for National, Extra County, county, and sub-county public secondary Schools	114
Table 4.41 Descriptive statistics for Critical - thinking.....	116
Table 4.42 ANOVA results for critical-thinking.....	117
Table 4.43 Bonferroni multiple comparisons of critical-thinking.....	118
Table 4.44 Descriptive statistics for self-esteem	120
Table 4.45 ANOVA results for self-esteem	120
Table 4.50 Descriptive statistics for effective communication	124
Table 4.51 ANOVA results for effective communication.....	124
Table 4.52 Bonferroni multiple comparisons for effective communication	125
Table 4.53 Descriptive statistics for coping with Emotions and Stress.....	127
Table 4.54 ANOVA results for coping with emotions and stress	127
Table 4.55 Bonferroni Multiple Comparisons for emotions and stress.....	127
Table 4.56 Descriptive statistics for self-awareness.....	128
Table 4.57 ANOVA results for self-awareness	129
Table 4.58 Self-awareness post hoc Results – Multiple comparisons.....	129
Table 4.59 Descriptive statistics for Empathy.....	130
Table 4.60 ANOVA results for Empathy	131
Table 4.61 Descriptive statistics for Interpersonal Relationship.....	132

Table 4.63 Descriptive statistics for Teamwork.....	133
Table 4.64 ANOVA results for Teamwork	133
Table 4.65 Teamwork Post-hoc results-Multiple comparisons	134

LIST OF FIGURES

Figure 1.1 Conceptual Framework.....	15
Figure 4.1 Normal P.P Plot of Regression Standardized Residual for KCSE results.	73

OPERATIONAL DEFINITION OF KEY TERMS

County schools

Refer to schools that admit students from the home county. The hosting sub-county gets a 20 per cent allocation. The remaining 80 per cent comes from county allocation.

Extra-county schools

These schools admit students from the host county and others outside the County. They are high-performing schools that complement national schools, promoting integration and improving education standards.

Holistic development

Refers to the total development of learners based on their academic performance, participation in talents and status of life skills acquisition.

Life skills

People may use various psychosocial and interpersonal abilities to communicate effectively, make well-informed decisions, and develop coping and self-management skills to lead fulfilling lives.

National Schools

Describe institutions that accept students from all the country's countries, encourage educational quality and promote national unity.

School categories

National, extra-county, County, and sub-county schools

Sub-county schools

These are the current day schools, boarding schools, and schools with boarding and day facilities combined. Students in these schools are all from the hosting sub-county.

Talents

Development of capabilities to perform to the highest level in football, netball, volleyball, basketball, racket games, swimming, athletics, music, and drama

Value-addition

Value addition refers to the learners' progress in total development. These include academic performance, talents, and life skills.

ACKNOWLEDGEMENT

I acknowledge the contributions of my supervisors, Professor Kisilu Kitainge and Professor Zacharia Kosgei, towards my studies' success. I sincerely thank them for their tireless efforts, immense support, intelligent criticism, and complete guidance in the proposal development, implementation, and thesis writing stages. I would also like to thank my dad, the late Joseph Barno, for believing in me and sponsoring my education. Furthermore, I thank my husband, Professor Ng'wena Gideon Magak, for providing financial support for this work and proofreading the first draft of this document. I also thank our children, Shem, Assandracine, Simeon, Jane, and Edward, and my grandchildren, Ellen, and Asher, for their joyous support while conducting my PhD studies. Finally, I acknowledge the constant encouragement received from my colleagues and classmates during the entire period of my research.

CHAPTER ONE

INTRODUCTION

1.1 Overview

This chapter contains the background of the study, a statement of the problem, purpose, research questions and hypotheses, justification, significance, and assumptions. It also highlights the study's limitations, theoretical framework, conceptual framework, and operationalization of key terms.

1.2 Background to the Study

Education is a multifaceted process. First, it leads to the cumulative acquisition of knowledge, skills and values needed for learners' holistic development (Callender, 2017; Chiriswa, 2015; Kalugina, 2015; Mwaka, 2013; UNESCO Institute for Statistics, 2019). Second, holistic development gives a comprehensive approach to learning that addresses the broadest expansion of the whole person, i.e., the learner's cognitive, psychomotor, and affective domains (Haghshenas, 2015; Hoque, 2016; Ngale & Monaheng, 2019; Sönmez, 2017; Stockemer, 2019). Third, it addresses the learner's brain's multiple facets or abilities and intellectual, mental, physical, emotional, and social skills. Finally, it also leads to the instilling of values such as patriotism, honesty, humility, mutual respect, high moral standards, and regard for equality (Baş, 2016; Calık, 2013; Husnah, 2019; Njeng'ere, 2014; UNESCO, 2015a). However, in Kenya and many other countries, the development of all-around learners through holistic education is hampered by an examination-oriented curriculum that does not consider life skills and student talents. Its primary focus is academics, i.e., the cognitive aspect of learning.

Life Skills are psychosocial skills, including problem-solving critical skills and personal skills such as self-awareness and interpersonal skills (Al-Twairqi, 2017; Aras & Gnanam, 2018; Dhingra & Chauhan, 2017; Madjid & Samsudin, 2021; Srivastava, 2019). In addition, they include cognitive, practical skills and positive behaviour that enable people to deal effectively with everyday life demands and challenges (Swapna & Nagarajan, 2021; Thakar & Modi, 2016; UNICEF, 2019). Learners with life skills have high self-esteem and are friendly, tolerant, and confident in dealing with significant changes and challenges, such as bullying and discrimination (Githui, 2019). Additionally, it gives children a voice in the neighbourhood, school, and society (Kawalekar, 2017). They gain the necessary knowledge and experience as a result, which enables them to actively participate, assert their rights, and understand their duties while also preparing them for the opportunities and challenges of life and working life (Mackatiani, 2017; Mohammad & Hussien, 2020; Ngale & Monaheng, 2019; Yankey & Biswas, 2019).

Value-Addition establishes the differences between the students' knowledge or certification levels at the beginning and end of the course (Timmermans & Werf, 2017). It assesses student accomplishment while considering the implications of varied student inputs (i.e., admission requirements) (Brown, McNamara, & O'Hara, 2016). Therefore, the students' performance determines the institutional quality of the teaching and learning functions and processes (Darling-Hammond, 2015). It is feasible to assess the amount an institution has been responsible for advancement by considering the learners' starting place (McAffrey & Hamilton, 2016). Therefore, the education process in Kenya should progressively add value to learners from one level to another.

These outcomes are achievable through an efficient education system and quality education. Educational quality recognises learners' cognitive development and

promotes their values and attitudes, nurturing their creative and emotional development (Brown et al., 2016). Quality of education enhances all academic quality features by ensuring excellence in all educational processes, inputs, and output, especially literacy, numeracy, and essential life skills (Harlen,2014; Madani,2019). The assessment determines the quality of educational outcomes. The evaluation quality affects the quality of academic inputs, processes and products, and society's education quality. Any improvement depends on the assessment's quality and progress (Bruijin, 2016; UNESCO, 2018).

Kenya's Ministry of Education is crucial in guaranteeing the quality of education by setting standards, offering accreditation, developing the curriculum, supporting teacher training, and assessing student performance (Government of Kenya, 2017). In addition, it manages educational processes through different learning levels. These levels are early childhood development and education (ECDE), primary, secondary, tertiary, and university education (Republic of Kenya, 2013). In addition, the quality of education is assessed through standardised examinations at the end of the learning cycle at both primary and secondary levels (MOE, 2018).

These standardised examinations are the Kenya Certificate of Primary Education (KCPE) and the Kenya Certificate of Secondary Education (KCSE). These examinations are diagnostic and for placement to determine progression from one level of education to another (Betts, Hahn & Zap, 2017; Cunningham, 2019). For example, the Kenya Certificate of Primary Education is used to place Pupils into various categories of secondary schools (Muscodá, 2018). Similarly, the Kenya Certificate of Secondary Education (KCSE) is essential for assessing, certifying, and evaluating secondary education in Kenya (Aging, 2018). In addition, it facilitates students' selection for university courses and training in other post-secondary institutions and

entry into employment (Mackatiani, 2017). However, this summative assessment system in Kenya is ineffective and faces myriad challenges.

After learning cycles, Kenya now conducts summative assessments that are exam-focused and used to identify students who may advance to higher educational levels (Government of Kenya, 2012). It directs the teaching and learning process toward exams rather than learning. The high-stakes nature of summative exams creates a stressful and pressured environment for students, who rely heavily on the results to determine their future academic and professional paths (Kenya Institute of Curriculum Development, 2017). The KCSE tests cannot assess students' knowledge, skills and abilities. They only evaluate students' performance at the end of the four-year course, neglecting their growth throughout the study. The KCSE exams are often limited in their assessment of student's knowledge (Pkorkor, 2020). Therefore, the educational processes lack in-depth learning and teaching processes. The system has encouraged teaching geared toward passing examinations, thus encouraging rote learning, and discouraging critical thinking, creativity, and problem-solving skills (Republic of Kenya, 2018; Olela, Allida, & Role, 2021).

The Kenya Institute of Curriculum Report (2010), Taskforce Report (2012) and Sessional Paper No.2 of 2015 reports show that learning processes focus on the examination results. However, the cognitive aspect of education tends to ignore many other essential schooling outcomes, like physical well-being, life skills, integrity, confidence, and deportment (Mwaka, 2013; KICD, 2014). The result is a narrow curriculum outcome due to neglecting non-examined subjects (KICD, 2016). Therefore, a school that scores highly (or above the national average) may be ineffective. The higher pass rates and scores may be due to the student's high academic entrance level and the fact that they come from more educated families (KICD, 2017).

Therefore, school performance is outcomes-based without considering the students' starting point. Studies have also shown that analysis based on the results or outputs alone does not integrate how the schools operate.

One of the main issues among Kenyan stakeholders is the evaluation of learning results. The emphasis is mainly on performance in a few areas; hence, a comprehensive approach to learning is lacking (Government of Kenya, 2012; Journals, 2015). It prioritizes test success above the development of skills and knowledge. As a result, the system does not acknowledge, value, or foster each learner's abilities, traits, and potential (KICD, 2017; Republic of Kenya, 2018). The Kenya Certificate of Secondary Education evaluation method prioritizes the curriculum's cognitive component while minimising the student's overall development (KICD, 2014). The examination lays too much emphasis on passing the test, which makes schools fixated on achieving high mean scores, and does not consider the emotional and psychomotor components, abilities, and life skills (Kenya Institute of Curriculum Development, 2017; UNESCO, 2015b).

Kenya's present system of summative exams has sufficiently evaluated the growth of the cognitive component of learning. On the other hand, the emotional and psychomotor domains have received little focus or attention. The learner's holistic development is severely hampered by the absence of evaluation and, therefore, by failing to attain these learning objectives. To identify the level of achievement of cognitive, talent, and life skills in the different categories of public secondary schools and to recommend a more comprehensive assessment method that would consider all elements of learning domains, this research set out to accomplish just that.

1.3 Statement of the Problem

Kenya's educational philosophy aims to give learners a well-rounded, excellent education and training that promotes learning's cognitive, affective, and psychomotor domains. The educational system seeks to broaden students' knowledge, experiences, fundamental comprehension, moral awareness, capacity for lifelong learning, and holistic education. Such an education system should produce physically, socially, intellectually, and emotionally balanced individuals.

The philosophy's spirit is achieved by providing quality education and training to the learners by observing the educational standards. In Kenya, quality of education is measured through standardized summative examinations, KCPE at the primary and KCSE at the secondary levels. The examination system dictates the teaching/learning processes towards examination instead of assessing the attainment of skills and competencies applicable to life. This system has created a society where the prevailing system's products do not realize educational objectives beyond the cognitive aspect.

The prevailing conditions in Kenya show that public secondary school students lack the values they should have acquired. Statistics show an alarming rate of drug abuse, alcohol abuse, sexual abuse, cheating in examinations, unplanned pregnancies, arson, and disrespect towards teachers, fellow learners, and school authorities.

Based on the prevailing practices, there is a need for an alternative assessment method that will consider the learners' academic performance, talents and life skills development.

This study established the current status of learners' mental (academic) talents and skills in the various categories of public secondary schools (National, Extra-County,

County and Sub- County) and suggested an effective education assessment method in Kenya.

1.4 Purpose of the Study

This study aimed to determine the level of value addition to students' holistic development in public secondary schools of different categories in Kenya.

1.5 Objectives of the Study

The objectives of the study were:

1. To determine value addition on learners' academic performance by public National, Extra County, County and Sub-County secondary schools in Nandi County.
2. To determine value addition on learners' talents by public National, Extra County, County and Sub County secondary schools in Nandi County.
3. To determine the value addition on learners' life skills by public National, Extra County, County and Sub-County secondary schools in Nandi County.

1.6 Hypotheses

The following hypotheses guided the study:

H₀₁: There is no statistically significant value addition on student academic performance by public National, Extra County, County, and Sub-County secondary schools in Nandi County.

H₀₂: There is no statistically significant value addition on student talents by public National, Extra- County, County and Sub- County secondary schools in Nandi County

H₀₃: There is no statistically significant value addition on student life skills by the public National, Extra- County, County and Sub-County secondary schools in Nandi County

1.7 Assumptions of the Study

The researcher executed the study in public National, extra-county, County, and sub-county schools in Nandi County in Kenya. The study first assumed that all the schools in Nandi County had accurate records of the selected students' KCPE and KCSE results. Secondly, the study showed that the respondents could read and understand the questionnaire's questions well and provide honest, truthful, and objective answers. Thirdly, to analyse and assess the hypothesis, the study used analysis of variance (ANOVA), multiple linear regression, and the Wilcoxon Signed Rank Test. Finally, the sample drawn was a true reflection of the population.

1.8 Significance of the Study

Policymakers, parents, students, and teachers will benefit from the findings of this study. Policymakers will determine how well educational programs work, for whom teaching strategies may best suit, and where changes are required. It will also help recognise teachers who create environments where all students progress regardless of their starting point. It will enable all stakeholders to assess the quality of Kenyan Secondary School education that considers holistic development. The Government will be able to hold schools accountable for the outputs of their institutions.

1.8 Justification of the Study

School ranking based on KCPE and KCSE was abolished in Kenya in 2014 by the Ministry of Education. The debate is ongoing on whether to reintroduce it or not. Due

to this controversy and other shortcomings of the ranking system, this study's findings will help provide the baseline data regarding methods that can be most effective and objective in assessing and ranking secondary school graduates in Kenya. An integrated approach would be ideal. Therefore, the evaluation of value-added to learners' holistic development in the various categories of secondary schools in Kenya indicators to determine each school's quality should be adopted

1.9 The Scope of the Study

The study execution was in Secondary public schools in Nandi County. The public secondary schools targeted by the study were National, Extra- County, County, and Sub- County secondary schools. Principals and Form, 4 Students of the selected schools, were the respondents in this study. Though there are many quality indicators, the study only focused on value-added through improved academic performance, talents, and life skills. The study used KCSE and KCPE results of a single cohort (2018) of secondary school graduates.

1.10 Limitations of the Study

The study on value addition to the holistic development of learners in different categories of secondary schools in Kenya has limitations that the researcher acknowledges were unavoidable but attempted to address. The first limitation was the external validity and generalizability of the findings to other public secondary schools in Kenya. Given the nature of the sample, the researcher used the probability sampling technique to select students from the various categories of public secondary schools in Nandi County to participate in the study. As a result, 144 out of 192 public secondary schools in Nandi County and 1153 students out of 104,999 made the results

representative. The probability sampling technique gave every public secondary school, principal, and student an equal chance to participate in the study. Hence, the sample was representative, and the results were not unique to the group that responded to the questionnaires.

The study determined value added to the holistic development of learners in public secondary schools in Nandi County. Using holistic development in the study means cognitive/academic talents and life skills. The study reckons achieving a complete and accurate reflection of those constructs is impossible. However, the researcher used variables mainly gleaned from available literature on the phenomenon and validated instruments to measure the study's constructs.

The third limitation is difficulty gauging respondents' honesty and non-biased participation. Study objectives two and three relied on self-administered questionnaires by the respondents. Therefore, it was impossible to check the accuracy of their declaration's responses on the involvement of various talents in primary and secondary and acquiring the stated life skills. Reliance on self-reporting can be problematic and may threaten the validity of the research methods /instruments used and overcome this limitation.

(12 items), empathy (15 items), interpersonal relationship (18 items) and teamwork (7 items) the fourth limitation was using a lengthy questionnaire to collect information on life skills. Critical thinking (20 items), self-esteem (10 items), decision-making (20 items), problem-solving (15 items), effective communication (23 items), coping with emotions and stress (14 items), and self-awareness). However, the researcher attempted to frame the questions in a simplified and straightforward filling by directing the respondents to use ticks (v), which was much more manageable—few documented studies on value addition to learners' holistic development by public secondary schools

in Kenya. Therefore, the researcher used studies that have been done in other countries on value addition and holistic development to make references.

1.12 Theoretical Framework

A theory is a generalisation by which researchers attempt to explain some phenomena. It provides a framework for conducting research, synthesising, and defining relationships between variables and research results (Collins & Stockton, 2018; Grant & Osanloo, 2014; Hu & Chang, 2017; Kivunja, 2018; Nilsen, 2015; Ridder, 2017). A theoretical framework is a structure that carries or underpins a theory of a research study. The theoretical framework gives an introduction and description of the theory explaining the existence of the research problem (Cohen, Manion, & Morrison, 2018.; Faryadi, 2019; Hu & Chang, 2017; Ingleby, 2012; Ruane, 2016). The study utilised the tenets of two theories: the theory of multiple intelligences and the holistic learning theory.

1.12.1 The Theory of Multiple Intelligence

The theory of multiple intelligence is a psychological concept first put forth by Howard Gardner in 1983 and updated in 1999 (Aydin, 2019). It argues that intelligence is not a single, fixed entity but a collection of multiple independent cognitive abilities or intelligence (Azlina et al., 2020).

In Gardner's view, various types of intelligence exist, including linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic, interpersonal, intrapersonal, and naturalistic intelligence. Furthermore, the theory suggests that individuals possess different combinations of this intelligence and may excel in some while being less developed in others (Nulhakim & Berlian, 2020). The common belief that tests of

cognitive capacity, like IQ testing, are the primary way to measure intelligence is challenged by the fact that intelligence may be displayed in various ways (Tsurayya, Ghani, & Melati, 2019).

According to the hypothesis, each person has a different cognitive profile since they exhibit these intelligence bits to variable degrees. As a result, society must acknowledge, affirm, and promote the diversity of human intelligence. The hypothesis contends that intelligence, as historically characterized, does not sufficiently encompass the range of human skills. Students have various ways of thinking and learning. Schools should try to provide a curriculum tailored to help develop each student's needs and abilities rather than depending on a uniform curriculum. Therefore, the theory of multiple intelligences can help create a more inclusive and well-rounded educational experience that considers students' diverse needs and abilities. In addition, it can help provide a more comprehensive and accurate measure of student progress and achievement, assessing students' strengths and skills. The theory was, therefore, relevant to the study topic "value addition to the holistic development of students in different categories of public secondary schools in Kenya. A case of Nandi County."

1.12.2 Holistic Learning Theory

This study derived its theoretical framework from the Holistic Learning theory, which views the learner as encompassing emotional, social, and spiritual beings with limitless potential (Coe et al., 2014). The underlying holistic principle is that a complex organism function most actively when its parts operate and cooperate effectively (Johnson, 2015). Therefore, learning is an interaction between four distinct psychological beings: feeling, imagining, thinking, and practical intelligence; feelings, the body's urged (or want), intuition, and imagination comprise the "individual personality" (Kelley &

Knowles, 2016) to learn effectively, they need to be activated (Fringe, 2018; Varicella & Macaskill, 2016; Papastamatis & Panitsides, 2014).

Holistic education originates historically in John Dewy, Rudolph Steiner, Abraham Maslow, and Maria Montessori. Present-day writers and practitioners in the holistic education movement include Jack Miller, Ron Miller, Parker Palmer, Aline Wolf, James Moffett, Ramon Gallegos Nava, Rachael Kessler, and Jeffery Kane Nell Nodding. Instead of defining, a holistic perspective strives to include and integrate all levels of meaning and experience. Every child advance beyond what will make them a future employee, and every person's intelligence and abilities are much more complex than what they exhibit on standardised examinations. (Aparna & Raakhee, 2011; Fringe, 2018; Fernández et al., 2019; John, 2017; Mohammad & Hussien, 2020; Rudge, 2015; Thakar & Modi, 2016; Weemaes-Lidman et al., 2015). Holistic educators aim to educate the whole child. They work hard to support pupils in realizing their full potential in all areas. Intellectual, emotional, social, artistic, moral, psychological, physical, aesthetically pleasing, creative, intuitive, and spiritual are some of these dimensions. People are not sterile containers holding a preset body of information. They are also unquestionably not academic seals taught by circus performers to execute specific tasks at will. Instead, people are rational, emotional, creative, and intuitive beings who use these abilities to understand and influence the world (Al-Qatawneh et al., 2021; Aparna & Raakhee, 2011; Madjid & Samsudin, 2021; Mahmoudi et al., 2012a; Sutarman, Tjahjono & Hamami, 2017; United Nations Educational Scientific and Cultural Organization, 2018; Yavich & Rotnitsky, 2020).

Though most people learn, solve issues, and make decisions utilizing their entire selves, educational institutions tend to focus on those capacities accessed by knowledge and reason. Furthermore, some of human history's most important discoveries are based on

more complete dimensions. However, it is regrettable that traditional schooling ignores precisely these qualities: Originality, imagination, contemplation, risk-taking, entrepreneurship, nonconformity, and intuition (Bhardwaj, 2016; Fringe, 2018; Lauricella & Macaskill, 2016; Ngale & Monaheng, 2019; Pauw et al., 2015; Susongko, 2021). The holistic learning theory considers these characteristics to aid students in acquiring the information and abilities required to grow and successfully affect the world in all its dimensions. This theory was relevant to the study because the study looked at value addition to the holistic development of learners in Nandi County.

1.13 Conceptual Framework

A conceptual framework is a scheme of variables the researcher operationalised to achieve set objectives (Fig 1). A schematic presentation translates into a visual picture illustrating the relationship between research variables. This graphic picture demonstrates the interconnections between the independent and dependent variables.

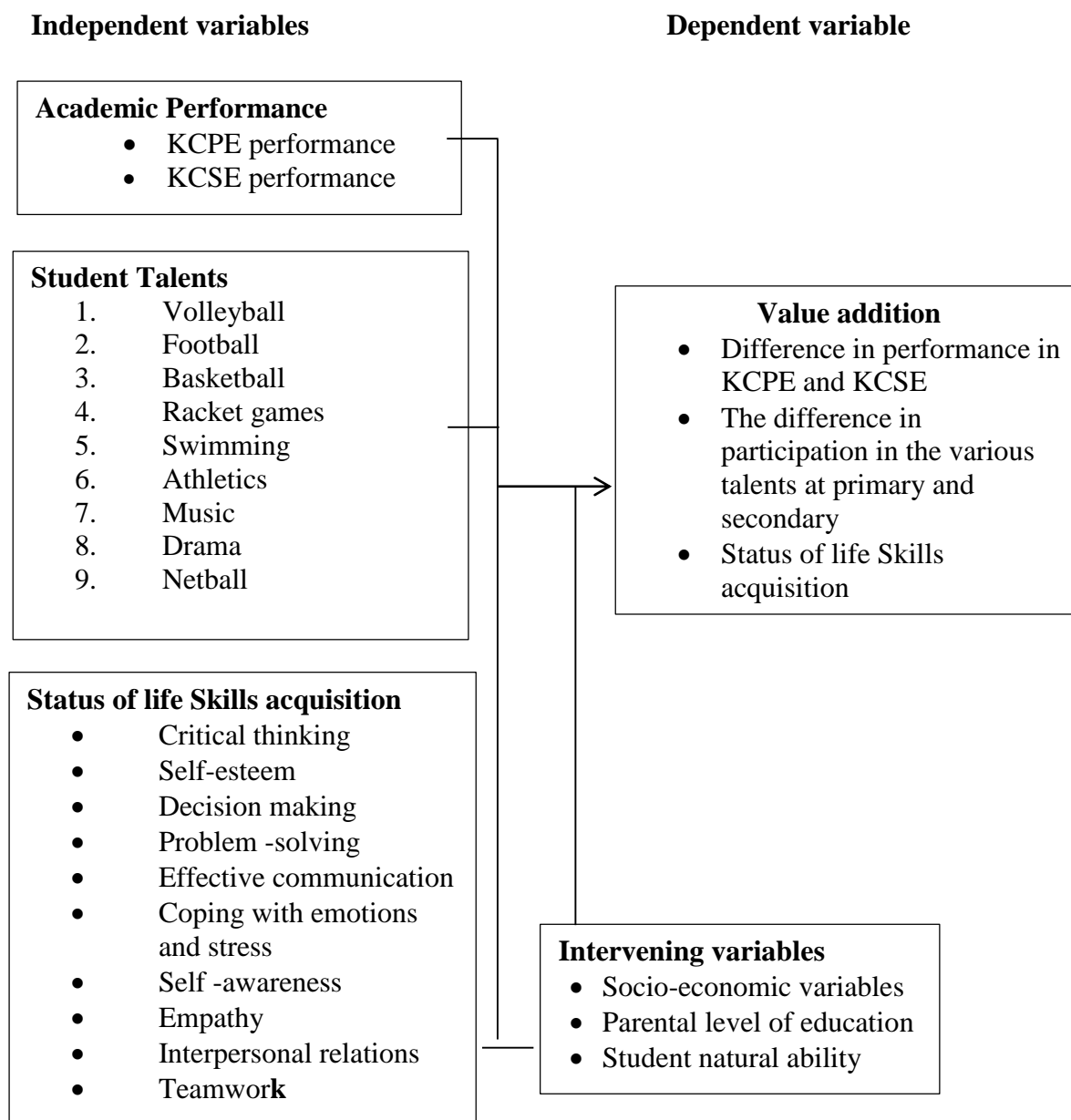


Figure 1.1 Conceptual framework

The conceptual framework shows three independent variables: student academic performance measured by KCPE grades at primary school and KCSE grades at secondary school level, talents measured by participation in football, volleyball, basketball, racket games, swimming, athletics, music, drama, and netball; and life skills represented by critical thinking, self-esteem, decision making, problem-solving, effective communication, coping with emotions and stress, self-awareness, empathy,

interpersonal relationships and teamwork. Based on whether pupils' admission to either National, Extra County, County, or Sub-County schools, the study examined students' performance at the primary (KCPE) and secondary (KCSE) levels and how various public secondary schools can add value to learners' holistic development. In this conceptual framework, the independent variables – are school categories (National, Extra County, County, and Sub-County). Similarly, to talents, value addition is acknowledged based on participation in the various skills (football, volleyball, basketball, racket games, swimming, athletics, music, drama, and netball) at primary and secondary (National, different county, county, and sub-county schools).

The dependent variable was value addition, which was the difference between performance in KCSE and KCPE, the difference in participation in talents, i.e., football, volleyball, basketball, racket games, swimming, athletics, music, drama, and netball at primary and secondary and the status of life skills acquisition at the secondary levels.

1.14 Chapter Summary

This chapter covered the introduction to the study, background information, the statement of the problem, the purpose of the study, objectives of the study, hypotheses, research questions, assumptions of the study, significance of the study, justification of the study, the scope of the study, limitations of the study, theoretical framework, conceptual framework, operational definition of terms.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter examined research-related literature in the categories of public secondary schools in Kenya, National examinations in Kenya, holistic development of learners, assessment of holistic development of learners, life skills and holistic development, talents and holistic development of learners and the summary of the chapter.

2.2 Categories of Public Secondary Schools in Kenya

In Kenya, secondary education plays a crucial role in shaping the prospects of individuals and contributing to national development. To guarantee all people access to high-quality secondary education, the Kenyan Government has categorised public secondary schools into four categories: National, Extra County, County and Sub-County (Nyangweso, Maiyo & Kati, 2019). These categories are based on various factors, including academic performance, resources available, and geographical location. The categorisation of secondary schools in Kenya aims to promote fairness and address the disparities among different schools (MoE, 2019).

These four categories of schools significantly differ in staffing (teachers), infrastructure and other resources. Admission to these schools is typically merit-based, determined by the applicant's performance in the KCPE examination (Onderi & Makori, 2014; Makori et al., 2015). The top performers enter the national school while the rest get admitted to the other categories, with the lower performers accepted into the sub-county schools. Secondary schools in Kenya run a four-year curriculum (Glennerster et al., 2011). At the end of the fourth year, all students in both private and

all categories of public secondary schools sit for the Kenya Certificate of Secondary Education (KCSE) examination. KCSE is a university or middle college entry exam (Mbiti & Lucas, 2014).

2.2.1 Kenyan National Public Secondary Schools

National secondary schools were founded to raise educational standards and promote social cohesion and national unity. Currently, there are 103 National schools in Kenya, which are divided into four clusters with 30, 25, 18, and 25 schools each.

National Schools are the most selective government schools since they have limited places but usually have many applicants. Consequently, they draw their Form One students countrywide and attract the best or top-performing pupils at the primary level (Ministry of Education, 2015; Irungu & Grace, 2013).

The Kenyan national public schools are the elite or most prestigious government public secondary schools, with students boarding facilities and 100 per cent national catchment (Glennester, 2011). These schools are national centres of excellence for secondary school education. Their principal purpose is to foster national unity, social cohesion, and equitable access to national resources (Ozier, 2018; Lucas & Mbiti, 2014). Admission to these institutions is on a quarter system based on performance and regional balancing, giving each sub-county an equal number of vacancies (Makori et al., 2015; Onderi & Makori, 2014).

The Kenyan National Schools have better facilities than other schools and offer more computer studies, Arts and crafts, Music, French, and German courses. The schools also provide a higher quality peer group competition. Therefore, National schools have more resources than other categories of schools (Kimeu, Tanui & Rono, 2016). For example, national schools have, on average, 1.5 times land per student relative to other

public schools, allowing for additional recreational and classroom space. In addition, they have well-equipped computer laboratories, electricity, modern buildings, and toilets, while county and sub-county schools are far less well-equipped, often lacking electricity and indoor plumbing (Livumbaze,2017). For example, Nairobi School, a national boys' school in Nairobi, is built on over 200 acres, accommodating swimming pools, tennis courts, basketball courts, and woodwork and metalwork facilities (Glennester,2011).

Certificate of Secondary Education (KCSE) National schools in Kenya perform far better than other categories. For instance, recent figures show that, on average, students scored 9.6 out of 12, 90 per cent of them scored at least a C+, and there was a close-up in the gender gap. Although the Kenyan Public National schools have similar Student-teacher ratios to other government secondary schools, available reports show that their teachers have more training and experience (Sella,Jacinta & Hellen,2018).

In National schools, 80 per cent of teachers had degrees beyond secondary school, compared with 68 per cent in other government secondary schools. In addition, teachers in National were almost twice as likely to hold advanced degrees and had, on average, one additional year of teaching experience compared to their county school counterparts (Wekesa et al., 2021). It is worth noting that the teacher-to-student ratio can impact the quality of education and a school's overall performance. For example, a higher ratio can mean teachers have less time with each student, leading to less individualised attention and support. On the other hand, a lower ratio can mean that teachers have more time to focus on each student, leading to better academic performance and a more positive educational experience (Wekesa & Kitainge, 2022a).

Given the entry marks and resources, national schools have performed well compared to other categories. However, despite the excellent performance, there has not been a mechanism for determining value addition to the learners' holistic development.

2.2.2 Kenyan Extra- County Public Secondary Schools

Extra-county schools are also boarding schools that are the second-tier national centres of educational excellence. Kenya had 328 extra-county secondary schools in 2017 (Anyang & Boit,2019). This category complements National schools in promoting integration and benchmarking academic standards in their regions . For example, they base their selection of pupils to form one at 40:40:20, which means 40 per cent of their students are from all over the nation, 40 per cent are from the county 40, and 20 per cent are from the host sub-county (Amoke & Sika,2021).

2.2.3 Kenyan County Public Secondary Schools

The county secondary schools are the former provincial secondary schools and recruit or select their Form One student from the hosting county. Presently, the country has 1520 county public secondary schools (John et al., 2019). These schools choose the best-remaining students from the County after National and Extra County. They perform lower in KCSE examinations than in National and Extra County schools. (Onderi & Makori, 2014). For instance, in 2008, on average, their KCSE performance score was 6.2 out of 12, only 43 per cent of the students scored at least a C+, and the gender gap was small (Carnoy, Ngware, & Oketch, 2015). Country schools have inadequate facilities compared to the National and Extra- Country public secondary. Some do not have enough teachers from the Teachers Service Commission and employ teachers paid directly by the management board (Makori et al., 2015). They offer an

average of twelve subjects; few may offer computer studies, French and German (Jepketer, Kombo, & Kyalo, 2015; Nzoka & Orodho, 2014)

2.2.4 Kenyan Sub-County Public Secondary Schools

Sub-county schools are day or new boarding schools or provide boarding and day school facilities (Asige, 2017). They draw their students mainly from the host sub-county. Currently, there are 6,982 sub-county schools. Most of their Form One students are those not admitted to National, Extra -County, or County schools (Makori et al., 2015). Regarding KCSE performance, most sub-county schools post scores below the County, Extra County, and national public schools. For example, the average score in 2008 was 4 out of 12, and only 11 per cent scored at least a C+ (Onderi & Makori, 2014). The gender gap in the performance was significant, with the proportion of boys achieving at least a C+ almost twice that of girls. Compared to the other public secondary schools, most sub-county public schools have inadequate facilities and insufficient teaching staff (Mbiti & Lucas, 2014). In addition, they offer lower subject varieties compared to the different categories of schools. Low-quality schools can suppress enrolment and impede student progression and achievement (Glennerster et al., 2011; John et al., 2019; Ajayi,2014).

2.3 National Examinations and the Holistic Development of Learners in Kenya

According to the Kenya National Examination Act (2012), the Kenya National Examinations Council's (KNEC) mission (according to section 10 (1) of the KNEC Act) is to administer examinations. The functions of the Council include coordination of setting and maintaining examination standards and conducting public academic, technical, and other national tests within Kenya (Ministry of Education, 2013). The Council also awards certificates or diplomas to candidates who sit such examinations

at the primary, secondary, and tertiary levels, excluding Universities (Ministry of Education, 2018). Therefore, the KNEC is responsible for evaluating and monitoring Kenya's learning and teaching outcomes.

The national examinations assess broad and specific education goals, thus allowing a summative curriculum evaluation at the end of the education cycles (Mackatiani, 2017). In addition, they provide a means of making selection decisions to facilitate successful candidates' assignments to institutions and courses in the next level of education. Consequently, the Government uses the examinations as gatekeepers and enablers of access to schools at a higher level (Archer, 2017). Therefore, the results of the examinations are indicators of learning outcomes at each level. In this case, the results also provide education quality control (Birenbaum et al., 2015). Because of their evaluative nature, national examinations are a high-stakes activity that generates high public interest (Carnoy et al., 2015).

According to Wasanga & Somerset (2013), the examination practices by KNEC control the teaching content, teaching methods, and learning strategies. As presently conducted, the examinations may negatively impact the quality of teaching and learning because tests establish the domains taught and examined as institutions strive to register higher grades (Pkorkor, 2020). The examination processes are, in this case, only focused on passing examinations and attaining good grades while ignoring critical aspects of holistic development that include life skills and talents. Since life skills and talents are not part of the KNEC examinations, they are often not taught (Olela, Allida, & Role, 2021). Therefore, at the end of each education cycle, the current summative assessment is high-stakes and does not adequately measure learners' abilities. Thus, the examination system's validity and reliability are not guaranteed (Ministry of Education, 2018).

2.4 Holistic Development of Learners

Education systems aim to develop students into well-rounded citizens, creative problem solvers, independent thinkers, and innovators; learning occurs when an individual's knowledge and skills evolve through the teaching processes (Mathis, 2016). The curriculum guides the Institutionalised teaching and learning according to the school's purpose, mission, and vision (Sönmez, 2017). Therefore, a curriculum focusing on the holistic development of the learner is more appropriate and relevant for preparing young citizens for active participation in social, economic, and political activities (Ngale & Monaheng, 2019).

Holistic development of learners refers to nurturing a person's physical, mental, emotional, social, artistic, creative potential, and spiritual aspects to achieve overall growth and well-being (Dos Santos Fringe, 2018). This approach to education emphasises the importance of developing the whole person and not just their academic skills. It aims to give children a comprehensive education that prepares them for success in all spheres of life (Bhardwaj, 2016). It encourages personal and collective responsibility, enabling individuals to become the best or finest, get the best experience in life, and reach their goals (Rudge, 2015). A key objective in the learner's life is that these experiences or accomplishments signify a position, career, or profession that is distinct or exceptional (Carneiro, 2015; Carneiro et al., 2015).

According to preliminary research based on the reviewed literature, Kenya's educational system has historically emphasised academic specialization; passing exams is given excessive weight, while technical, vocational, and other talents, skills, and aptitudes are given less weight (Sellah, Jacinta & Helen, 2018). Furthermore, the cognitive (brain), emotive (heart) and psychomotor (hands) domains of learning receive very little attention in Kenya (Wilson, 2014). So, the question is, are cognitive skills

the most crucial education component, particularly in the twenty-first century? Primarily, mental learning results in having experts but few thinkers in the modern world (Haghshenas, 2015; Noor et al., 2020; Radovan, 2019; Sönmez, 2017).

The Framework for Reforming Education and Training in Kenya Session Paper No. 14 (MOE,2012) promotes an educational system that closes the wealth-poverty gap. The provision of high-quality education, however, continues to be a significant problem for the entire education industry (Government of Kenya, 2012). The Government will, therefore, concentrate its efforts on it in the medium term. Thus, secondary education may fall short of Kenya's national educational objectives, including fostering self-actualization and fulfilment, fostering social, economic, technological, and industrial demands for national progress, and fostering the inculcation of solid moral and religious values (Mwaka, 2013; Ministry of Education Science and Technology, 2018).

A curriculum centred on students' total development allows them to show flexibility and a novel approach to problem-solving (Lauricella & MacAkill, 2015). Additionally, the students demonstrate practical written and vocal communication abilities, build and sustain connections through interpersonal skills, and make clear the strategies and methods required to execute assignments (Joshi & Dubey, 2014). Further, the students continually look for ways to meet the necessary norms and expectations and learn from their past behaviour to improve future performance (Ranjani, 2015; Tirri et al., 2016). To stimulate creativity and knowledge and to ensure the acquisition of literacy, numeracy, and high-level cognitive, interpersonal, and social abilities, such as analysis and problem-solving skills, holistic development helps learners to develop cognitive talents and life skills (John,2017).

High-level cognitive, interpersonal, and social abilities include analysis and problem-solving skills. The students may also live healthy, fulfilling lives, make wise judgments,

and handle local and global challenges (Sutarman et al., 2017; UNESCO, 2015b). Providing a quality holistic development education system requires an effective quality assessment mechanism to ensure the attainment of the intended competencies in the curriculum (Qutoshi, 2019). This system should integrate all three domains of learning: cognitive, affective, and psychomotor. The central aspect of holistic education, an eclectic and open-minded approach, is that it encourages students to develop a less materialistic and more spiritual worldview (Holistic Education, 2020). All mental processes necessary for understanding the world and making logical decisions about various issues are stored in the mind. Perception, memory, creativity, thought, and language are some processes (Gazibara, 2020).

Holistic education maximises students' intellectual, emotional, social, physical, artistic, creative, and spiritual potential. People learn better when the learning content is essential. Similarly, holistic schools seek to respect and work with the meaning structures of each person (Plater, 2017).

2.5 Assessment of Holistic Development of Learners

Assessment in education refers to evaluating students' knowledge, skills, aptitudes, and achievements to determine their level of mastery in each subject or academic program (Skedsmo, 2020). It measures learning outcomes, informs instructional decisions, and provides feedback to students and teachers. Assessment is vital for gauging the learners' progress (Skedsmo & Huber, 2019). It is undertaken as part of teaching to monitor and evaluate how learning has occurred and measure the objectives set by the curriculum. In addition, it is a means to gather or collect all relevant information about a student's achievement and progress in knowledge and skills gained from a teaching course in formal schooling during a particular period. It helps improve learning and teaching by providing data and information about what students know and need to learn (Ministry

of Education, 2018; MOE, 2019). Thus, the accomplishment of an evaluation of learning and quality education through assessment.

Assessments that gauge student competencies help assess global education systems (Hill & Barber, 2014; Stăncescu, 2017). In addition, there is a growing need for accountability and confirmation of change and improvement in the teaching and learning processes due to governments' significant investments in public education (Sardar & Saad, 2013). Accountability assessments establish if investments in education by a system, society, or partners result in the desired and necessary academic, life skill, and talent outcomes (Shepard, 2013). The quality of educational inputs, processes, and outputs—and, by extension, the quality of education in society—determines whether these may be improved. As a result, education develops learners' global competencies that will situate them in an advantageous position among emerging international children (Tosuncuoglu, 2018).

Any education system assesses and evaluates the curriculum's implementation process. The modes of assessment used include summative, formative, classroom, and accountability assessments (Birenbaum et al., 2015). These modes of assessment determine the levels of performance and identify gaps. For instance, summative evaluations, such as those given after a term or in a test or exam, usually evaluate the knowledge students have learned throughout the course (Dogara, Kamin, & Saud, 2020). On the other hand, formative assessment is frequently unrelated to a specific test. Instead, it gathers and uses learning evidence to paint a complete picture of students' educational experiences. The assessment's findings and feedback help educators, students, organizations, and governments decide on the curriculum (Knight et al., 2013; Tan, 2013; Yambi, 2018).

In Kenya, there is an over-emphasis on the formal aspect of the curriculum, ignoring the other dimensions of equal importance for achieving educational goals and objectives (KICD, 2014). In Kenya, education prioritises cognitive development over affective and psychomotor development, raising whether cognitive abilities—especially in the 21st century—are the most critical aspect of education (Journals, 2015). Schools excessively focus on passing exams, which makes students fixated on getting high mean scores (KICD,2014). The obsession with passing exams pays little attention to whether the methods used are morally or rationally acceptable. This mania refers to the failure to acknowledge and appreciate the varied and distinct abilities, qualities, and potentials that each learner is endowed with and that need to be nurtured, such as those found in games, sports, the creative arts, clubs, and societies. We end up with many specialists but few thinkers due to primarily cognitive learning (KICD, 2017). The achievement of planned learning goals shouldn't be the primary motivation of modern education. Instead, it should consider a person's overall development, including their emotional, mental, and physical health. The challenge for schools today is to develop instructional environments that acknowledge various individual differences to promote students' achievement in both their academics and their social lives.

Effectiveness and high standards are some essential demands placed on contemporary schools. An effective school should promote all students' development (Olela & Allida, 2021). Regardless of their original performance and background, it develops them. It raises quality year after year, enables all students to reach the highest standards, and increases all facets of their performance and development (Basque & Bouchamma, 2013).

Active and integrated learning also referred to as learning with one's brain, heart, and hands, is one of the critical elements for enhancing the quality and efficacy of contemporary schools. To ensure students' overall growth and align it with their capacities and potential, it is crucial to consider a new learning organization and the role of the school and community (McCaffrey et al., 2016). The improvement in achievement is greatly influenced by the environments that students are in, in addition to natural variance. Individual students' success may be affected by various variables, including the effectiveness of the instruction and the accessibility of resources. We can discuss the school's improvement with the students if we look at a set period (Feifei & Yanqiang, 2014). This is how all schools help their students' progress. However, if one school raises its students' achievement levels more than others, then those students have an extra advantage. This relative advantage is value-added. Assessment of the learners' holistic development requires summative and formative approaches that objectively evaluate the academic, life skills, and talent competencies (Polcyn, 2016).

Value-added analysis can create a balanced assessment system that maximises achievement and growth measures using summative and formative approaches. In an assessment system that is balanced, formative and summative practices are necessary and complementary sources of information to monitor and measure the learners' progress over time. In this era of accountability and data-based decision-making, progress is crucial and monitoring to maintain higher education standards (Smith, 2016).

According to an education research report in Kenya, significant concern has been assessing learning in secondary schools (Kenya Institute of Curriculum Development, 2017). A holistic approach to learning is lacking since the focus is significantly on a few learning areas. It fails to capture the fundamental knowledge that has taken place

and does not give weight to values, attitudes, and patriotism (KICD, 2017). The cognitive domain has been over-emphasised at the expense of the affective and psychomotor domains. Research shows a non-implementation of some aspects of the curriculum, especially if not examined. Such areas are physical education, life skills, and talents (Republic of Kenya, 2018; 2019). A more objective assessment approach should integrate life skills, talents, and academic performance.

2.6 Life Skills and Holistic Development

The World Health Organization (WHO) defines life skills as the flexible and motivating behavioural characteristics that allow individuals to successfully handle the demands and obstacles of daily life (UNICEF, 2019a Prajapati, Sharma, & Sharma, 2017). Decision-making and problem-solving, creative and critical thinking, communication and interpersonal skills, self-awareness and empathy, and stress management are the five main categories of life skills that are transferrable across cultures (Hoskins & Liu, 2019; Leonard et al., 2018). According to UNICEF, life skills refer to a change in behaviour development approach intended to address a harmony of knowledge, attitude, and abilities (UNICEF, 2019b)

The phrase "life skills" refers to a wide range of psychological and social competencies that can help with decision-making, effective communication and the growth of coping and self-management skills that support people in leading satisfying lives (Kawalekar, 2017; Prajapati, Sharma, & Sharma, 2016; UNICEF, 2019c)

They also serve as the foundation for independence and self-efficacy. Adults can become lifelong learners, solve problems, lead independent lives, and participate in society by combining various skills (Elsenburg, Abrahamse, & Harting, 2021). They also include an individual's ability to apply their cognitive, affective, and psychomotor

skills to establish a successful life for them (Haghshenas, 2015; Hoque, 2016; Napolitano et al., 2021; Sönmez, 2017).

Students must develop cognitive and meta-cognitive skills (critical thinking, creative thinking, learning, and self-regulation) to apply their knowledge in novel and changing situations (CASEL Guide, 2013). They also require practical and physical abilities (using modern information and communication technology gadgets) and social and emotional skills (empathy, self-efficacy, and teamwork). This more excellent range of skills and knowledge is mediated by attitudes and values (such as drive, faith in others, respect for difference, and virtue) (CASEL, 2015). The attitudes and values are discernible on a personal, local, societal, and international level. However, different values and perspectives from various cultural views and personality features improve human life (Thakar & Modi, 2016).

Some human values, like reverence for human life, human dignity, and environmental preservation, cannot be compromised. UNICEF has consolidated the various core life skills drawn up by United Nations agencies and other organisations, such as CASEL (Garrison et al., 2021). UNICEF lists three broad categories of 'generic life skills as the most binding psychosocial and interpersonal skills domain (UNICEF, 2012). Problem-solving abilities, critical thinking abilities, practical decision-making, communication, creative thinking, interpersonal interaction abilities, self-awareness development abilities, empathy, and stress and emotion management abilities are among them (Hoskins & Liu, 2019; UNESCO, 2015a).

These skills are commonly associated with managing and living a better quality of life, accomplishing ambitions, and living to the fullest potential (Aras & Gnanam, 2018). Life skills education applies an interactive methodology to enhance youths' abilities to responsibly make choices, resist negative pressure, and avoid risky behaviour (Leonard

et al., 2018). Developing skills such as critical thinking, problem-solving, decision-making, interpersonal relationships, stress, and anxiety management enables enhancement (Kumar, 2020). Additionally, there is a need for effective communication, self-esteem, and assertiveness using teaching and learning methods that are learner-centred, youth-friendly, gender-sensitive, interactive, and participatory (Murungi, 2018; Singh & Gera, 2015; Srivastava, 2019).

African nations have created life skills training programs in response to various social, cultural, economic, and political difficulties (Garrison et al., 2021). Since the 1990s, the continent has struggled with issues like violence, youth unemployment, environmental degradation, and the HIV and AIDS pandemic (Githui, 2019). Due to this, numerous nations started policy discussions that resulted in focused interventions in crucial life skill fields, such as curriculum modification and qualification and strategy framework building (Mohammad & Hussien, 2020; Teyhan et al., 2016).

In Kenya, learners face numerous personal challenges that require specific life skills and values to facilitate decision-making and problem-solving (Kenya Institute of Curriculum Development, 2017). These challenges include dealing with issues of sexuality, peer pressure, drug and substance abuse, harmful traditional practices, violence, and media influence. As a result, life skills education integration into the formal, non-formal and informal education systems as a stand-alone subject based on curriculum and curriculum support materials developed by KICD (KICD, 2017; Republic of Kenya, 2019). These Skills should empower young people with adaptive and positive behaviour to deal effectively with these challenges. These will facilitate harmonious coexistence and value-based education set out in the national goals of education (Government of Kenya, 2012; Mwaka, 2013; Nyatuka & Bota, 2014; UNESCO, 2012).

The Constitution of Kenya (2010), Article 10, relays the National Values and Principles of governance, which bind all persons to interpret and apply the constitution and any law and make and implement public policy decisions. The same values and principles are also broadly captured by the Kenya Vision 2030 (Government of Kenya (GOK), 2012; Government of Kenya, 2012; Nyatuka & Bota, 2014; Government of Kenya, 2010; UNESCO, 2015a; Wango et al., 2012). However, the education system in Kenya is crooked as it provides more knowledge-related concepts than skill, attitude, and value-oriented education. Developing these skills requires an essential aspect of the teaching-learning process (Government of Kenya, 2012; KICD, 2014; Mackatiani, 2017). The EFA-EDA Report (2012) states that monitoring and measuring life skills and value-based educational initiatives is a threat due to a lack of quantifiable benchmarks. The standardized examinations in Kenya (KCPE and KCSE) prioritize the assessment of academic knowledge and do not examine life skills (Abobo & Orodho, 2014; Behrani, 2016; Daniel & Mark, 2019; EAEA Policy Paper, 2019; Hoskins & Liu, 2019; Kajira, 2013; Republic of Kenya - Ministry of Education Science and Technology, 2018; UNESCO, 2015).

There is urgency for a harmonized approach to assessment that will lead to objectivity, efficiency, and enhanced outcomes of the activities. Furthermore, promoting a holistic paradigm shift in the education system and adopting global education imperatives and dynamism to address global challenges will be achieved by integrating psychosocial skills, attitudes, and value-based education assessment into the curriculum (UNESCO, 2012, 2015a).

2.7 Talents and Holistic Development of Learners

Talents are inborn capabilities acquired in early childhood and developed through non-formal /extra curriculum, co-curricular or academic activities (Michael, 2012). Activities that create the learner's physique are athletics, football, swimming, netball, volleyball, drama, and music. Additionally, some provide instruction as well as hands-on practice using their imaginations and hands, such as hobbyist clubs, dancing, and any performing arts. Talent and talent development are dynamic to individual students; their unique abilities can grow with nurture ((Skjærbæk, 2020; Türkman, 2020).

Therefore, school programs must change from the traditional conception of the talented few, favouring selected subgroups or populations and concentrating instead on finding and nurturing unique talents and abilities among the students (Holtey-Weber, 2015). For example, in the No Child Left Behind Act (2002), the United States of America defines the gifted and talented as the children or the youth who give proof of high achievement capability (Turkman, 2020). The ability is demonstrated in areas like intellectual, creative, artistic, or program requires, as well as academic domains and individuals who need services and activities not typically offered by the school to develop those talents fully. In Australia, the gifted and talented learners at school demonstrate the potential for a high level of performance in different ability areas compared to others of similar age, background, and experience, such as intellectual, Creative, Artistic, Social, Physical, Spiritual (KICD, 2014; Oguta & Simatwa, 2020; UNICEF, 2019c).

2.7.1 Talent Identification and Testing

Some school districts attempt to identify gifted students through universal screening for talent programs. For a long time, talented American programs have had an incomplete representation of students of colour. Without universal screening, schools rely on

teacher referrals and standardized tests. These tests exclude students of colour, lower socioeconomic status, and other underrepresented students (Ersoy, 2018). First is the accurate identification of students with high potential. Research has consistently demonstrated that rigorous assessments catch pupils who are ignored during teacher nomination procedures (Park, Sarah & Lilian, 2015).

Formal evaluations also result in identification rates that are more evenly distributed among racial groupings. Therefore, to increase the number of kids who are recognized and prepared for more difficult educational opportunities, schools should consistently assess students for high aptitude and compare them to others with similar learning opportunities using local norms (Altintas & Ilgun, 2016). Additionally, evaluating all kids early on for their ability to reason mathematically, verbally, and spatially and then placing them in the proper combination or dosage of learning opportunities will significantly aid in maximizing their potential (Ilgun, 2015; Aziz, Razak & Sawai, 2021).

Testing at multiple points is also essential to make room for late bloomers and ensure educational programming matches short-term developmental needs (Parkin, 2021). More generally, individuality is wide-ranging, and society should encourage multiple forms of talent and find productive ways to promote various ideas (Drozdzick, Singer & Lichtenberger, 2018). Each student should be subject to this screening and support. (Frame, Vidrine & Hinojosa, 2016; Kaufman & Kaufman, 2013). As Sternberg & Halpern (2020) noted, real-world problems often lack features in typical intellectual and academic test items. So, we should always consider new aptitude-related constructs and measures that can supplement current testing. For example, gifted programs have recently been the subject of tracking debates (Yaluma & Tyner, 2021). Since future

classes are frequently selected when students are placed on tracks, switching between them is often prohibitive.

Assessing multiple areas of aptitude also helps to address concerns of neglect of gifted students with concomitant disabilities (“twice-exceptional” students) (Katz & Brown, 2019). For instance, it might not be suitable to identify a talented kid with an autism spectrum condition using only one measure of aptitude that is substantially verbally loaded (Nugba & Quansah, 2021). This type of assessment means that rather than having different standards for recognizing giftedness or disabilities for each student, assessment tools should consider various areas of aptitude and disability (Chaudhary & Tyagi, 2017). In all countries, many talented but underprivileged children from low-income and minority homes struggle to develop their skills and knowledge (Arulmani, 2014). The exceptional but underprivileged pupils labour and have few opportunities, especially compared to their wealthier counterparts (Olszewski-Kubilius & Kulieke, 2021).

There are many strategies for applying cognitive aptitudes to real-world problems. One such approach is investing in gifted students, particularly those from disadvantaged backgrounds (Lubinski & Benbow, 2020). The “law of the 5 per cent” is that the top 5% of that field will be responsible for most innovation in nearly every area. Therefore, schools should invest in developing more students among the top 5 per cent of achievers (Sobieraj & Krämer, 2019). Entirely creating a broader group of achievers who have been, are, and will be primarily responsible for innovation across multiple fields of intellectual and creative endeavour in the future (Wai & Worrell, 2016). Talented individuals innovate in various ways that can benefit society and are likely to rise to positions of influence to implement those innovations (O’Keefe & Chen, 2021; Frank, 2020).

2.7.2 Talents and Innovation

Innovations come from individuals throughout the cognitive aptitude range, and many high-achieving students do not choose to solve significant real-world problems. The suggestion is that schools should invest in developing the talents of all students, including gifted students, because as cognitive aptitudes rise, so does the likelihood of innovation (Hanushek & Woessmann, 2020). In a broad sense, talent development is the essence of all education. However, many high-potential students—those whose aptitude is frequently underappreciated and underdeveloped—were not raised in environments that provided them with adequate opportunities (Hair et al., 2015).

Not developing these talents in the US is very little federal support for gifted education or even federal requirements to offer such services (Wai & Worrell, 2016). Instead, the decision is up to states and school districts, and the availability of benefits varies widely across these settings (Schleicher, 2020). In many school districts, no formal gifted supports are available at all. Even when some supports are present, they rarely include all the students who should be eligible. Often, those left behind are talented students from low-income and historically marginalized backgrounds and students with overlooked spatial talents (Hair, Howard & Nitzl, 2020). In this context, ensuring that talented but disadvantaged students are not left behind is crucial (Lakin & Lakin, 2020).

In Korea, a talented student possesses extraordinary innate or visible talents requiring special education to nurture them. Therefore, the purpose of gifted education is to promote the self-actualization of individuals and have them contribute to the advancement of society and the nation by reconnaissance of gifted and talented persons (Lee, Kang, & Lee, 2016). Then, they carry out education suitable for their ability and aptitude, following regulations to develop innate potential (Lee, 2014).

Investment in developing the talents of all students could lead to positive spillovers in the form of increased patience, cooperation, and more knowledge and information. Innovation can credibly raise economic growth rates and extend lives. Additionally, formal gifted education should be available in all schools, and programming for supporting talented students comes in various forms. Acceleration involves leading high-aptitude learners through educational material faster than their peers; enrichment of strategies provides additional information on topics covered in class, and enrichment and acceleration can expose gifted students to complex material (Jones & Summers, 2020; Mohnen, 2019).

2.7.3 The Gifted and Talented children in Kenya

Children identified at any school level as having actual or potential abilities were referred to as gifted and talented children in Kenya, according to the Koech report (1999), Kochung (2003), and Kang'ethe (2004). They demonstrate high-performance capacities in general intellectual ability, leadership potential, the ability to engage in the visual and performing arts, psychomotor skills, scholastic proficiency, and creative and helpful thought (KICD, 2016). Thus, compared to others of their age, experience, and environment, their potential for accomplishment is higher (Kenya Institute of Curriculum Development, 2017; Sambu, 2014).

In addition, the Kenya government acknowledges the need for the primary and secondary school curriculum to address the individual talents of learners (Government of Kenya, 2012). Therefore, secondary schools provide experiences to develop students' overall intellectual, social, emotional, physical, and spiritual attributes (Republic of Kenya, 2013a, 2019). However, most schools' management of co-curricular activities is relatively poor, while these activities lead to the development of student talents (Daniel & Mark, 2019).

The current education system seems to lack tangible benefits in identifying and developing skills among the school-going youth other than just preparing them for the national examination for quite some time (Ndirangu, 2015; Kenya Institute of Curriculum Development, 2017). The assessment of learners is examination-oriented and neglects sports and other co-curricular disciplines, such as performing arts (KICD, 2016). In cases where learners participate in activities leading to their development, no structured assessment method would make the students strive to participate. Therefore, most students are not interested in actions that lead to developing their talents. This situation denies them the opportunity to exploit their full potential (Government of Kenya , 2012)

Furthermore, a lack of assessment of the various co-curricular activities that lead to talent development has led to neglecting or partially incorporating this aspect of the curriculum (Government of Kenya,2012). The curriculum does not offer flexible educational pathways for early talent and interest identification and nurturing that would enable learners to be better prepared for employment, career advancement, and sustainable growth (Government of Kenya,2019). Summative evaluation, essential for delivering high-quality instruction, has traditionally been the only type of assessment used (Journals,2015). Most teachers, however, hardly ever use formative assessment (assessment for learning), which creates a situation where there is fierce competition to get good grades rather than focusing on acquiring the necessary knowledge, skills, and essential competencies for survival in a world full of competition (KICD,2016). Due to an unneeded emphasis on exams, the curriculum does not provide much for identifying the learner's potential, abilities, and talents. Consequently, more students are dropping out and wasting their degrees, leading to high unemployment rates.

2.8 Value Addition as a Measure of Holistic Education

Value-addition refers to the net contributions or gains a school brings to its students' learning outcomes, enhancing their knowledge, skills, and abilities (Dean, 2015).

Value-addition also refers to a school's net contribution to students' learning after considering other factors, such as socioeconomic circumstances and prior student attainments (Kelchen & Harris, 2012; Goldhaber, 2015).

Value-added learning is an evaluation technique that examines each teacher's contribution to a particular student's education (Perry, 2016b). The process compares their students' current test scores to those of prior academic years—this method isolates the teacher's gift to gauge their effectiveness as educators (Kurtz, 2018). In value-added learning, researchers use predictive analysis on a student's prior test results to determine whether pupils often perform similarly year after year (Koedel & Rockoff, 2015). What if the expected and actual scores differ significantly? In such circumstances, the likelihood that a student will succeed is more likely to be influenced by the school's and each teacher's quality of instruction than by a student's innate talent or socioeconomic status (Brown et al., 2016 Koedel, Mihaly, & Rockoff, 2015)

2.8.1 Value Added and Test scores.

Test scores reflect the combined influences of several factors, which include the socioeconomic background of students, the learning environment in the school, the attitude the student has toward their studies, and the academic achievement attained before entering the school (Pai, Hochweber, & Klieme, 2013; Timmermans & Thomas, 2015).

The value-added school effects are defined as the “net” contribution of a school to students' learning after sorting out the impact of other factors (Goldhaber, 2015). The result of these ‘other factors’ specifically relates to the effect that, for example,

socioeconomic circumstances and student prior attainment have on value-added (Everson, 2017). 'Test results are a composite of a number of factors, including the school's educational environment, the student's socioeconomic background, their study habits, their prior academic success, and many others (Amrein-Beardsley & Holloway, 2019). Unfortunately, value addition occasionally seems to suggest whatever the writer/speaker wishes it to signify, and often, it is perceived as a question of measurement solely, as opposed to judgment. This is not surprising considering the various "value-addition" models' emphasis on variables like socioeconomic circumstances that can affect student performance (Amrein-Beardsley, 2014: Harris & Herrington, 2015).

However, regardless of the various value-addition models, the increased interest in value-addition can largely be attributed to the globalization of education in comparative education studies, which Arnove (2012) refers to as 'educational borrowing.' The benefits of comparative education research stem from the belief that this field of educational research can contribute to 'the improvement of educational policy and practice worldwide and advances in theoretical work relating specifically to education and the social sciences more generally.

Another rationale for examining other countries' educational systems is to discover what to learn to improve policy and practice at home (Arnove, 2012). "Educational borrowing" has undoubtedly led to the development or adaptation of detailed assessment and evaluation systems by policymakers and other change agents.. The use of "educational borrowing," where "the government of country x explicitly "borrows" policy y from country z, legitimizing it in light of country z's attractiveness and capitalizing on the desire for externalization in a globalizing world (Crossley & Schweisfurth, 2009).

The Department of Education and Skills in Ireland (DES) draft strategy to raise reading and numeracy levels included a suggestion to use value-addition as an evaluation method. This is an example of "educational borrowing "(Arnove,2012).

The benchmarking data analysis tool "Schools Like Ours" is suggested for schools to access their data and the data from the "matched" schools. (DES, 2010). This resource was developed in 2007 by the Ontario Ministry of Education's Literacy and Numeracy Secretariat. The program "identifies comparable schools to any specified institution" using factors like comparable demographics, but the results are more critical (Ontario Ministry of Education, 2007).

Many factors make value addition desirable. However, lowering the error component compared to raw score similar data may be the primary one. Furthermore, with the ability to objectively evaluate students' mastery of knowledge and skills at specific set points, enormous amounts of data may be obtained and used to develop goals tied to improved teaching and learning techniques (Teacher Advancement Program, 2012). Finally, the demand for a more potent form of accountability, which traditional school accountability mechanisms like school inspection and self-evaluation cannot supply, may also be responsible for the emergence of value-addition (Sanders, 2016).

2.8.2 Importance of Value Addition to Holistic Development of Learners

The concept of "value-addition" in an education system relates to student achievement as growth in knowledge, skills, abilities, and other attributes that students have gained due to their experiences in an education system over time (Harvey, 2014; Betts et al., 2017). Additionally, from the viewpoint of the educational system, value-addition refers to the contribution provided by educational institutions like schools or higher education institutions (HEIs) to students' advancement toward pre-set or stated educational goals (OECD, 2018).

After a study session, a student should know and be able to perform or behave in a way that demonstrates learning accomplishment. The learning outcomes show how concerned a country is with the information acquisition level among its student body. It is possible to understand more about students' knowledge, abilities, or behaviours after receiving instruction by measuring learning outcomes. They are quantified using sub national, national, regional, and international evaluations (World Bank, 2012 Perry, 2016a).

Analysis of value-addition to the holistic development of the learners' growth is a potent tool for determining if the learners have gained knowledge or skills. The value-addition analysis helps recognize student growth and is a natural agent for positive change. The value-addition analysis is an excellent tool for administrators and teachers to show if students make appreciable gains. In addition, teachers can use this information to self-reflect on their teaching (Kurtz, 2018;; Pivovarova, Amrein-Beardsley & Broatch, 2016).

The value-addition analysis that uses individual achievement tests is a progress metric that estimates teachers', schools,' and districts' impact on students' academic performance over time. Therefore, the value-addition difference between students' baseline performance (prior years' test) and their observed performance (this year's test (Brown et al., 2018)

Value-added measurement focuses on the change in students' scores over a given set of scores collected at a specific time (OECD, 2018; Raudenbush, 2014; Tekwe et al., 2014). However, evaluating each institution's contribution to student achievement would be unfair by only looking at attainment levels or the percentage of students meeting specific standards, as the skills and knowledge of students entering an educational institution vary greatly (Reardon & Raudenbush, 2009). For example, even

if students' test scores significantly improve, they may still enter with relatively low levels of cognitive skills, which could undermine the effectiveness of a school. Therefore, the US Department of Education asserts that only its attainment level—and not the advancement of its students' academic performance—is considered in assessing an institution's point.

Value-added measurement provides a more 'accurate' estimate of educational institutions' contribution to students' academic progress as it incorporates a set of contextual characteristics of students or institutions (Teacher Advancement Program, 2012; OECD, 2018). Although comparisons of raw test scores provide essential information, they are poor measures of institutional performance in failing to produce results that can reflect differences in contextual characteristics such as students' socio-economic backgrounds (Sanders, 2016). Furthermore, by evaluating only one score (i.e., the attainment on a standardized test at one point), it is difficult to identify to what extent factors influenced that score outside of the institution compared with other controllable factors within the institution (Braun, 2015a McCaffrey et al., 2013).

Value-added measurement, on the other hand, can calculate the contribution of educational institutions to students' academic progress by isolating student achievement from other contributing factors over a school year or another period, such as family characteristics and socioeconomic background (Raudenbush, 2014; Tekwe et al., 2014;). Even while value-added measurement can be more accurate and fairer, quantifying an institution's impact on student accomplishment still presents challenges (Elks, 2016). In addition, value-added evaluation based on the outcomes of standardized examinations can only gauge a portion of an institution's effects (Ohio et al., 2014)

Education in an institution translates into accumulated knowledge, skills, customs, and ethical (or social) values but also affects how students think, feel, or act (Kelchen & Harris, 2012). However, standardized tests usually measure skills, specific facts, and functions that cannot reflect the real learning happening in an institution (Polcyn, 2016). Theoretically, an institution's influence on student education might not become apparent for several years, necessitating a later evaluation of value-addition with graduates and alumni (Hunt & Merrotsy, 2010). The educational environment's complexity requires including numerous caveats in interpreting institutions' value-added scores to ensure fairness and accuracy (Feiffer & Yanqiang, 2014).

A reliable indicator of the advancement that students have achieved is value-added feedback. It considers each student's starting point and growth about other, comparable students rather than depending exclusively on exam results. The natural effect of a teacher on pupils' learning is part of what value-addition estimations capture. (UNESCO, 2013). Furthermore, by recognizing performance above or below expectations throughout the curriculum and comparing results to other schools and school types, value-added measurements can help drive improvement (Sika & Almand, 2021)

Existing literature focuses on students' academic performance in schools and has generally used end-year mean scores to judge students' academic performance and the basis for evaluating school effectiveness. However, this method fails to consider the actual contribution of schools toward students' academic performance. According to David (2010), it is unfair to school systems to judge their efficiency based solely on students' end-of-year test results without considering where they began the school year. According to David (2010), it is unfair to school systems to judge their efficiency based solely on students' end-of-year test results without considering where they began the

school year. Hence, there is a need to determine the contribution of schools toward the academic performance of students. However, as "it is a relatively new method," many school systems have not yet adopted a "value addition system," which uses the KCPE results as the entry and KCSE scores as the exit scores.

Quality education is essential to address the socioeconomic issues of poverty, unemployment, and inequality (UNESCO, 2017). Similarly, African Development Bank (2014) recognizes education's pivotal and critical role in mitigating unemployment and vulnerable unemployment among the youth. Additionally, Reynolds et al. (2014) say that resolving socioeconomic issues, including poverty, unemployment, and societal inequality, requires a decent education. According to UNESCO (2013), education is essential in fostering global democracy, good governance, and economic prosperity. Therefore, governments worldwide should prepare youngsters for a knowledge-intensive economy by supporting education.

2.8.3 Value Addition and Student Growth

Value-added information enables educators to assess how well the educational program contributes to each student's academic growth, and interest in value-added data as a quality indicator has grown (Birenbaum et al., 2015). Value-addition modelling allows separating the school's contributions to the student's performance from the contextual factors outside the control of schools and classrooms (Yarovaya, 2015). As a result, they accurately measure school performance and develop and implement education policies and initiatives. Several studies have shown that value-added modelling provides more accurate estimates of school performance than making comparisons of raw test scores or cross-sectional contextualized attainment models ((Harlen, 2014; Santiago et al., 2013).

Along with demands for external accountability of higher education, higher education institutions have been under increasing pressure from governments, policymakers, and other stakeholders, as well as students, to improve the quality of teaching and enhance the effectiveness of higher education (Shepard, 2013). Internally, institutions also need to measure achievement and track their progress to know where they stand, correct shortcomings in teaching, and improve the quality of education (Liu, 2011; Steedle, 2011). Assessment tools could include quantitative and qualitative evidence-gathering instruments such as standardized and faculty-designed examinations, self-report surveys, capstone projects, demonstrations, portfolios, and specially designed assignments embedded in regular courses (Hall et al., 2012).

Although assessment results compare achievement amongst students (normative approach), to improve, the tracking over time or against established institutional goals could prove more useful (criterion-referenced approach). In response to growing demands, both externally and internally, on the quality of education, many countries and higher education institutions now focus on assessing student learning outcomes (Ewell, 2019; Liu, 2017; Steedle, 2017). For example, in the United States, approximately 25% For instance, over 25% of Association of American Colleges and Universities (AACU) member institutions in the United States currently provide standardized exams for high-order abilities like communication, critical thinking, and problem-solving. AACU member institutions are now administering standardized tests of high-order skills, such as communication, critical thinking, and problem-solving (Hart Research Associates, 2019; United Kingdom, 2012). However, the value-added student in higher education differs in many ways as the type of data available varies significantly.

Studies from Northern Ireland show the need to shift the focus from inspections to the value that schools add to learners' learning rather than relying on self-evaluation and improvement (Brown et al., 2016). The system lacks incentives or punitive measures for poorly performing schools. The historical assessments of outputs detailed analysis of high-stakes externally formulated exams and high-performing schools compared to others in terms of grades and expenditure level are deemed providers of high education quality (Brown et al., 2018; Pivovarova et al., 2016). Besides, there is also a widely held belief that other factors outside the school grounds' confines inhibit students' levels of achievement. Consequently, the externally administered examination of quality education based on high-stakes results gives an incomplete picture of school performance (Kalimullin et al., 2016; Leckie & Goldstein, 2019; Santiago et al., 2013). In the United States, standardized tests are criticized for their narrowness and focus on lower-level skills. However, evidence suggests that the high-stakes incentives to concentrate on these exams have decreased the time spent instructing other crucial subjects and abilities (Aubrey, 2017; Nick, 2019). Additionally, state exams only evaluate academic standards for each grade level and do not contain questions that assess knowledge or abilities from grades one through twelve. As a result, these tests cannot measure the achievement or the learning gains of the large share of students above or below grade level in their knowledge and skills (Collins & Amrein-Beardsley, 2014; Cunningham, 2019; Darling-Hammond, 2015; Fairman et al., 2018; Leckie & Goldstein, 2019; Rosales & Walker, 2021; Turnipseed & Darling-Hammond, 2015). A study in Dutch schools on different value-added modelling methods showed a high correlation between different educational results in an individual school. The primary factor modifying the educational value-added in schools covered by the Dutch schools' study included characteristics resulting from student populations' social composition

(Elsenburg et al., 2021; Haelermans et al., 2020; Holtey-weber, 2015; Teaching & Survey, 2018; Timmermans & van der Werf, 2017). Thus, a strong correlation exists between student composition and students' composition in the schools' value-added performance. This relationship is confirmed in the Netherlands, Belgium, Chile, Australia, the USA, and the UK; Santiago et al., 2013; Timmermans & Thomas, 2015). In another report, educational value-added under Polish conditions compared external exam results (test scores) achieved in the early stage of education with similar examinations attained in the next step of learning (Birenbaum et al., 2015). This report compared examination results obtained in middle schools in Poland with final exam results achieved in secondary schools (Haelermans et al., 2020). The value-added educational indicator calculation is an aggregate measure that considers the examination results of groups of students (Perry, 2016b).

Furthermore, it measures the school's or teacher's average contribution to student performance. Thus, the indicator estimates the impact of Schools or teachers on the groups of students under study (Darling-Hammond, 2015); Leckie & Goldstein, 2019). Determining the value-added performance of a group of students compares their results in the examination and other variables, such as the outcomes of other students with similar individual features and learning under the same conditions (European Commission, 2019). In such places, the value-added educational modelling determines to what extent, in comparison to expected scores, specific results in an examination are higher or lower for the students under analysis (Jakubowski, 2021; Jeżowski, 2014; OECD, 2018; Wojniak & Majorek, 2018; Yarovaya, 2015).

In Kenya, school examination results are arguably the most critical measure of a learner's perceived success or failure. At the same time, the system has not developed and implemented entirely suitable performance indicators. Well-developed cognitive

skills are necessary but not sufficient for desirable employment-related outcomes. Thus, the best realization of their effect in specific contexts or combinations with other characteristics. There has been growing interest in the role of non-cognitive skills, distinguished from cognitive skills, in that they are less related to raw cognitive processing. It is, therefore, imperative to consider the attributes of a sound, valid performance indicator system to complement the simple aggregate indicators based on test scores. Such indicators should accurately measure learners and schools' performance (Almlund et al., 2011; Hanushek & Woessmann, 2015; Kautz et al., 2014; United Nations Educational Scientific and Cultural Organization, 2016).

The present study postulated that an assessment model that would consider the holistic development of the learners would be more objective and realistic. Such assessment modes should integrate the learners' acquisition of relevant life skills, including critical thinking, self-esteem, decision-making, problem-solving, effective communication, coping with emotions and stress, self-awareness, empathy, interpersonal relationships, and teamwork. In addition, the assessment should also consider the learners' development of talents in games and co-curricular activities such as football, volleyball, racket games, swimming, athletics, music, and netball. This study investigated the status of value addition to the learners' holistic development in different secondary school categories in Nandi County.

2.9 Gaps in the Literature

This chapter has addressed literature related to value addition to the holistic development of students. For instance, authors like David (2010) claimed that when focused on students' academic achievement in schools, end-year mean scores were typically used to assess students' academic success and effectiveness. However, their

study fails to consider the actual contribution of value added by schools to students' holistic development. Additionally, Maulana et al. (2013) and Allen et al. (2013) looked at the connection between secondary school student achievement and teacher-student interactions. Still, they failed to address the influence of Value addition on students' holistic development. Therefore, the current study ought to fill this gap.

2.10 Chapter Summary

This chapter reviewed the literature on categories of public schools in Kenya, national schools, and the holistic development of learners in Kenya, holistic development of learners, assessment of holistic development of learners, life skills and holistic development of learners, talents and holistic development of learners and value addition as a measure of holistic development.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter describes the introduction, study area, research paradigm, research design, target population, study sample and sampling techniques, research instruments, validity and reliability of research instruments, data analysis procedures, ethical considerations, and chapter summary.

3.2 The Study Area

The study focused on public secondary schools within Nandi County, in the North Rift region of Kenya. It occupies 2,884.4 square kilometres and lies between latitude 0034N and longitude 3405E to the west. The Eastern boundary reaches longitude 35025 E. Nandi County borders Uasin County to the Northeast, Kakamega County to the West, Southeast is Vihiga County, South is Kisumu County, and Southeast is Kericho County. In addition, the county has six sub-counties: Mossop, Emgwen, Aldai, Tindiret, Nandi Hills, and Chesumei West (Appendix A). The County was formed in 2013 with a population of 752,965 and comprised some Kenyan communities, most of whom belong to the native tribe Nandi. It is a commercial and administrative town in Kapsabet.

The county is renowned for its thriving tea estates and beautiful topography of scenic views. The County is Kenya's athletics hub. It is home to tens of the world's celebrated athletes, including world record-breakers such as Eliud Kipchoge, Conseslius Kipruto, Pamela Jelimo, Janet Jepkosgei, and legendary athlete Kipchoge Keino. In 2018, the county had 900 primary and 246 secondary schools, of which 192 had registered students for KCSE, with about 231,836 pupils and 77,098 students. It also houses the

University of Eastern Africa, Baraton (UEAB), Kaiboi Technical Training Institute., Koitaleel Samoei University, Mosoriot Teacher's Training College, O'lessos Technical Training Institute, and Aldai Technical Training Institute. The study was on the various categories of public secondary schools in Nandi County. Nandi County has all the types of schools targeted by the survey, i.e., National, Extra County, County, and sub-county, making it convenient during the sampling process.

Furthermore, public secondary schools receive government financial support, which guides the choice of public secondary schools in Nandi County and, therefore, accountability for their output. Moreover, the county is home to many world-renowned athletes, which has led to the county's branding as the "source of champions." Therefore, it is crucial to determine how schools nurture talents, thus adding value to life skills and academic excellence.

3.3 Research Paradigm

A theoretical framework that guides a researcher's research strategy is known as a research paradigm (Kivunja & Kuyini, 2017; Krauss, 2015; Kumatongo & Muzata, 2021). It provides a theoretical and practical perspective for designing, conducting research, and interpreting and evaluating the results. Some of the most used research paradigms are positivism, constructivism, critical theory, and pragmatism (Creswell & Guetterman, 2019; Creswell, 2014; Morse & Niehaus, 2016; Neuman, 2011; Teddlie & Tashakkori, 2009).

Paradigm choice reflects how the researcher views the world (ontology) and beliefs about how knowledge creation occurs. It constitutes a way of looking at the world and interpreting what is studied. It indicates how to conduct research, whom, and what degree of involvement and interpretation. As a way of thinking about the nature of truth,

it acts as a guide. It commits the researcher to a particular research design sampling procedure, data analysis methods, data presentation, and interpretation of findings (Berg & Lune, 2017; Blaikie & Priest, 2017; Kelly, Dowling, & Millar, 2018).

Various factors influence the research paradigm's choice, including the research question's nature and scope. For example, a positivist paradigm may be suitable for quantitative studies that aim to test hypotheses. The clear goals and objectives of the study, the researcher's theoretical approach, and research traditions all have a role in the paradigm choice (Lewis, 2015; Morgan, 2014; Rehman & Alharthi, 2016; Soraya et al., 2019).

The post-positivist research paradigm combines positivism and interpretivism, emphasizing multi-dimensions, multi-methods, and objective investigation through triangulation of quantitative and qualitative methods, emphasizing no absolute truth.(Boman et al., 2017; John W Creswell, 2014; Lewis, 2015; Morgan, 2014).

This paradigm was chosen because questionnaires and document analysis were used to gather data. Questionnaires are quantitative data collection tools, whereas documents are qualitative data collection tools. The researcher obtained from the selected schools, KCPE, and KCSE results through document analysis and got information on talents and life skills through questionnaires. Additionally, data were analysed using parametric and non-parametric techniques at the analysis level.

3.4 Research Design

The research design, according to Kumar & Kothari (2022), is the blueprint or framework that specifies how a researcher will carry out a study to meet their research goals. It comprises the procedures and techniques used to gather and analyze data, the sample size, the research tools, and the schedule for carrying out the study. A well-

designed research study will ensure that the data collected is valid, reliable, and relevant to the research question under investigation. Research design helps to minimize the potential for bias and increases the chances of obtaining meaningful results. It serves as a blueprint for the research study and provides a structured approach to the investigation (Tan, 2018; Leedy et al., 2019; Creswell, 2014).

Three study design frameworks are quantitative, qualitative, and mixed methods. The approaches' structure, procedures, and techniques and their philosophical underpinning have wide-ranging research strategies and plans whose implementation differs (Tucker, 2017; Burkholder et al., 2019). A framework is desirable when it mixes the elements of philosophical ideas, systems, and methods using the three approaches to research. The research problem defines selecting one policy over another for the study's design, the researcher's involvement, and the people for whom the report will be written (Aljian, 2019; Walliman, 2016).

The quantitative research approach measures and analyses numerical data to examine the relationship among variables to test objective theories. The final written report has a set structure consisting of an introduction, literature, theory, methods, results, and discussion (Creswell & Creswell, 2018; Leavy, 2022; Vogt, 2011; Hoy & Adams, 2016). The qualitative research approach investigates individuals' or groups' interpretations of a social or human situation. The research process includes new questions and techniques, data typically obtained in participant settings, data analysis that logically progresses from specifics to broad themes, and the researcher's judgments of the significance of the findings (Denzin & Lincoln, 2018; Cohen et al., 2018; Liamputtong, 2020; Berg & Lune, 2018).

Mixed methods research is a way of collecting and analysing data that combines quantitative and qualitative research approaches. This strategy enables researchers to

combine the benefits of both research methods, producing a more thorough and nuanced understanding of the research problem (Creswell, 2014; Creswell & Plano, 2018). The mixed methods research design can involve collecting qualitative data first and then following up with quantitative data or collecting both types of data concurrently (Morgan, 2014; Abbas Tashakkori et al., 2020; Neuman, 2014).

The fundamental belief in this framework is that combining qualitative and quantitative approaches provides a complete understanding of a research problem (Brannen, 2017; Hall, 2020). Thus, mixed methods collect, analyse, and mix quantitative and qualitative research and procedures in a single task to understand a research problem. The qualitative and quantitative methods mixture depends on the research hypotheses, questions, and the situation. The three approaches are qualitative research on the left, quantitative analysis on the right, and mixed research on the centre. In other words, research might be entirely qualitative, mixed with a focus on the qualitative, fully quantitative, or a combination of the three (Creamer, 2018; Watkins & Gioia, 2015; Creswell & Creswell, 2018)

The study adopted the partially mixed concurrent dominant status design. A mixed-methods research strategy that combines qualitative and quantitative components while emphasizing one method over the other is called a partially mixed concurrent dominant status design. In this design, the researcher collects qualitative and quantitative data simultaneously, with one method being given more weight or emphasis in analysing and interpreting the results (Plano & Ivankova, 2015; Leech & Onwuegbuzie, 2010; Shakori & Teddlie, 1998)

Data collection tools were both qualitative and quantitative. Questionnaires (quantitative) were used to collect data on talents and life skills, whereas documents (Qualitative) provided data on academic performance.

However, the focus was more on quantitative than qualitative (QUANT- QUANT - qual), as qualitative data collection was only tiny.

Furthermore, data were analysed using parametric and non-parametric multi-methods, i.e., multiple regression, one-way ANOVA, and Wilcoxon signed-rank test.

3.5 Target Population

The target population refers to all the respondents who meet the designated criteria. It is the entire population or group that a researcher is interested in researching and analysing (Mauldin, 2020; Dixon et al., 2016; Dhivyadeepa, 2015; Creswell, 2021).

The study's target population was all 192 public secondary schools in Nandi County with candidates for KCSE in 2018, 192 principals and Form four students. The targeted schools were classified as National (2), Extra County (4), County (28), and Sub-County (158) schools, and at the time of the study, they had students enrolled up to Form Four. Therefore, it also targeted the entire Form Four class of 10449 students (boys 6026, girls 4462), National, Extra-County, County, Boys 416, Girls 308, Sub-County, Boys 3942, Girls 2919).

The study targeted schools with at least presented students for the KCSE because it focused on different schools' value-added. The study concentrated on the KCPE and KCSE results of students who took the KCSE exams 2018. The principals are the guardians of the school outcomes). The study targeted schools with at least presented students for the KCSE because it focused on different schools' value-added. The study concentrated on the KCPE and KCSE outcomes of candidates from the class of 2018, and principals are the guardians of school results. The study targeted Form Four students because they have been in school for a longer time and actively participated in

the school's various activities. Thus, their responses to the questionnaires about talents and life skills would be from an informed point of view.

3.6 Study Sample and Sampling Techniques

A sample is a collection of individuals, items, or items drawn from a larger population for measurement. It is a smaller group of people, things, or pieces of data chosen from a larger group. The entire group of people, things, or data that the researcher is interested in researching is known as the population. The research sample should be representative of the population in order to guarantee that the findings may be applied to the full population.

We used both probability and non-probability sampling techniques in this investigation. Probability sampling is selecting a sample from the population with an equal likelihood of each person being chosen. Although it is the least biased, it is the most expensive in terms of time and effort to represent a sample with a given level of sampling error.

Non-probability sampling design (Purposive) applies when the desired number of sample units is selected deliberately or purposely depending upon the inquiry object. It includes only the essential items representing the population's primary characteristics in the sample (Kothari, 2019; Herdiana, 2013; Hollstein, 2014; Ingleby, 2012; Hamed Taherdoost, 2017; Van Griensven et al., 2014; Vogt, 2014). The study also employed simple and stratified random sampling to divide schools into four categories: national, extra-county, county, and sub-county. Finally, purposive sampling was used to select the principals of the sampled schools to participate in the study.

Krejcie and Morgan's (1970) table (Appendix B) was used to calculate the sample size. The sample was then verified using an online calculator that was built into the research tool (www.calculator.net/sample-size-calculator.htm). Both produced similar results.

The study sample, therefore, included 206 students from National schools (118 boys, 88 girls), 251 students from Extra-County schools (144 boys, 107 girls), 332 students from county schools (191 boys, 137 girls), and 364 students (209 Boys, 155 Girls) from sub-county schools (Table 3.1).

Table 3.1: Study Sample

		National	Extra- County	County	Sub- county	Total
Population	Schools	2	4	28	158	192
	Boys	255	416	1413	3942	6026
	Girls	189	308	1046	2919	4462
	Total	444	724	2459	6861	10488
Sample	Schools	2	4	26	112	144
	Boys	118	144	191	209	662
	Girls	88	107	141	155	491
	Total	206	251	332	364	1153
Sampling technique		Purposive, random	Random	random	random	

3.7 Research instruments

Questionnaires and document analysis were utilized as the research tools in the study to gather information.

3.7.1 Questionnaires

In order to collect data from respondents, a questionnaire is used as a research tool. It serves as a means of asking the researcher's inquiries.(Akhtar, 2014; Annum, 2019;

Brace, 2013; Ingleby, 2012; Ponce & Pagán-Maldonado, 2015; Pouline, Habimana, 2013; Schoonenboom & Johnson, 2017). This study employed Likert scale format styles and closed-ended questionnaires to collect data on value-added student talents and life skills in different categories of Nandi County public secondary schools. The respondents determined value addition on talents by the various types of schools, indicating their participation in multiple primary and secondary school talents. These talents were football, volleyball, basketball, racket games, swimming, athletics, music, and drama. The participation levels had the options of 1 –None participation, 2- Sub-county, 3 – County, 4- Regional, and 5- National.

The questionnaire on Life skills had ten life skills: critical thinking, self-esteem, decision-making, problem-solving, effective communication, coping with emotions and stress, self-awareness, empathy, interpersonal relationships, and teamwork. Each life skill had different items that respondents responded to through Likert point scale responses: 5- Strongly agree; 4 – agree; 3- undecided; 2 – Disagree; 1-Strongly disagree.

The items in each life skill were critical thinking (20), self-esteem (10), decision-making (20), problem-solving (15), Effective communication (23), coping with emotions and stress (15), self-awareness (12), empathy (15), interpersonal relationship (18) and teamwork (7) (Appendix H). The measure of each life skill used standard questionnaires developed by other researchers and used in other studies. Questionnaires were chosen for this study because they were cheap, quick, and efficient in getting substantial data from a sizable sample. In addition, the researcher does not need to be present during completing the questionnaires (Aliyu, Bello, Kasim, & Martin, 2014; Hyman & Sierra, 2016; Keinath & Neuner, 2016; Majid, 2018; Showkat & Parveen, 2017; Taherdoost & Group, 2017)

3.7.2 Document Analysis

Documents are original, official, printed, or written material furnishing specific information or used as proof of a particular issue. It requires examination and interpretation of data to elicit meaning, understand, and develop empirical knowledge ((Annum, 2019; Bowen, 2015; Hu & Chang, 2017; Makombe, 2017; Manion & Morrison, 2007; Owen, 2014; Ponce & Maldonado, 2015). Documents also have the highest level of accessibility and are very cost-effective. Therefore, the documentary analysis focuses on the contents within these documents, which can be tests, figures, and tables (Akhtar, 2014; Bowen, 2015; Brace, 2013; Gocoglu, Korkmaz, & Gunduz, 2017; Kivunja & Kuyini, 2017; Muskat M, 2020; Pham, 2018). The KCSE results for 2018 and the matching KCPE results for the same students were obtained to assess various school categories' contributions to academic achievement.

3.8 Validity and Reliability of Research Instruments

3.8.1 Validity of Research Instruments

Validity is the trustworthiness, utility, and dependability that the evaluator and stakeholders place into the research instruments. It is concerned with whether the research is believable and accurate and evaluating what it is supposed to or purports to assess—the degree to which the instruments measure what they intended. Validity is an essential criterion for determining the quality and acceptability of research (Agingu, 2018; Busschaert et al., 2015; Eldridge, 2017; Hamed Taherdoost, 2018) developed in content and construct validity. In this study, content validity refers to assessing whether items of the questionnaires cover the full range of the issues and investigation. The researcher determined the validity in consultation with the research experts' supervisors. Their comments formed the basis for revising unclear and obscure

questions, multiple items, and useless and non-functioning questions discarded altogether. In order to examine whether the instrument relates to the concepts and theoretical assumptions they use, researchers have established construct validity by assessing a general theoretical framework. The research supervisors assisted in establishing construct validity.

3.8.2 Reliability of the Research Instruments

Reliability is how a research instrument provides the results on two or more occasions when assuming that the object measured has not changed. A measure is reliable if it allows for consistent and stable results or data after repeated trials (Busschaert et al., 2015; Eldridge, 2017; John, 2015; Md Ghazali, 2016; Mohajan, 2017)

According to Kumar (2011), a reliable tool is consistent, stable, predictable, and accurate. Therefore, a scale or test is reliable because repeated measurements under similar conditions give the same results. Moreover, the researcher piloted the instruments in four Uasin-Gishu County secondary schools. Therefore, a Pilot study is justified because it shapes future research (Creswel, 2014; Creswell, 2013; Creswell & Creswell, 2018; Golfashni, 2011; Taber, 2018; Tosuncuoglu, 2018). The selection of Uasin Gishu County, like Nandi County, has characteristics of all secondary schools in Kenya. These include using similar secondary education objectives derived from the national goals of education, having teachers and principals trained under similar circumstances, and students undergoing the same education system. The pilot study aimed to determine how effective the data collection instruments would be during the actual field research, whether the items in the tools would be unambiguous to the respondents, and the problems they are likely to encounter in response to the issues.

Cronbach Alpha then assessed the reliability of the research instruments from the pilot study.

Cronbach's alpha measures a scale or questionnaire's internal consistency or reliability. It considers how closely the items on a scale or questionnaire capture the same fundamental idea or concept. Greater internal consistency is indicated by higher values of Cronbach's alpha, which range from 0 to 1. A value of 0.7 or higher is acceptable, meaning that the items on the scale or questionnaire measure the same underlying construct with a high degree of reliability. Cronbach's alpha divides the sum of the item-total correlations by the number of items in the scale or questionnaire. It considers the inter-correlations between items and the consistency of the items in measuring the underlying construct. In general, a value of 0.7 or greater is accepted, suggesting that the items assess the same underlying construct with a high degree of consistency. (Painter, 2014) A value between 0.6 and 0.7 is considered good but may suggest that some items do not measure the same construct. A value below 0.6 is regarded as low, meaning that the items are not measuring the same construct with a high degree of consistency. A value of 1.0 indicates perfect character, but this is rare in practice and suggests that the items may be measuring the same thing in the same way, which is not always ideal (Allen, 2017; Amirrudin, Nasution, & Supahar, 2020; Bonett & Wright, 2015; Namdeo & Rout, 2016; Ravinder & Saraswathi, 2020; Taber, 2018; Warrens, 2014).

The skills' Cronbach alpha was 0.87, higher than 0.7, demonstrating that the tools used to gauge skill levels were internally consistent. In addition, the questionnaires used to evaluate life skills were also internally consistent. The Cronbach alpha values yielded the following values: critical thinking (.91), self-esteem (.80), decision-making (.94),

problem-solving (.87), effective communication (.89), coping with emotions and stress (0.76), self-awareness (.73), empathy (.79), interpersonal relationship (.77) and teamwork (.71).

3.9 Data Analysis Procedures

Wilcoxon Signed-Rank test, one-way ANOVA, and multiple regression were used to analyze the data. The choice was made based on how each objective differed from the others. Multiple regression determined each school category's value-addition on academic performance. The KCSE and KCPE results were converted into the interval data, thus running a multiple regression analysis. A regression analysis usually requires distributed data; therefore, the Shapiro-Wilk Test, Histogram, and q-q plots were used. These tests showed typically distributed data, and it was safe to run regression analysis (Appendix C).

Test of Multi-Collinearity of Measures determined whether the study's variables were highly linearly related. Variance Inflation Factor (VIF) tested for multi-Collinearity of measures. The Variance Inflation Factor measures how much the interdependence of the variable inflates the variance of the predicted regression coefficient of that variable, and frequently (10) is the proposed upper limit. Multiple regression used one dependent variable (KCSE performance) and three independent variables, i.e., KCPE Results, Gender, and school categories. A VIF statistic greater than ten is evidence of Multicollinearity. The VIF statistics results for the independent variables reveal Multicollinearity-free measures (Appendix D).

Wilcoxon Signed-Rank Test showed the overall difference in participation in primary and secondary schools in various talents. The life skills analysed were critical thinking, self-esteem, decision-making, problem-solving, effective communication, coping with

emotions and stress, self-awareness, empathy, interpersonal relationships, and teamwork. Each life skill had several items, i.e., Critical thinking (20), communication (23), coping with emotions and stress (15), self-awareness (12), Empathy (15), interpersonal relationship (18), and teamwork (8) (Appendix H). These items were summarized by summing up the responses of each life skill, thus converting them to an interval scale. One-way ANOVA to determine the participation by various categories of schools. Finally, all questionnaire data were entered into a data set and analysed using SPSS 25. Thus, one-way ANOVA is computing the descriptive statistics for all sub-groups (Gender, school categories), life skills, and Wilcoxon signed-rank test for talents.

3.10 Ethical considerations

Ethics are the moral guidelines and beliefs that ensure the conduct of research responsibly and respectfully. Research ethics aims to guarantee the research findings' validity and reliability and the research participant's rights and welfare. The study design met the ethical standards of educational research. Despite the high value of knowledge gained from research, pursuing learning at the expense of human dignity is not permissible. Furthermore, the researcher respected the informants' rights, needs, values, and desires. Therefore, the researcher undertook appropriate steps to adhere to strict ethical guidelines to uphold the participants' privacy, confidentiality, dignity, rights, and anonymity ((Blaikie, 2000; C Kothari, 2019; Cohen et al., 2018; Collins, 2018; Creswell & Poth, 2018; Creswell & Creswell, 2018; Morse & Niehaus, 2016)

The steps undertaken by the researcher to ensure adherence to strict ethical guidelines are discussed below as informed consent, disclosure, understanding, voluntariness,

privacy and confidentiality, anonymity, justice, researchers' responsibility, and research authorisation.

3.10.1 Informed Consent

When participants willingly volunteer to participate in a study after being fully informed of all the pertinent details, such as the study's goals, procedures, risks, advantages, and alternatives, this process is known as informed consent. It is a crucial ethical principle in research that aims to protect the autonomy and rights of participants and ensure that they are making an informed decision about their involvement (Collins, 2018; Creswell, 2014; Edmonds & Kennedy, 2020; Edmonds & Kennedy, 2017; Nijhawan et al., 2013).

Participants were informed of the study's purpose, design, procedures, risks, and benefits and had the right to refuse or withdraw at any time. Therefore, the research participants/respondents decided to participate based on adequate study knowledge. Only those who accepted to participate were involved in the study. The informed consent process was transparent and respectful, and participants were free to withdraw without negative consequences.

3.10.2 Disclosure

Disclosure in research refers to making information available to the public, participants, or relevant stakeholders. This can involve sharing data, methods, results, and other study details to increase transparency and accountability and promote reproducibility. Disclosure is an essential principle in scientific research and helps maintain the research process's integrity. It also allows others to evaluate and build upon previous work critically (Cohen et al., 2009; Creswell & Creswell, 2018; Creswell & Plano Clark,

2011; Johnson & Christensen, 2020; Myers, Well, & Lorch, 2013; Preissle, Glover-Kudon, Rohan, Boehm, & DeGroff, 2015; Rosenstein, 2019).

All research participants were fully informed of the nature and goal of the study, the methods to be utilized, the anticipated advantages for the participants, and information on Nandi County schools in general. The principal and students at the schools selected schools consented first before participating in the study.

3.10.3 Understanding

Research ethics is essential for building trust and protecting the rights and dignity of participants, as well as maintaining the integrity of the research enterprise and promoting responsible research practices. The researcher made sure the participants were aware of the nature and goals of the study. Each participant was given the chance to ask questions, and the researcher addressed any unclear points.(Belliappa, 2019; Creswell, 2018; Ingleby, 2012; Johnson & Christensen, 2020; Preissle et al., 2015; Rosenstein, 2019).

3.10.4 Voluntariness

Regarding research ethics, the concept of voluntariness relates to the idea that participants, free from compulsion or undue influence, should voluntarily choose involvement in research. The ability to choose not to participate in a study should always be available to participants, who should be allowed to do so with knowledge. (Visser & Hautvast,2016). The principle of voluntariness is crucial in ensuring the conduct of research ethically and responsibly, and it helps protect participants' autonomy and dignity. To ensure voluntariness, researchers must provide clear and complete information about the study, including its purpose, procedures, risks, and benefits. Participants should also be free from any pressure or influence that would

compromise their ability to make a free and informed decision about participating in the study (Bridges, 2017; Cohen et al., 2018, 2009; Creswell, 2014; Nijhawan et al., 2013; Rosenstein, 2019; Suri, 2020)

The respondents consented voluntarily to participate in the study, free of coercion or promises of benefits for their participation.

3.10.5 Privacy and Confidentiality

In research, "privacy" and "confidentiality" apply to safeguarding participants' sensitive information and personal data. While confidentiality refers to a researcher's duty to keep the data they collect secret, the principle of privacy respects people's right to keep their personal information private. Privacy and confidentiality are commonly linked to the gathering, storing, and disseminating of data in research. Researchers must protect participants' privacy by ensuring that any personal data acquired is kept confidential and utilized only for the study. Data collection, storage, and dissemination in research are associated with privacy and confidentiality. Researchers must preserve participants' privacy by guaranteeing that any personal data acquired is kept confidential and utilized only for the study. For this, employing encrypted data, anonymized data, or pseudonyms may be necessary. Confidentiality must always be upheld throughout the entire study process, from data collection to the dissemination of findings. Researchers must be required to use encrypted data, anonymized data, or pseudonyms. Throughout the whole study process, from data collection to findings dissemination, confidentiality must always be honoured (Belliappa, 2019; Creswell, 2014; Cohen, Manion, & Morrison, 2007, 2021; Nijhawan et al., 2013; Preissle et al., 2015; Strunk & Mwavita, 2020).

The respondents were instructed not to indicate their names or disclose personal information. The researcher also assured them that their responses would be kept confidential.

3.10.6 Anonymity

In research, anonymity hides participants' identities from other researchers or the general public. Anonymity maintains participant privacy and prevents the disclosure of their personal information. It does not link the data to the participants' identities or identify the participants from the data, making it possible to shield participants from injury or other consequences from disclosing their personal information. Anonymity is essential in research that involves sensitive topics, such as mental health, sexual behaviour, or drug use. Anonymity is a valuable tool for protecting participants' privacy and ensuring the ethical conduct of research. Additionally, it encourages responsible practices in the handling of personal information and helps to increase trust in research (Bridges, 2016; Cohen et al., 2007, 2018; Creswell, 2018; Creswell, 2015; Creswell, 2014; Denzin, 2009; Strunk & Mwavita, 2020). The selected public secondary schools and respondents remained anonymous because their identities were not salient features of the study.

3.10.7 Justice

Justice in research ethics refers to the idea of justice and objectivity in the distribution of the costs and rewards of research. It entails ensuring that participants are not unduly exploited or disadvantaged and the fair allocation of the risks and rewards of the study. It includes several important ideas, such as equity, fairness, and non-discrimination. Therefore, while choosing participants for their studies and when planning and carrying out the study, researchers must ensure that their research is inclusive and not prejudiced

or discriminatory. Additionally, it is the responsibility of researchers to prevent the exploitation of vulnerable or marginalized groups and to guarantee that the benefits of their work are shared fairly (Cohen et al., 2018, 2021; Creswell & Poth, 2018; Creswell & Plano, 2011; Creswell, 2014; Gill, 2015; Johnson & Christensen, 2020). Therefore, the researcher ensured justice enhancement through a random sample of respondents participating in the study.

3.10.8 Researcher's Responsibility

Researchers have several responsibilities in conducting research ethically and responsibly. They must obtain informed consent from participants, protect privacy and confidentiality, minimize harm to participants, and be impartial and non-discriminatory. They should also maintain integrity, avoid plagiarism, falsification of data, and other forms of misconduct, communicate results clearly and transparently, adhere to ethical standards, and take steps to ensure their research is conducted in a responsible and trustworthy manner (Borg & Gall, 2014; Cohen et al., 2018; Creswell, 2015; Patton, 2014; Rosenstein, 2019).

In the study, the researcher was responsible and remained sensitive to human dignity and well-meaning to the survey's intentions.

3.10.9 Research Authorization

The researcher requested authorization from the Board Examiners of the School of Education, University of Eldoret, and afterwards from the National Commission for Science, Technology, and Innovation (NACOSTI) of the Republic of Kenya to conduct the research. Before data collection, the study also sought Nandi County's Education

office, the County Commissioner's office, and the selected secondary schools (Appendices).

3.11 Chapter Summary

This chapter discussed various aspects of research methods and methodologies used. These include the study area, the research philosophy used and the research design, sampling and sampling frame, the data collection instruments and procedure, determination of validity and reliability, data analysis procedures, and the ethical issues considered while doing this research.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS, INTERPRETATION AND DISCUSSION

4.1. Introduction

This chapter describes the study participants' responses to each of the questions in the questionnaire. The chapter also presents the verification of the study hypotheses—subsequently, the presentation of research findings in tables and figures and descriptive and inferential statistics that set out the data's essential characteristics and tested the study's hypotheses and research questions.

4.1.1 Research Hypotheses

This study tested the three hypotheses below:

H₀₁: There is no statistically significant value addition on student academic performance by public National, Extra County, County, and Sub-County secondary schools in Nandi County

H₀₂: There is no statistically significant value addition on student talents by public National, Extra County, County, and Sub-County secondary schools in Nandi County

H₀₃: There is no statistically significant value addition on student life skills by public National, Extra County, County, and Sub-County secondary schools in Nandi County

4.2 Demographic Information of Respondents

Table 4.1 Demographic Information of the Total Number of Respondents per Category of School and Gender

Categories of schools	Gender		Frequency	Per cent
	Boys	Girls		
National	118	88	206	17.9
Extra-county	144	107	251	21.8
County	191	141	332	28.8
Sub-county	209	155	364	31.6

Total	662	491	1153	100
-------	-----	-----	------	-----

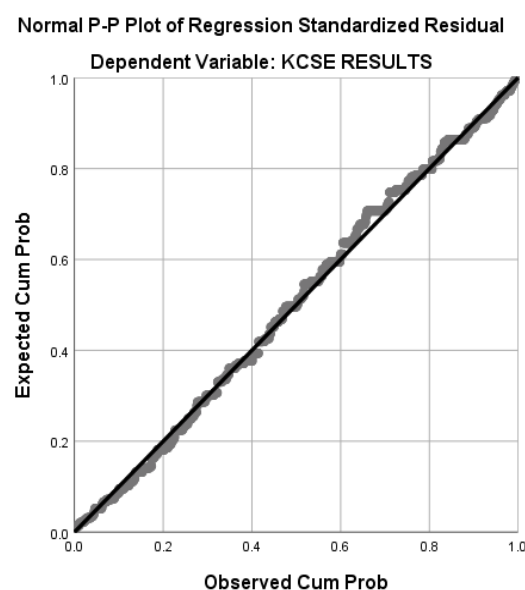
The study sampled two hundred and six (206) National school students, representing 17.9 % of the total respondents; two hundred and fifty-one (251) Extra County schools' students, representing 21.8% of the total respondents; three hundred and thirty-two (332) county schools' students, representing 28.8% and three hundred and sixty-four (364) sub-county schools representing 31.6 of the total respondents (Table 4.1).

4.3 Test of Normality and Multi-collinearity of Measures

Multiple regression analysis tested objective one. Shapiro Wilk tested the normality of data, and the Variance Inflation Factor (VIF) tested the multi-collinearity of measures tests. The tests' findings supported the notion that multiple regression analysis was a suitable method for evaluating the hypothesis.

4.3.1. Test of Normality of Data

The Shapiro-Wilk test's histograms and q-q plots demonstrated that the data had a



normal distribution. (Figure 4.1)

Figure 4.1 Normal P.P Plot of Regression Standardized Residual for KCSE results.

Figure 4.1 shows a normal P.P. plot meaning that the data can be analysed using regression analysis.

4.3.2 Test of Multicollinearity of Measures

The researcher converted the KCPE and KCSE results into continuous data to run multiple regression and then tested for multicollinearity of measures using the Variance Inflation Factor (VIF). It determined the degree to which the variable's interrelatedness inflates the variance of its estimated regression coefficient, and often (10) is the suggested upper limit. For example, multiple regressions used one dependent variable (KCSE performance) and three independent variables, i.e., KCPE Results, Gender, and school categories. Any VIF statistic greater than ten is generally considered evidence of multicollinearity.

Table 4.2: Test of Multicollinearity of Measures

Independent variable	Tolerance	VIF
Constant		
KCPE Results	.212	4.718
School category – National	.534	1.872
School category –Extra County	.549	1.822
School category – County	.486	2.058
School – Gender	.575	1.740

Table 4.2 shows the results of VIF statistics for the independent variables, revealing that the measures were free of multicollinearity.

4.4 Value-added to Student Academic Performance by Secondary Schools of Different Categories in Nandi County

Multiple linear regression ascertained the value added to students' academic performance by National, Extra County, County, and sub-county schools. As proposed by Saunders, residual statistics formed the basis of the interpretation. According to Saunders (1999), value-added is the discrepancy between the actual score and the scores calculated after accounting for factors known to have a relationship with performance. Positive residuals indicate students are making more significant progress between KCPE and KCSE. In contrast, negative residuals indicate students are making less than the average progress in the same case. The findings in this section were reported according to the school categories using gender and KCPE results as predictors of value addition.

4.4.1 Value Addition to the Student Academic Performance by Public National Secondary Schools in Nandi County

Regarding value addition by the national schools, this study tested the hypothesis below:

H₀₁: There is no statistically significant value added to public National Secondary Schools' academic performance in Nandi County. Tables 4.3, 4.4, 4.5, 4.6 and 4.7 show the results.

Table 4.3 Descriptive Statistics-National schools

	Mean	Std Deviation	N
KCSE results	10.08	.936	206
KCPE results	10.82	1.638	206

National schools had a KCSE mean of 10.08 and a standard deviation of 0.936, according to Table 4.3. The KCPE mean for the national schools was 10.82, and the

standard deviation was 1.638. The means indicate that students' performance in secondary schools is lower than in primary schools.

These results show that the students admitted into national schools with 10.82 (KCPE) scored a lower mean of 10.08 in KCSE. In addition, the standard deviation of 1.638 for KCPE means that the scores were more spread out from the mean than a standard deviation of 0.936 for KCSE, which shows that the scores are less spread out from the mean. These results indicate that secondary schools did not add value to the inputs received from primary schools because the mean at secondary school (KCSE) is lower than at primary school (KCPE). However, more statistical analyses (multiple regression) are required to confirm this interpretation.

Table 4.4 Model Summary - National Schools

Model	R	R Square	Adjusted R Square	Std. error of the Estimate
1	.755 ^b	.570	.566	.02754

a school category = extra county

b Predictions: (constant), KCPE1, Schgender = Girls

c Dependent variable KCSE1

Table 4.4 provides the estimate's R, R², adjusted R, and standard error, determining how much a regression model fits the data. The Multiple correlation coefficient R measures the dependent variable's prediction (KCSE results-value added). For example, the R-value of .755 indicated a good level of prediction. However, with an R² value of .570, the independent variable explains 57 % of the variability of the dependent variable (KCSE results). Similarly, the cause of 43% of the variation in factors other than the predictors included in this model.

Adjusted R Square (adj. R²), .566 indicated that the predictors explain 56.6% of the variation in the outcome variable to keep in the model. The discrepancy between R squared and Adjusted R square values were low, indicating a good model fit. The

standard error of .02754 measured the precision of the model. The standard error will reduce as R² rises. On average, estimates of KCSE with this model will be wrong by .02754 (2.8%), which is insignificant; therefore, the model is reliable.

This table's presentation in this study shows that the regression model was reliable.

Table 4.5 ANOVA Output- National schools

Model	Sum of squares	df	Mean scores	F	Sig
1 Regression	204	2	.102	134.785	.000
Residual	.154	203	.001		
Total	.358	205			

a school category = National

b Predictors: (constant), KCSE1

c Predictors (constant). Schgender= Girls, KCPE

The F-ratio in the ANOVA Table 4.5 tested whether the overall regression model fitted the data. The table shows that the independent variables significantly predicted the dependent variable, $F(2,203) = 135$, $P(.000) < .05$. Thus, the regression model was a good fit for the data.

Table 4.6 Coefficients for National Schools

Model	Unstandardized coefficients		Standardized coefficients		
	B	Std. error	Beta	t	Sig
(Constant)	.549	.141		3.880	.000
KCPE 1	.441	.131	.742	3.361	.001
Schgender=Girls	-.001	.019	-.004	-.061	.951

a school category = National

b Dependent Variable: KCSE1

According to the regression coefficients in Table 4.6, and taking all other factors into account, the general form of linear equation, $Y = B_0 + B_1X_1 + B_2X_2$: where Y is the dependent variable (KCSE results), X₁ is the independent variable (KCPE results), and X₂ is the independent variable (Gender). The predictive equation was $.549 + .441$ (KCPE) - $.001$ (Gender). The B-coefficients showed that the KCPE entry mark was a

good predictor of KCSE ($B = .441$, $P (.001) < .05$). However, gender was not a good predictor ($B = -.001$, $P (.951) > .05$).

Table 4.7 Residual Statistics- National schools

	Minimum	Maximum	Mean	Standard deviation	N
Predicted value	.9455	1.0242	1.0016	.3158	206
Residual	-.06998	.05496	.000	.02740	206
Std. predicted value	-1.778	.716	.000	1.000	206
Std residual	-2.541	1.996	.000	.995	206

a Category =National

b Dependent Variable: KCSE1

A residual is the vertical separation between a data point and the regression line. There is a single residual for each data point. Positive residuals are above the regression line, negative residuals are below the regression line, whereas zero residuals show that the regression line passes through the point. Residual statistics determine the national value schools add to student performance based on KCPE and KCSE grades. The residual statistic is the difference between predicted and actual results. The residual value of -2.541 (Table 4.7) shows that National schools scored at -2.541 , lower than the expected value. In addition, the students scored lower on exit (KCSE) by -2.541 than on entry (KCSE). These results imply that National schools subtracted the value of students by 2.541 . National schools reduced the value of student performance—a student who scores A ends up with a B+ or B. Therefore, though the national schools perform well in mean grades, these results show that National public secondary schools did not add value to this cohort of students. There was a negative value addition to the overall student academic performance.

The findings support Mbiti's (2015) statement that "despite national schools' reputations, there is no evidence of positive benefits on learning outcomes for kids who

attended these schools." This is because their sterling reputations reflected students' selection rather than the school's ability to generate value-added test-score gains (Mbiti & Lucas 2014). Mbiti (2015) noted that elite, highly selective government secondary schools were common worldwide. While such schools were perceived to be academically superior, their reputations reflected selection admissions or value-added learning was unclear. He goes on to say that depending on the student's qualities and the learning environment, gains from these schools' provision of value-added education might be distributed to students in a variety of ways. (Anyang & Boit, 2019; Nyangweso et al., 2019).

It is essential, therefore, to go beyond the raw academic performance grades at KCSE to assess the performance of National schools and focus on the value added to the learner. Although these schools select the best performers from primary schools and have the best resources, they should be held accountable for their output quality.

The findings support Mbiti's (2015) statement that "despite national schools' reputations, there is little evidence of positive effects on learning outcomes for kids who attended these schools." Their sterling reputations reflected students' selection rather than the school's ability to generate value-added test-score gains (Mbiti & Lucas 2014). Mbiti (2015) noted that elite, highly selective government secondary schools were common worldwide. While such schools were perceived to be academically superior, their reputations reflected selection admissions or value-added learning was unclear. He goes on to say that depending on the student's attributes and the learning environment, if these schools provided valued-added education, students might reap different benefits. According to Elks (2016), value-added performance measures are fairer than student academic results alone, as they take prior attainment into account, significantly showing the impact of future performance. Value-added performance

measures can form part of an accountability system that supports and challenges schools to improve.

4.2.2 Value Addition to the student Academic Performance by Public Extra County Secondary Schools

Regarding value addition by the Extra-County secondary schools, this study answered the question and tested the hypothesis below:

What is the value addition on academic performance by public Extra County secondary schools in Nandi County?

H₀₂: There is no statistically significant value addition on student academic performance by public Extra County secondary schools in Nandi County

Table 4.8 Descriptive Statistics - Extra County Schools

	Mean	Std Deviation	N
KCSE results	6.67	2.245	251
KCPE results	8.11	1.600	251

Table 4.8 shows that the mean for KCSE results was 6.67 with a standard deviation of 2.245, whereas the KCPE results' mean was 8.11 with a Standard Deviation of 1.600. These results show that students' mean of 8.11(KCPE) at primary school was higher than 6.67 at secondary school (KCSE). Furthermore, the standard deviation of 1.6 at KCPE implies that the scores are less spread out from the mean than a standard deviation of 2.245 at KCSE, showing that the grades are more spread out from the mean. These means imply that Extra County schools did not add value to students in KCSE. The mean at entry is higher than the mean at exit.

Table 4.9 Model Summaries for Extra County Schools

Model	R	R Square	Adjusted R Square	Std. error of the Estimate
1	.928 ^b	.852	.861.	.06055

a school category =Extra County

b Predictions: (constant), KCPE1, Schgender = Girls

c Dependent variable KCSE1

An R-value of .928 indicated a good level of prediction. R² value (coefficient of determination) of .852 told that the independent variables explain 85.2 % of the dependent variable's variability (KCSE results) (Table 4.9). Adjusted R Square (adj. R²), .861 indicated that the predictors explain 86.1% of the variation in the outcome variable to keep in the model. The low discrepancy between R squared and Adjusted R square values indicate a good fit for the model. The standard error of .06055 (6 %) measured the precision of the model.

Table 4.10 ANOVA Output Analysis for Extra County Schools

Model		Sum of Squares	df	Mean scores	F	Sig
1	Regression	5.679	2	2.840	774.536	.000
	Residual	.909	248	.004		
	Total	6.588	250			

a school category – Extra County

b Dependent variable; KCSE1

c Predictors (Constant), KCPE1, Schgender-Girls

The F-ratio in the ANOVA Table 4.10 assessed whether the overall regression model fitted the data. Table 4.10 shows that the independent variables statistically significantly predicted the dependent variable ($F(2,248) = 774.5$, $P(.000) < .05$). Thus, the regression model was a good fit for the data.

Table 4.11 Coefficients for Extra County Schools

Model	Unstandardized coefficients		Standardized coefficients		
	B	Std. error	Beta	t	sig
(Constant)	-.428	.039		-11.006	.000

KCPE1	.143	.009	.396	16.170	.001
Schgender = Girls	1.316	.044	.739	30.136	.000

a school category = Extra County

b Dependent Variable: KCSE1

According to the regression coefficients (Table 4.11), all other factors held constant, the general form of linear equation, $Y=B_0 +B_1X_1 +B_2X_2$. Where Y is the dependent variable (KCSE results), X1 is the independent variable (KCPE results), and X2 is the independent variable (Gender). The predictive equation is $-.428 + .143 (KCPE) + 1.316 (Gender)$. The B- coefficients showed that the two independent variables (KCPE, Gender) were good predictors of the dependent variable (KCSE). KCPE (B=.143, P (.001) < .05) and Gender (B= 1.316, P (.000) < .05).

Table 4.12 Residual Statistics for Extra County Schools

	Minimum	Maximum	Mean	Std Deviation	N
Predicted Value	.3644	1.0313	.7961	.15072	251
Residual	-1.9087	.19371	.0000	.06031	251
Std.Predicted value	-2.865	1.560	.000	1.000	251
Std. Residual	-3.152	3.199	.000	.996	251

a school category: Extra County

b Dependent Variable: KCSE1

The residual value of – 3.152 (Table 4.12) shows that Extra-County schools scored at - 3.152 from the predicted value. The expected value is what the students should have achieved under optimum conditions. The students scored lower on exit (KCSE) by - 3.152 than entry (KCSE). These results show that though Extra- County schools selected the best KCPE performers that could not join National schools, they subtracted the value of students by 3.152 instead of adding it. As a result, a student who scores a B+ on entry may have a C or C-. These results agree with Nyanza County's study findings (Anyang &Boit, 2019). The researchers reported that Extra County schools did not add value to learners' academic performance. The Study concludes that although top-ranked schools admitted students with high entry marks, they said very little value

to their student's academic ability during their four-year pursuit of secondary education (Anyang & Boit, 2019; Nyangweso et al., 2019; Wekesa & Kitainge, 2022).

4.4.3 Value addition to the student Academic Performance by Public County Secondary Schools

Regarding value addition by the County secondary schools, this study answered the research question and tested the hypothesis below:

What is the value addition on academic performance by public County secondary schools in Nandi County?

H₀₃: There is no statistically significant value addition on student academic performance by public county secondary schools in Nandi County.

Table 4.13 Descriptive Statistics-County Schools

	Mean	Std Deviation	N
KCSE results	6.24	1.917	332
KCPE results	8.20	.823	332

Table 4.13 shows that the KCPE results mean 8.20, and the standard deviation was 0.823. In contrast, the KCSE results mean was 6.24 and a standard deviation of 1.917. The interpretation of these results is that the primary schools' scores with a mean of 8.20 and a standard deviation of 0.823 were higher and scores less spread out from the mean. On the other hand, the secondary school scores, with a mean of 6.24 and a standard deviation of 1.917, were lower and more spread out from the mean. These results imply that secondary schools did not add value; results from multiple regression output, Tables 4.14, 4.15, 4.16, and 4.17 are interpreted.

Table 4.14 Model Summary for County Schools

Model	R	R Square	Adjusted R Square	Std. error of the Estimate
1	.425 ^b	.181	.176	.181

a school category = county

b Predictions: (constant), KCPE1, Schgender = Girls

c Dependent variable KCSE1

In Table 4.14, the R-value of .425 indicated a good level of prediction. R² value (coefficient of determination) of .181 suggested that the independent variables explain 18.1 % of the dependent variable's variability (KCSE results). Adjusted R Square (adj. R²) .176 indicated that the predictors explain 17.6% of the outcome variable's variation to keep in the model. The low discrepancy between R squared and Adjusted R square values indicates a good model fit. The standard error of .181 (18.1. %) measures the precision of the model.

Table 4.15 ANOVA Output Analysis for County Schools

Model		Sum of squares	df	Mean Scores	F	Sig
1	Regression	1.128	2	.564	36.320	.000
	Residual	5.109	329	.016		
Total		6.237	331			

a. School category; county

b. Dependent variable; KCSE1

c. Predictors (Constant), KCPE1, Schgender- Girls

The F-ratio in the ANOVA Table 4.15 tests whether the overall regression model fits the data. Table 4.15 shows that the independent variables statistically significantly predict the dependent variable $F(2,331) = 36.3$, $P(.000) < .05$. Thus, the regression model was a good fit for the data.

Table 4.16 Coefficients for County Schools

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std.error	Beta	t	
(Constant)	-.647	.170		3.814	.000
KCPE 1	.065	.017	.238	3.899	.000
Schgender =Girls	1.523	.180	-.515	8.440	.000

a school category; county

b Dependent Variable: KCSE

According to the regression coefficients in Table 4.16, all other factors considered the general form of linear equation, $Y=B_0 +B_1X_1 +B_2X_2$. Where Y was the dependent variable (KCSE results), X1 was the independent variable (KCPE results), and X2 was the independent variable (Gender). The predictive equation is $-.647 + .065 (KCPE) + 1.523 (Gender)$. The B-coefficients showed that the two independent variables (KCPE and Gender) were good predictors of the dependent variable (KCSE). KCPE (B=.065, P (.000) < .05) and Gender (B= 1.523, P (.000) < .05).

Table 4.17 Residual Statistics for County Schools

	Minimum	Maximum	Mean	Std Deviation	N
Predicted Value	.3352	.9388	.7742	.05838	332
Residual	-.33517	.35095	.0000	.12423	332
Std.Predicted value	-7.521	2.820	.000	1.000	332
Std.Residual	- 2.690	2.816	.000	.997	332

a school category: county

b Dependent Variable: KCSE1

The residual value of $- 2.690$ (Table 4.17) shows that county schools scored at -2.690 from the predicted value. The expected value is what the students should have achieved under optimum conditions. The students scored lower on exit (KCSE) by -2.690 than entry (KCSE). These results show that County schools subtracted the value of students by 2.690 . A student who scores a B on entry may have a C- or D+ on exit. Therefore, though many county schools are well endowed and admit students with averagely high

scores next to Extra - county schools, they did not add value to student performance; instead, they subtracted value.

4.4.4 Value Addition to the Student Academic Performance by Public Sub- County secondary schools

Regarding value addition by the Sub-County Secondary Schools, this study tested the following hypothesis:

H₀₄: There is no statistically significant value-addition on student academic performance by public sub-county secondary schools in Nandi County.

Table 4.18 Descriptive Statistics-Sub-County schools

	Mean	Std Deviation	N
KCSE results	4.90	1.713	334
KCPE results	7.13	4.108	334

Source; Field data (2018)

Table 4.18 shows that the KCPE mean is 7.13 for the sub-county schools and the standard deviation of 4.108. The KCSE results mean was 4.90 and a standard deviation of 1.713. These results show that the KCSE means (4.90) was lower than the KCPE mean (7.13). In addition, the standard deviation of 4.108 for KCPE indicates that grades were more spread out from the mean than 1.713, which shows that results are less spread out from the mean at KCSE. These results show that sub-county secondary schools did not add value to student performance.

Table 4.19 Model Summary for Sub-County Schools

Model	R	R Square	Adjusted R Square	Std. error of the Estimate
1	.528 ^b	.279	.275	.3238

a school category = sub-county

b Predictions: (constant), KCPE1, Schgender = Girls

c Dependent variable KCSE1)

An R-Value of .528 indicates a good level of prediction. R^2 value (coefficient of determination) of .279 suggested that the independent variables explain 27.9 % of the dependent variable's variability (KCSE results) (Table 4.19). Adjusted R Square (adj. R^2), .275 indicated that the predictors explain 27.5% of the outcome variable's variation to keep in the model. The low discrepancy between R squared and Adjusted R square values indicated a good fit for the model. The standard error of .3238 (32. %) measures the precision of the model.

Table 4.20 ANOVA Output Analysis for Sub-County Schools

Model		Sum of Squares	df	Mean scores	F	Sig
1	Regression	2.443	2	1.221	69.692	.000
	Residual	6.326	361	.018		
	Total	8.769	363			

- a. School category – sub-county
b. Dependent variable; KCSE1

The F-ratio in the ANOVA Table 4.20 assessed whether the overall regression model fitted the data. The table showed that the independent variables significantly predicted the dependent variable $F(2,361) = 69.7$, $P(.000) < .05$. Hence, the regression model was a good fit for the data.

Table 4.21 Coefficients for Sub-County Schools

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.
	B	Std.error	Beta	t.	
(Constant)	.055	.055		1.540	.125
KCPE 1	-.063	-.014	-.201	-4.495	.000
Schgender =Girls	.732	.065	-.502	11.201	.000

- a school category = National
b Dependent Variable: KCSE1
c Predictors (Constant), KCPE1, Schgender- Girls

The regression coefficients table 4.21, taking all other factors into account, the general form of linear equation, $Y=B_0 +B_1X_1 +B_2X_2$. Where Y was the dependent variable (KCSE results), X1 was the independent variable (KCPE results), and X2 was the independent variable (Gender). The predictive equation was $.055 - .063 (KCPE) + .732 (Gender)$. The B-coefficients showed that the two independent variables (KCPE and Gender) were good predictors of the dependent variable (KCSE). KCPE ($B=.065$, $P (.000) < .05$) and Gender ($B= 1.523$, $P (.000) < .05$).

Table 4.22 Residual Statistics for Sub-County Schools

	Minimum	Maximum	Mean	Std Deviation	N
Predicted Value	.3711	1.3536	.6632	.08203	364
Residual	-.80679	.31710	.0000	.13202	364
Std.Predicted value	-3.560	8.417	.000	1.000	364
Std.Residual	-4.094	2.395	.000	.997	364

a school category =Sub- County

b Dependent variable: KCSE1

The residual value of $- 4.094$ (Table 4.22) shows that sub-county schools scored at $- 4.094$ from the predicted value. The expected value is what the students should have achieved under optimum conditions. The students scored lower on exit (KCSE) by $- 4.094$ than entry (KCSE). These results show that sub-county schools subtracted the value of students by $4. 094$. Therefore, a student who scores a B- may score D+ or D on exit.

This subtraction of value is a severe issue that needs to be addressed by policymakers. Therefore, though many county schools are well endowed and admit students with averagely high scores next to Extra County schools, they did not add value to student performance; instead, they subtracted value. Therefore, the residual value of $- 4.094$ (Table 4.22) shows that sub-county schools did not add value to students' academic

performance. In addition, the students performed lower on exit than on entry. In summary, the average residual of all four categories of schools is -3.619. This shows that all the categories combined did not add value but subtracted it. Therefore, there was a negative value added by all the school categories.

These results agree with the study by (Nyangweso et al., 2019), which discovered that categorising public secondary schools alone was not an express indicator of value addition among general secondary students. According to Mbiti (2015), elite, prestigious, highly selective government secondary schools were common worldwide. While such schools were perceived to be academically superior, their reputations reflected selection admissions or value-added learning was unclear (Glennister et al., 2011; Mbiti & Lucas, 2014). The findings of this research on the relationship between secondary school categorization and value-added progress have clarified things. Value-added progress among public secondary school students did not wholly rely on the category of the school that a student was attending (Nyangweso et al., 2019).

The findings were like those in Britain. Researchers noted that raw examination scores might help identify those schools with poor examination results but are fundamentally flawed as a performance indicator (Perry, 2016a). The raw test and examination scores tell us more about the prior academic ability of a school's pupils than about the performance of schools per se (Ray, Evans, & McCormack, 2009). Because they reveal little about a school's performance, there is no reason for using these raw ratings in the yearly Performance Tables. (Taylor & Nguyen, 2006) Moreover, they may provide misleading information if used to indicate changes in a school's performance over time, as changes in examination performance may result from changes in the characteristics of the relevant pupil cohort. Finally, they may be unrelated to how a school performs (Caroline Perry, 2013).

However, the studies by Taylor & Nguyen (2006) disagree with the findings of this study. They contend that the value-added score reported for all publicly financed secondary schools in England was a flawed gauge of academic performance. Factors outside the school's control accounted for a substantial proportion of the variation in the value-added score between schools. Several student-related elements were considered, including the number of students receiving free or reduced-price meals at school and the percentage of allowed absences., and the proportion of the value-added score related to several school characteristics, such as admissions policy and subject specialisation. Therefore, there is a need to identify the determinants of the value added to pupils to ascertain the influence of the school and make the measure credible (Brown & Hara, 2016; Dean, 2015; McAffrey et al., 2016; Phuoc et al., 2020; Polcyn, 2016;). These studies' results were more realistic and reliable because they were comparable to those from other parts of the world.

4.5 Value Addition to Student's Talents by Public Secondary Schools of Different categories in Nandi County

Wilcoxon Signed-Rank Test tested the hypotheses at a $P < 0.05$. A P – value less than the stated significant value indicated the dependent sample means were different. If the P -value is higher than the desired level, the mean of the dependent variables is the same. The Wilcoxon Signed-Rank test bases its interpretation on the value of Z . The sign of Z was considered negative or positive. In the case of value addition, if P was less than the stated significant value of 0.05, and a positive Z value, it indicated a significant positive change. Therefore, there was value addition in talents between primary and secondary.

On the other hand, suppose P 's value was less than the stated significant value, and the value of Z was negative. This indicated a negative change and, therefore, no value

addition to the primary talent by the secondary education system. There was no change if the P-value was higher than the desired level. To determine value addition, the researcher tested the significant difference in participation at primary and secondary schools in various talents, i.e., football, volleyball, basketball, racket games, swimming, athletics, music, drama, and netball. These were done for each school category, i.e., National, Extra County, County, and Sub-County.

4.5.1 Value Addition on Football by Public National, Extra County, County, and Sub-County Public National Secondary Schools in Nandi County

Wilcoxon signed-rank test tested the following hypotheses:

H₀₁: There is no statistically significant value addition on student participation in football by Public National, Extra County, County and Sub-County Secondary schools in Nandi County.

The Wilcoxon signed-rank test findings are presented in Tables 4.23 and 4.24.

Table 4.23 Test statistic- Football for National, Extra County, county, and Sub-County Public Secondary Schools

School category	Z	Asymp. sig (2-tailed)	Median primary	Median secondary
National	-.689	.491	2.00	2.00
Extra County	-1.285	.199	2.00	2.00
County	-4.194	.000	1.00	2.00
Sub-county	-1.583	.113	2.00	1.00

Source: Field data (2018)

Table 4.24 Wilcoxon Rank – Football for National, Extra County, county, and sub-county schools

School category	VAR2 –VAR1	Rank	N	Mean rank	Sum of ranks
National	Football secondary -	Negative Ranks	22 ^b	57.59	1267.00
		Positive Ranks	52 ^c	29.00	1508.00
	Football primary	Ties	132 ^d		
		Total	206		
Extra County	Football secondary –	Negative Ranks	73 ^b	75.19	2406.00
		Positive Ranks	32 ^c	43.27	3159.00
	Football primary	Ties	146 ^d		
		Total	251		
County	Football secondary-	Negative Ranks	62 ^b	96.21	59.65
		Positive Ranks	126 ^c	93.66	11801
	Football primary	Ties	144 ^d		
		Total	332		
Sub-county	Football secondary –	Negative Ranks	56 ^b	66.85	3743.50
		Positive			
	Football Primary	Ranks	57 ^c	47.32	2679.50
		Ties	251 ^d		
		Total	364		

a school category

b football secondary < Football primary

c football secondary > Football primary

d football secondary = Football primary

A Wilcoxon signed-rank test revealed no significant change between football participation in secondary and primary school involvement by National schools. $Z = -.689$, $P = .491$, median primary = 2, median secondary = 2, negative ranks (52) and positive ranks (22). These results show that participation in football in primary and secondary was not significant. Therefore, there was no value addition by National secondary schools on football. A Wilcoxon signed-rank test for Extra - County schools showed no significant difference in football participation in primary and secondary school levels, $Z = -1.285$, $P = .199$, negative ranks (73), positive ranks (32). The median for both primary and secondary schools' football participation was 2.00. The results showed no value addition in football by different Extra-County schools, so the null hypothesis was accepted (Table 4.24). Wilcoxon signed-rank test results for county

schools indicated a significant difference, $Z = -4.194$, $P = .000$, negative (62) and positive (126). The median score for the primary was 1.00, and secondary football participation was 2.00, showing that most students at primary participated up to the sub-county level. Therefore, there was a significant change in performance between primary and secondary school participation ($P = .000$). The null hypothesis is rejected because $P (.000)$ was less than .05. This shows that county schools added value to student participation in football.

Sub-county secondary schools showed no significant participation in football at the secondary level. Compared to primary $Z = 1.583$, $P = .113$, negative ranks (56), and positive (57), the Median of football involvement at the primary level was 2.00 compared to 1.00 at the secondary level. The median of 2 showed that most students at primary school participated up to the sub-county level. In contrast, the median of 1 at secondary school showed that most learners did not participate in football beyond the primary school level. The null hypothesis was accepted because $P (.113)$ was higher than .05. Therefore, there was no value addition by public sub-county secondary schools.

Therefore, National schools did not add value to student participation in football, $Z = -.689$, $P = .491$, mean ranks; positive (22), negative (52); Median, primary (2.00), secondary (2.00). Extra county secondary schools did not add value to student participation in football; $Z = -1.285$, $P = .199$, ranks; positive (22), negative (52). County schools added value to student participation in football. $Z = -4.194$, $P = .000$, ranks; positive (126), negative (62), Median; primary (1.00), Secondary (2.00). Sub-county schools did not add value to student participation in volleyball. $Z = -1.583$, $P = .113$, Median; Primary (2.00), secondary (1.00), ranks; positive (57), negative (56).

In conclusion, county schools added value to football participation, whereas National, Extra- County, county, and sub-county did not add value. Therefore, national schools, Extra- country and sub-county schools should put measures in place to encourage the participation of students in football. Kenyan secondary schools have produced some of the world's best footballers; ex-Harambee Stars striker Dennis Oliech and midfielder McDonald Mariga were products of Kamukunji High School-then, famously known as the 'Golden Boys'. However, whereas some of these talented players play professionally after completing their o-levels, a considerable number give up because of a lack of structures to nurture their talents. These results agree with the study that school policies toward students' participation in co-curricular activities are somewhat ambivalent (Muthike, Mwaruvie, & Mbugua, 2017).

Globally some countries have realized the importance of co-curriculum, which has enhanced the review of their education system to ensure early identification of their students' talents. These have facilitated an excellent environment for tapping, nurturing, and developing skills from a tender age. This Endeavour has borne fruits by producing a mass pool of sports personalities, thus developing careers for thousands of citizens. A classic example is Brazil which has produced many renowned professional footballers playing their trade across elite European clubs. They earn their country's foreign exchange through monies repatriated back to their county (Michael, 2012). In Kenya, education plays a crucial role in determining one's vocation. Therefore, schools should move away from focusing on academics to nurture student talents for a lifelong learning approach. This will encourage them to get employment outside the education system (Michael, 2012; Muthike et al., 2017).

4.5.2 Value Addition on Volleyball Participation by Public National Secondary Schools in Nandi County

Wilcoxon's signed-rank test tested the following hypotheses.

H₀₂: There is no statistically significant value addition on Public National, Extra County, County and Sub-County Secondary Schools' volleyball participation in Nandi County.

The results are shown in Tables 4.25 and 4.26

Table 4.25 Test statistic– Volleyball for National, Extra County, County, and Sub-County Public Secondary Schools

School category	Z	Asymp. sig (2-tailed)	Median primary	Median secondary
National	-7.061	.000	1.00	2.00
Extra County	-8.638	.000	1.00	2.00
County	-7.512	.000	1.00	2.00
Sub-county	-6.195	.000	1.00	2.00

Source: Field data (2018)

Table 4.26 Wilcoxon Rank – Volleyball for National, Extra County, County, and Sub-County Public Secondary Schools

School category	VAR2 –VAR1	Rank	N	Mean rank	Sum of ranks
National	Volleyball secondary - Volleyball primary	Negative Ranks	6 ^b	41.50	249.00
		Positive Ranks	72 ^c	39.33	2832.00
		Ties	128 ^d		
		Total	206		
Extra County	Volleyball secondary – Volleyball primary	Negative Ranks	7 ^b	50.36	352.50
		Positive Ranks	105 ^c	56.91	5975.50
		Ties	139 ^d		
		Total	251		
County	Volleyball secondary- Volleyball primary	Negative Ranks	35 ^b	77.71	2720
		Positive Ranks	135 ^c	87.52	11815
		Ties	162 ^d		
		Total	332		
Sub-county	Volleyball secondary – Volleyball Primary	Negative Ranks	28 ^b	78.32	2193.00
		Positive Ranks	114 ^c	69.82	7960.00
		Ties	222 ^d		
		Total			

	Total
a school category	364
b Volleyball secondary < volleyball primary	
c Volleyball secondary > Volleyball primary	
d Volleyball secondary = Volleyball primary	

National school's results indicated a significant difference between participation in volleyball in primary and secondary, $Z = -7.061$, $P = .000$, Median; primary (1.00), secondary (2.00), ranks; negative (6), Positive (72) (Table 4.26). The positive ranks showed more participation in secondary school than primary school, as $P (.000)$ is less than the critical value of .05. Therefore, the rejection of the null hypothesis. There was a significant change in volleyball participation from primary to secondary schools. Therefore, national schools added value to student participation in volleyball.

There was a significant difference in primary volleyball participation for Extra County schools compared to involvement in the secondary level, $Z = -8.638$, $P = .000$, median; primary (1.00), secondary (2.00), ranks; negative (7) and positive (105). The median showed that most of the students at primary did not participate beyond the school level, whereas secondary levels participated up to the sub-county levels. The difference in participation was significant at $P = .000$ (Table 4.26). The significant P value showed that Extra- County schools added value to volleyball participation, thus rejecting the null hypothesis.

Wilcoxon signed-rank test results for county schools indicated a significant difference. $Z = -7.512$, $P = .000$, median; Primary (1.00), secondary (1.00), ranks; negative (35), positive (135), The Median of 1 at primary and 2 at secondary showed that most students at the secondary level participated in volleyball up to the sub-county level. In contrast, most did not participate beyond the school level at primary. Therefore, there was a significant change, $P = .000$. This meant that county schools added value to volleyball participation. Sub-county secondary schools showed a significant difference

in participation in volleyball in secondary compared to primary. $Z = -6.195$, $P = .000$, Median; Primary (1.00), secondary (2.00), ranks; negative (28), positive (114). The median for primary (1.00) showed that most pupils did not participate in volleyball beyond the school level. Simultaneously, the median (2) for secondary indicated that most students participated up to the sub-county level. A $P (.000)$ is less than .05, and therefore, there was value addition by sub-county schools on volleyball. Thus, the rejection of the null hypothesis (Tables 4.26 and 4.27).

In summary, National schools added value to volleyball, $Z = -7.061$, $P = .000$ ranks; positive (72), negative (6); Media, primary (1.00), secondary (2.00). Extra county secondary schools added value; $Z = -8.638$, $P = .000$, ranks; positive (105), negative (7). County schools added value to volleyball. $Z = -7.512$, $P = .000$). Ranks; positive (114), negative (28), Median; primary (1.00), Secondary (2.00). Sub-county schools also added value to student participation in volleyball. $Z = -6.195$, $P = .000$, Median; Primary (1.00), secondary (2.00), ranks; positive (114), negative (28).

All four categories of schools added value to student participation in volleyball. These results agree that Nandi County schools have done well in volleyball, especially Cheptil boys and girls. Non-academic talents are recognized worldwide as relevant ingredients of quality education, which goes a long way in nurturing a healthy and economically viable society. However, implementing any educational program requires resources and materials critical to learning. Without the resources and a curriculum implementation component, no meaningful teaching and learning occur (Isaac, Kimengi, Kiptala, & Okero, 2014; Ndirangu, 2015). Therefore, schools should increase their resource allocation to support students in developing this talent.

4.5.3 Value Addition to Student Participation in Basketball by Public National, Extra County, County, and Sub-county Secondary Schools in Nandi Count

Wilcoxon signed test tested the hypotheses to determine value addition by National, Extra County, County, and Sub-County public secondary schools in Nandi County.

H0₃: There is no statistically significant value addition on student participation in Basketball by Public National, Extra- County, County and Sub-County Secondary Schools in Nandi County

Table 4.27 Test Statistic – Basketball for National, Extra County, County, and Sub-County Public Secondary Schools

School category	Z	Asymp. sig (2-tailed)	Median primary	Median secondary
National	-.5.281	.000	1	2
Extra County	-4.558	.000	1	2
County	-5.408	.000	1	2
Sub-county	-7 .286	.000	1	2

Source: Field data (2018)

Table 4.28 Wilcoxon Rank-Basketball for National, Extra-County, County, and Sub-County Schools

School category	VAR2 –VAR1	Rank	N	Mean rank	Sum of ranks
National	Basketball secondary - Basketball primary	Negative Ranks	1 ^b	9.00	9.00
		Positive Ranks	36 ^c	19.28	694.00
		Ties	169 ^d		
		Total	206		
Extra County	Basketball secondary – Basketball primary	Negative Ranks	3 ^b	20.01	79.50
		Positive Ranks	37 ^c	26.50	3575.50
		Ties	211 ^d		
		Total	251		
County	Basketball secondary-basketball primary	Negative Ranks	10 ^b	40.59	656.50
		Positive Ranks	76 ^c	66.65	11815
		Ties	246 ^d		
		Total	332		

Sub-county	Basketball secondary – Basketball Primary	Negative Ranks	7 ^b	36.74	253.50
		Positive Ranks	80 ^c	44.69	3575.00
		Ties	277 ^d		
		Total	364		

a school category

b Basketball secondary < Basketball primary

c Basketball secondary > Basketball primary

d Basketball secondary = Basketball primary

A Wilcoxon signed-rank results for the National schools' basketball showed a significant difference, $Z = -5.281$, $P = .000$, median; primary =1, secondary =2, ranks; negative = 1, positive =36 (Tables 4.27,4.28). There was a significant positive change in secondary-level participation in Basketball. The $P (.000)$ value is less than .05; therefore, there was a value addition to Basketball by National schools, thus rejecting the null hypothesis. A Wilcoxon signed-rank results for Extra-County showed a significant difference, $Z = -4.558$, $P = .000$, median; primary (1.00), secondary (2.00), positive ranks (37) was higher than the negative ranks (3). This implies that most students participated more in basketball at the secondary level (Table 4.28). Therefore, $P = .000$ leads to the rejection of the null hypothesis, showing that Extra – county schools added value to students in basketball.

A Wilcoxon signed-rank results for County secondary schools showed a significant difference, $Z = -5.408$, $P = .000$, median; primary (1.00), secondary (2.00). The positive rank (76) was higher than the negative (10), which showed that most students participated in basketball at the secondary level. Therefore, basketball significantly changed ($P = .000$), thus value addition. A Wilcoxon signed-rank test for sub-county schools elicited significant results, $Z = -7.286$, $P = .000$, median; primary (1.00), Secondary (2.00), ranks; negative (7), positive (80). A significant positive change in basketball participation $P (.000)$ led to rejection of the null hypothesis. Sub-county schools, therefore, added value to student participation in basketball.

Therefore, National, Extra- County, and sub-county schools added value to student participation in basketball. National; $Z= -5.281$, $P= .000$, median; primary =1, secondary =2, ranks; positive =36, negative = 1. National schools added value, Extra-County; $Z= -4.558$, $P= .000$, median; primary (1.00), secondary (2.00), positive ranks (37) were higher than the negative ranks (3). Extra -County schools added value to basketball participation. County; $Z= -5.408$, $P = .000$, median; primary (1.00), secondary (1.00). The positive ranks (76) were higher than the negative ranks (10). County schools added value to basketball participation. Sub-county; $Z=-7.286$, $P =.000$, median; primary (1.00), Secondary (2.00), ranks; positive (80), negative (70). There was value addition by sub-county schools on basketball.

All the categories of schools added value to student participation in basketball. These results show that basketball is one of the talents schools should encourage by allocating adequate resources and enforcing the participation of all the students. There was value addition in basketball in all the school categories in Nandi County, but the participants were few. These findings agree with studies that reported that co-curricular activities provide young people with the opportunity for exemplary academic performance and personal development. In co-curricular activities, young people capture the chance for satisfaction, self-development, emotional management, and leadership. Through involvement in co-extra-curricular activities, young people become effective coaches and mentors later. Students' participation in co-curricular activities is vital in creating a culture of active involvement, loyalty, and pride in the institution and in pursuing academic success and personal development that mirror the extent of cognitive affective and psychomotor learning domains. The success of such endeavours requires human and financial resources support to coach, train, and provide the necessary facilities (Danganan et al., 2015; Waseka & Simatwa, 2016; NCPD, 2017; Ndirangu, 2015)

4.5.4 Value addition to student participation in Racket games by Public National, Extra County, county, and sub-county secondary schools in Nandi County

Wilcoxon signed-rank test tested the hypotheses to determine value addition on student participation in racket games by public National, Extra - County, County, and Sub-County secondary schools in Nandi County.

H0₄: There is no statistically significant value addition on student participation in Racket games by Public National, Extra-County, County and Sub-County Secondary Schools in Nandi County.

Table 4.29 Test statistic – Racket games for National, Extra County, County, and Sub- County Public Secondary Schools

School category	Z	Asp. sig (2-tailed)	Median primary	Median secondary
National	-5.129	.000	1.000	2.000
Extra County	-2.366	.018	1.000	2.000
County	-4.692	.000	1.000	2.000
Sub-county	-6.771	.000	1.000	2.000

Source: Field data (2018)

Table 4.30 Wilcoxon Rank – Racket games for National, Extra County, County, and Sub-County Public Secondary Schools

School category	VAR2 –VAR1	Rank	N	Mean rank	Sum of ranks
National	Racket games secondary - Racket games primary	Negative Ranks	2 ^b	14.00	28.00
		Positive Ranks	35 ^c	19.09	675.00
		Ties	169 ^d		
		Total	206		
Extra County	Racket games secondary – Racket games primary	Negative Ranks	6 ^b	14.35	120.50
		Positive Ranks	24 ^c	20.08	344.50
		Ties	221 ^d		
		Total	251		
County	Racket games secondary – Racket games primary	Negative Ranks	2 ^b	10.50	21.00
			30 ^c	16.90	507.00

		Positive Ranks	300 ^d		
		Ties	332		
		Total			
Sub-county	Racket games secondary – Racket games Primary	Negative Ranks	6 ^b	34.50	207.00
		Positive Ranks	71 ^c	39.38	2796.00
		Ties	287 ^d		
		Total	364		

a school category

b Racket games secondary < Racket games primary

c Racket games secondary > Racket games primary

d Racket games secondary = Racket games primary

A significant difference was observed by the Wilcoxon signed-rank test, $Z = -5.129$, $P = .000$. Median; primary (1.00), secondary (1.00). The difference between the mean of the

positive ranks (19.29) and the mean of the negative ranks (14.00) was statistically significant ($P = .000$), indicating that playing racket games in National schools added value. Consequently, the null hypothesis is disproved.

The Wilcoxon signed-rank test results for Extra - county schools indicated a significant difference, $Z = -2.366$, $P = .018$, median; primary (1.00), secondary (2.00). The positive mean rank (20.08) was more significant than the negative (14.08), showing a significant change. These results, therefore, show that there was value addition by Extra County on racket games participation.

The Wilcoxon signed-rank test results for county schools indicated a significant difference, $Z = -4.693$, $P = .000$, Median; primary (1.00), secondary (2.00). The positive mean rank (16.90) was higher than the negative rank (10.50). These results, therefore, indicate that there was value addition by public county secondary schools in racket games leading to the rejection of the null hypothesis. A Wilcoxon signed-rank results sub-county secondary schools showed a significant difference, $Z = -6.711$, $P = .000$. The median; was primary (1.00) and secondary (2.00). The mean of the positive ranks (39.38) was higher than the negative ranks (34.50). These results showed that Public

sub-county secondary schools added value to students in racket games. Hence, a rejection of the null hypothesis.

In summary, National schools added value to racket games participation, $Z = -5.129$, $P = .000$. Median: primary (1.00), secondary (2.00), mean ranks; positive (19.29), Negative (14.00). Extra County schools added value to students' participation in racket games. $Z = -2.366$, $P = .018$, median; primary (1.00), secondary (2.00), mean ranks; positive (20.08), negative (14.35). County schools added value to the student in racket games., $Z = -4.693$, $P = .000$, median; primary (1.00), secondary (2.00). Mean ranks; positive (16.90), negative (10.50).

Sub-county schools added value to racket game participation. $Z = -6.711$ $P = .000$, median: primary (1.00), secondary (1.00), mean ranks; positive (39.38), negative (34.50).

Participation in sports benefits students in secondary schools by making them physically fit and healthy. Competitive sports promote unity among students from different schools. Participation in sports also leads to connectedness to school. This protects students against violence, risky sexual behaviour, and drug abuse and controls the dropout rate. Similarly, Mandox and Prinz (2003) noted that students who are more connected to school experience positive life outcomes and have lower rates of delinquency, drug abuse, and school dropout. Properly connected individuals can get involved in positive activities in and outside of school time (Kamau, 2015; Myers et al., 2013)

4.5.5 Value Addition to Student's Participation in Swimming by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County

Wilcoxon signed-rank test tested the following hypotheses:

H₀: There is no statistically significant value addition on student participation in swimming by Public National, Extra County County and Sub-County Secondary Schools in Nandi County

Table 4.31 Test statistic – Swimming for National, Extra County, County, and Sub-County Public Secondary Schools

School category	Z	Asp. sig (2-tailed)	Median primary	Median secondary
National	-11.606	.000	2.00	4.00
Extra County	-6.140	.000	1.00	2.00
County	-1.778	.075	1.00	1.00
Sub-county	-.857	.391	1.00	1.00

Source: Field data (2018)

Table 4.32 Wilcoxon Rank - Swimming for National, Extra County, County, and Sub- County Public Secondary Schools

School category	VAR2 –VAR1	Rank	N	Mean rank	Sum of ranks
National	Swimming secondary - Swimming primary	Negative Ranks	1 ^b	154.50	154.50
		Positive Ranks	175 ^c	88.12	15421.50
		Ties	30 ^d		
		Total	205		
Extra County	Swimming secondary – Swimming primary	Negative Ranks	4 ^b	38.00	152.00
		Positive Ranks	61 ^c	32.67	1993.00
		Ties	186 ^d		
		Total	251		
County	Swimming secondary – Swimming primary	Negative Ranks	7 ^b	27.93	195.50
		Positive Ranks	27 ^c	14.80	399.50
		Ties	298 ^d		
		Total	332		
Sub-county	swimming secondary – Swimming Primary	Negative Ranks	2 ^b	4.50	9.00
		Positive Ranks	5 ^c	3.80	19.00
		Ties	357 ^d		
		Total	364		

a school category

b swimming secondary < swimming games primary

c swimming secondary > swimming primary

d swimming secondary = swimming primary

A Wilcoxon signed-rank test results for national secondary schools showed a significant difference, $Z = -11.606$, $P = .000$, median; primary (2.00), secondary (4.00), ranks; positive (175), negative (1) mean ranks; positive (88.12), negative (154.50). The median showed that most students at the primary level participated up to the sub-county level. Most of the participants went up to the regional and secondary levels. Given that the P (.000) value is less than .05, there was value-addition by national schools, so the null hypothesis is rejected (Table 4.31).

A Wilcoxon signed-rank result for Extra County schools showed a significant $Z = -6.140$, $P = .000$, median; primary (1.00), secondary (1), ranks; positive (61), negative (4) mean ranks; positive (32.7), negative (38.00). A $P = .000$ was less than .05, showing a significant change in participation, and therefore the null hypothesis is rejected (Table 4.32). Extra-county schools added value to student participation in swimming. A Wilcoxon signed-rank results for county schools showed no significant difference, $Z = -1.778$, $P = .075$, median primary (1.00), secondary (1.00), ranks; positive (27), negative (7), mean ranks; negative (27.93) was greater than positive (14.80). The P -value (.075) was greater than the significant value (.05), leading to the acceptance of the null hypothesis. There was no value addition by county schools. A Wilcoxon signed-rank results for sub-county schools showed no significant difference, $Z = -.857$, $P = .391$, median; primary (1.00), secondary (1.00), mean ranks; negative (4.50), positive (3.80). The P -value (.391) was more significant than the critical value (.05), showing no significant change and no value addition. Therefore, the null hypothesis was accepted.

Therefore, National schools added value to student participation in swimming $Z = -11.606$, $P = .000$, median; primary (2.00), secondary (4.00), ranks; positive (175), negative (1), mean ranks; positive (154.50), negative (88.12), There was value addition

on swimming by Extra County schools. $Z = -6.140$, $P = .000$, median; primary (1.00), secondary (2), ranks; positive (61), negative (4), mean ranks; positive (32.68), negative (38.00).

County schools; No value addition on swimming. $Z = -1.778$, $P = .075$, median primary (1.00), secondary (1.00), ranks; positive (27), negative (7), mean ranks; positive (14.80), negative (27.93). Sub-county: There was no value addition by the sub-county public secondary school., $Z = -.857$, $P = .391$, median; primary (1.00), secondary (1.00), ranks; positive (5), negative (2), mean ranks; negative (4.50), positive (3.80). National and Extra County schools added value to student participation in swimming, whereas county and sub-county schools did not add value.

4.5.6 Value addition to students' participation in Athletics by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County

Wilcoxon's signed-rank test tested the following hypotheses.

H_0 : There is no statistically significant value addition on student participation in Athletics by Public National, Extra-County, County and Sub-County Secondary Schools in Nandi County.

Table 4.33 Test statistic– Athletics for National, Extra County, County, and Sub-county Public Secondary Schools

School category	Z	Asymp. sig (2-tailed)	Median Primary	Median secondary
National	-6.692	.000	1	2
Extra County	-9.442	.000	2	3
County	-9.7340	.000	1	2
Sub-county	-10.956	.000	2	3

Source; Field data (2018)

Table 4.34 Wilcoxon Rank - Athletics for National, Extra County, County, and Sub- County Public Secondary Schools

School category	VAR2 –VAR1	Rank	N	Mean rank	Sum of ranks
National	Athletics secondary -	Negative Ranks	9 ^b	40.32	362.00
		Positive Ranks	72 ^c	41.10	2959.00
	Athletics primary	Ties	125 ^d		
		Total	205		
Extra County	Athletics secondary -	Negative Ranks	7 ^b	50.00	350.00
		Positive Ranks	118 ^c	63.77	75725.00
	Athletics primary	Ties	126 ^d		
		Total	251		
County	Athletics secondary -	Negative Ranks	9 ^b	82.44	742
		Positive Ranks	139 ^c	73.99	10284.00
	Athletics primary	Ties	184 ^d		
		Total	332		
Sub-county	Athletics secondary -	Negative Ranks	9 ^b	109.06	981.50
		Positive Ranks	169 ^c	88.46	14949.50
	Athletics Primary	Ties	186 ^d		
		Total	364		

a school category

b Athletics secondary < Athletics primary

c Athletics secondary > Athletics primary

d Athletics secondary = Athletics primary

A Wilcoxon signed-rank test for National schools showed that participation in athletics was significantly different between secondary (median =2.00) and primary (median =1.00), $Z = -6.692$, $P = .000$, ranks; positive (72), negative (7), Mean ranks; positive (41.10), negative (40.32). There was a significant change, thus value addition and rejection of the null hypothesis. A significant difference was revealed by a Wilcoxon signed-rank test.; $Z = -3.926$, $P = .000$, median; Primary (2), secondary (3); ranks; positive (118), negative (7); mean ranks; positive (63.8), negative (50). The results showed a significant ($P = .000$) participation in athletics by secondary students compared to the primary involvement. The median of 2 in primary shows that most students participated up to the county level, whereas a median of 3 in secondary shows that most students participated up to the regional level. Therefore, there was value addition and, thus, a rejection of the null hypothesis.

Wilcoxon signed-rank test results for county schools showed a significant difference, $P = .000$, $Z = -9.7340$, median; primary (1.00), secondary (2.00), ranks; positive (139),

negative (9), mean ranks; positive (73.99), negative (82.44). A median of 1 at primary and 2 at secondary showed that most students at the primary level participated up to the sub-county level. In contrast, most secondary students participated up to the county level. Thus, the value was added, hence rejecting the null hypothesis.

A Wilcoxon signed test for sub-county schools showed that participation in athletics at the secondary level elicited a statistically significant change, $Z = -10.856$, $P = .000$. Median; primary (2), secondary (3), ranks; positive (169), negative (9), mean ranks; positive (88.46), negative (109.66). Performance between secondary and primary involvement is significantly different ($P = .000$). The median for the primary was 2.00, whereas the median for secondary school participation was 3.00. The median shows that most students at the secondary level participated up to the county level compared to the sub-county level at the primary. There was value addition and, thus, a rejection of the null hypothesis.

In summary, National schools added value to athletics. Median; primary (1.00), secondary (2), $Z = -6.692$, $P = .000$, ranks; positive (72), negative (9), Mean ranks; positive (41.10), negative (40.32). There was value addition by Extra-County schools, $P = .000$, $Z = 9.7340$, median; primary (1.00), secondary (2.00), ranks; positive (118), negative (7) mean ranks; positive (73.99), negative (82.44). County schools: County schools added value to student participation in athletics. $Z = -9.442$, $P = .000$, Median; primary (1.00), secondary (2.00), ranks; positive (139), negative (9), mean rank; negative (82.44), positive (73.99). Sub-county schools added value on participation in athletics, $Z = -10.856$, $P = .000$, median; primary (2), secondary (3), ranks; positive (169), negative (9), mean ranks; negative (109.06), positive (88.46). All the categories of schools added value to student participation in athletics.

4.5.7 Value Addition to Student Participation in Music by Public National, Extra County, County, and Sub-county Secondary Schools in Nandi County

H₀₇: There is no statistically significant value addition on Music by Public National, Extra -County, County and Sub- County Secondary Schools in Nandi County

Table 4.35 Test statistic – Music for National, Extra County, County, and sub-County Public Secondary Schools

School category	Z	Asymp. sig (2-tailed)	Median primary	Median secondary
National	-7.146	.000	1	3
Extra County	-	.000	1	4
	10.078			
County	-5.681	.000	1	2
Sub-county	-7.327	.000	2	3

Source: Field data (2018)

Table 4.36 Wilcoxon Rank –Music for National, Extra County, County, and Sub-County Public Secondary Schools

School category	VAR2 –VAR1	Rank	N	Mean rank	Sum of ranks
National	Music secondary	Negative Ranks	11 ^b	69.68	766.50
	-	Positive Ranks	102 ^c	55.63	5674.50
	Music Primary	Ties	93 ^d		
		Total	206		
Extra County	Music secondary	Negative Ranks	6 ^b	72.50	435.00
	-	Positive Ranks	146 ^c	76.66	11.193.00
	Music Primary	Ties	99 ^d		
		Total	251		
County	Music secondary	Negative Ranks	39 ^b	87.68	3419.50
	-	Positive Ranks	126 ^c	81.55	10275.50
	Music Primary	Ties	167 ^d		
		Total	332		
Sub-county	Music secondary	Negative Ranks	36 ^b	90.54	3259.50
	-	Positive Ranks	147 ^c	92.36	13576.50
	Music l Primary	Ties	181 ^d		
		Total	364		

a. School category

b. Music secondary < Music Primary

c. music secondary > Music Primary

d. music secondary = Music Primary

A Wilcoxon signed-rank results for National schools showed a significant difference, $Z = -7.146$, $P = .000$, median; primary (1.00), secondary (3.00), ranks; positive (102), negative (11), Mean ranks: negative (69.68), positive (55.63). The results showed that most students participated in music at the secondary up to county level compared to a majority who did not participate at the primary level. Therefore, public National secondary schools added value to student participation in music on music. A Wilcoxon signed-rank test results for Extra - county schools showed a significant difference, $Z = -10.078$, $P = .000$, median; primary (1.00), secondary (2.00), ranks; positive (146), negative (6), Mean ranks; positive (76.66), negative (72.50). These results indicated that most of the students at the secondary participated in music up to the sub-county level compared to the majority's non-participation at the primary level. $P = .000$ indicates that there was a significant difference between participation in primary and

secondary school participation. Therefore, there was value addition on music by Extra-County schools, thus rejecting the null hypothesis.

A Wilcoxon signed-rank tests results for county schools showed a significant difference, $Z = -5.681$, $P = .000$, median; primary (1.00), secondary (2.00), ranks; positive (126), negative (39), mean ranks; negative (87.68), positive mean rank (81.55).

A $P = .000$ indicates that the difference between primary and secondary school participation was significant. The median of 1 at primary shows that most students participated in music up to the sub-county level, whereas at the secondary level, most students participated at the county level. These results, therefore, showed that County schools added value to students' participation in music. A Wilcoxon signed test for sub-county schools showed that music participation at the secondary level elicited a statistically significant change, $Z = -10.856$, $P = .000$, median; primary (2.00), secondary (3.00). Ranks; positive (147), negative (36), mean ranks; positive (92.36), negative (90.54). These showed that most students in secondary participated up to the county level compared to the sub-county level at primary. There was value addition leading to the rejection of the null hypothesis.

Therefore, National schools added value to student participation in music, $Z = -7.146$, $P = .000$, median; primary (1.00), secondary (3.00), ranks; positive (102), negative (11), Mean ranks; negative (69.68), positive (55.63). Extra County schools. There was value addition by this category of schools., $Z = -10.078$, $P = .000$, median; primary (1.00), secondary (2.00). Ranks: positive (146), negative (11), mean rank; negative (72.50), positive (81.55). County schools: added value to student participation in music. $Z = -5.681$, $P = .000$, median; primary (1.00), secondary (2.00), ranks; positive (126), negative (39), mean rank: negative (87.68), positive (81.55).

Sub-county schools: There was value addition by this category of schools on student participation in music. $Z = -10.856$, $P = .000$, median; primary (2.00), secondary (3.00), ranks; positive (147), negative (36), mean rank (negative (90.54), positive (92.36).

All the categories of schools added value to participation in music. This shows that it is widespread and can create alternative pathways for students. The availability of facilities and materials for use in co-curricular activities not only encourages students to get involved in the activities but also encourages teachers. For example, co-curricular activities in Kenyan secondary schools are not well developed. The government's responsibility is to provide funds for co-curricular-related materials. Inadequate sporting materials hinder many students from being involved in co-curricular activities; in the end, they give up if the government cannot provide adequate materials with the burden of provision of the same is shifted to the parents (Isaac et al., 2014; Ngeti, Bulinda, & Peter, 2018)

4.5.8 Value Addition to Student's Participation in Drama by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County

Wilcoxon signed-rank test tested the following hypotheses:

H_0 : There is no statistically significant value addition on Drama by public National, Extra County, County and Sub- County Secondary schools in Nandi County

Table 4.37 Test statistic – Drama for National, Extra County, County, and Sub-county Public Secondary Schools

School category	Z	Asymp. Sig (2-tailed)	Median primary	Median secondary
National	-2.628	.009	1	2
Extra County	-6.379	.000	1	2
County	-4.542	.000	1	2
Sub-county	-5.866	.000	1	2

Table 4.38 Wilcoxon Rank – Drama for National, Extra County, County, and Sub-county Public Secondary Schools

School category	VAR2 –VAR1	Rank	N	Mean rank	Sum of ranks
National	Drama secondary	Negative Ranks	12 ^b	19.42	23300
		Positive Ranks	29 ^c		
	Drama primary	Ties		21.66	628.00
		Total	165 ^d 205		
Extra County	Drama secondary	Negative Ranks	4 ^b	56.88	227.50
		Positive Ranks			
	Drama primary	Ties	71 ^c	36.94	2622.50
		Total	176 ^d 251		
County	Drama secondary	Negative Ranks	21 ^b	67.21	1411.50
		Positive Ranks			
	Drama primary	Ties	85 ^c	50.11	4259.50
		Total	226 ^d 332		
Sub-county	Drama secondary	Negative Ranks	18 ^b	58.47	1052.50
		Positive Ranks	90 ^c		
	Drama Primary	Ties	256 ^d	53.71	4833.50
		Total	364		

a school category

b Drama secondary < Drama primary

c Drama secondary > Drama primary

d Drama secondary = Drama primary

The Wilcoxon signed-rank test results for national schools indicated a significant positive difference, $Z = -2.628$, $P = .009$. Ranks; positive (29), negative (12), Mean ranks; positive (21.66), negative (19.42), median; primary (1), secondary (2). The significant P value (.009) was less than the significant value (.05), thus rejecting the null hypothesis. There was a value - addition to student participation in drama. The Wilcoxon signed-rank test Extra-County schools' results indicated a significant difference, $Z = -6.379$, $P = .000$, median; primary (1.00), secondary (2), ranks; positive (71), negative (4), Mean ranks; negative rank (56.88), positive ranks (36.94). These

results, therefore, showed that Extra-County public secondary schools in Nandi County added value to student participation in drama. Thus, the null hypothesis is rejected. The Wilcoxon signed-rank test results for county schools indicated a significant difference, $Z = -3.584$, $P = .000$, median primary (1), secondary (2), ranks; positive (85), negative (21), mean ranks; negative mean rank (67.21), positive mean rank (50.11). Given that $P = .000$ is less than the significant value (.05), county schools added to student participation in drama. Wilcoxon signed-rank test for sub-county schools indicated a significant difference, $Z = -5.866$, $P = .000$, median; primary (1), secondary (2), ranks; positive (90), negative (18), mean ranks; positive (53.71), negative (58.47). These results showed a significant change favouring involvement at the secondary level and hence value addition and rejection of the null hypothesis.

Therefore, National schools added value to student participation in Drama, $Z = -2.628$, $P = .009$, $P = .009$, median; primary (1.00), secondary (2.00), ranks; positive (29), negative (12), mean ranks; negative (19.42), positive (21.66). Extra-county schools added value in Drama, $Z = -6.379$, $P = .000$, median; primary (1.00), secondary (.000), ranks; positive (71), negative (4), mean ranks; negative (56.88), positive (36.94) County schools: There was value addition, by county schools. $Z = -3.584$, $P = .000$, median; primary (1.00), secondary (2.00), ranks; positive (85), negative (21), mean ranks; negative (67.21), positive (50.11). Sub-county: Sub-County schools added value to student participation in Drama. $Z = -5.866$, $P = .000$, median; primary (1.00), secondary (2.00), ranks; positive (90), negative (18), mean ranks; negative (58.47), positive (53.71)

4.5.9 Value Addition to Student Participation in Netball by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County

H_0 : There is no statistically significant value addition in Netball by Public National, Extra County, County and Sub-County Secondary Schools in Nandi County.

Table 4.39 Test Statistic – Netball for National, Extra County, County, and Sub-county Public Secondary Schools

School category	Z	Asymp. sig (2-tailed)	Median primary	Median secondary
National	-.352	.725	1	1
Extra County	-1.227	.220	1	1
County	-3.584	.000	1	2
Sub-county	-.657	.511	1	1

Table 4.40 Wilcoxon Rank – Netball for National, Extra County, County, and Sub-County Public Secondary Schools

School category	VAR2 –VAR1	Rank	N	Mean rank	Sum of ranks
National	Netball secondary – Netball primary	Negative Ranks	22 ^b	24.14	385.50
		Positive Ranks	18 ^c	17.52	434.50
		Ties	166 ^d		
		Total	206		
Extra County	Netball secondary – Netball primary	Negative Ranks	30 ^b	35.78	1073.50
		Positive Ranks	41 ^c	36.16	1482.50
		Ties	180 ^d		
		Total	251		
County	Netball secondary – Netball primary	Negative Ranks	40 ^b	28.35	25371.50
		Positive Ranks	14 ^c	26.07	2922.50
		Ties	269 ^d		
		Total	332		
Sub-county	Netball secondary – Netball Primary	Negative Ranks	40 ^b	53.14	1134.00
		Positive Ranks	49 ^c	51.79	351
		Ties	278 ^d		
		Total	364		

a school category

b Netball secondary < Netball primary

c Netball secondary > Netball primary

d Netball secondary = Netball primary

A Wilcoxon signed-rank test results for national secondary schools showed no significant difference in student participation in netball, $Z = -.352$, $P = .725$, median; primary (1.00), secondary (1.00), ranks; positive (18), negative (22), mean ranks; negative (24.14), positive (17.52). These results show that the national public schools

did not add value to student participation in netball. A Wilcoxon signed-rank results for Extra- County schools showed no significant difference, $Z = -1.227$, $P = .220$, median; primary (1.00), secondary (1), ranks: positive (41), negative (30), mean ranks; positive (35.78), negative (36.16). $P (.220)$ is greater than .05, showing no significant change in participation and, therefore, accepting the null hypothesis.

A Wilcoxon signed-rank results for county schools showed a significant difference, $Z = -3.584$, $P = .000$, median; primary (1.00), secondary (2.00), ranks; positive (14), negative (40) mean ranks; ranks; negative (28.35), positive (26.07).

The P-value (.000) is less than the critical value (.05) and, therefore, value addition. A Wilcoxon signed-rank results for sub-county schools showed no significant difference, $Z = -.657$, $P = .511$, median; primary (1.00), secondary (1.00), ranks; positive (55), negative (49), mean ranks; negative (51.79), positive (53.14). The P-value (.511) is greater than the critical value (.05), showing no significant change and no value addition. Therefore, the null hypothesis is accepted.

In summary, National schools did not add value to student participation in netball $Z = -.352$, $P = .725$, median; primary (1.00), secondary (1.00), ranks; positive (18), negative (22), mean ranks; negative (24.14), positive (17.52). Extra-county schools: There was no value addition in Netball, $Z = -1.227$, $P = .220$, median; primary (1.00), secondary (1), ranks; positive (41), negative (30), mean ranks; negative (36.16), positive (35.78). County schools: There was a value addition to students' participation in netball by county schools. $Z = -3.584$, $P = .000$, median; primary (1.00), secondary (2.00), ranks; positive (14), negative (30), mean ranks; negative (28.35), positive (25.07). Sub-county: Sub- County schools did not add value to student participation in Netball. $Z = -.657$, $P = .511$, median; primary (1.00), secondary (1.00), ranks; positive (55), negative (49), mean ranks; negative (51.79), positive (53.14).

4.6 Value addition on students' life skills by Public National, Extra County, County, and Sub County secondary schools in Nandi County the study consisted of 10 life skills: critical thinking, problem-solving, self-esteem, coping with emotions and stress, self-awareness, empathy, interpersonal relationship, communication, decision-making, and teamwork. Data was collected using a set of questionnaires for each life skill.

Each life skill questionnaire had several items, i.e., Critical thinking (20 items), communication (23 - items), coping with emotions and stress (15 items), self-awareness (12 - items), Empathy (15 - items), interpersonal relationship (18 items), and teamwork (8 - items). Each was coded and summarized by summing up each life skill's responses, thus converting them to an interval scale. One-way ANOVA was then used to determine various school categories' participation.

4.6.1 Value Addition on Critical thinking by Public National, Extra County, County, and Sub-County Public Secondary Schools in Nandi County

H₀₁: There is no statistically significant value addition on critical thinking by public National, Extra County, County, and Sub County secondary schools in Nandi County

Table 4.41 Descriptive statistics for Critical – thinking

	N	Mean	Std. Devi- ation	Std . error	95% Confidence Interval			
					Lower Bound	Upper Bound	Mini- mum	Maxim- um
National	206	74.18	9.69	.68	72.85	75.51	30.00	93.00
Extra County	251	63.38	13.45	.85	61.71	65.05	27.00	90.00
County	332	57.98	12.80	.70	56.60	59.36	32.00	83.00
Sub- county	364	30.63	2.82	.15	30.92	30.92	26.00	39.00
Total	1153	53.42	19.35	.57	52.30	54.53	26.00	93.00

Table 4.41 shows differences in critical thinking among the four categories of public secondary schools. The mean was 74.2 (National), 63.4 (Extra County), 58 (county), and 31 (Sub- County). The mean differences implied that National schools added more value to critical thinking, followed by Extra- County, county, and sub-county. However, these did not show whether these means were significantly different; therefore, using the F ratio was significant for confirmation.

Table 4.42 ANOVA Results for Critical thinking

	Sum of squares	df	Mean square	F	Sig
Between Groups	309660.584	3	103220.195	975.366	.000
Within groups	121595.421	1149	105.825		
Total	431256.005	1152			

Table 4.42 shows that there is a statistically significant difference between the means of the different categories of schools (National, Extra- County, county, sub-county) at $F(3,1149) = 975, P(.000) < .05$. The administration of Bonferroni's post hoc was to show the difference—results in Table 4.43.

Table 4.43 Bonferroni Multiple Comparisons of Critical thinking

((I) category of school	(J)category of school	Mean Difference(I-J)	Std. error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
National	Extra county	10.79714*	.96713	.000	8.2412	13.3531
	County	16.20070*	.91240	.000	13.7894	18.6120
	Sub-county	43.55049*	.89692	.000	41.1801	45.9209
Extra county	National	-10.79714*	.96713	.000	13.3531	-8.2412
	County	5.40355*	.86045	.000	3.1295	7.6776
	Sub-County	32.75335*	.84401	.000	30.5228	34.9839
County	National	-16.20070*	.91240	.000	18.6120	13.7894
	Extra County	-5.40355*	.86045	.000	-7.6776	-3.1295
	Sub-county	27.34979*	.78070	.000	25.2865	29.4131
Sub-county	National	-43.55049	.89692	.000	45.9209	41.1801
	Extra County	-32.75335*	.84401	.000	34.9839	30.5228
	County	-27.34979	.78070	.000	29.4131	25.2865

* The mean difference is significant at a 0.05 level.

Bonferroni results (Table 4.43) show that the National school's mean differed from; the P values for Extra County (10.8), County (16.2), and Sub-County (43.6) were all 0.000. Extra county and County differed (5.4, P=.000), Sub-County and County differed (32.8, P=.000), and County differed from sub-county (27.4, P=.000).

Therefore, in Critical thinking, there was a significant mean difference between the categories of schools, $F(3,1149) = 975$, $P(.000) < .05$. Bonferroni's post hoc results revealed substantial differences in critical thinking in all categories of schools. National schools differed significantly from Extra-County, county, and sub-county, $P = .000$, with a Mean difference of 10.8, 16.2, and 43.6, respectively. Extra-county and county showed a significant difference at $P = .000$, with mean differences of 5.4 and 32.8.

County and sub-county had statistically significant differences at $P = .000$ and a mean difference of 27.4.

There was value - addition by all the categories of schools on critical thinking, led by National schools, followed by Extra- County, county, and sub-county schools. The ANOVA results show a significant $P = .000$. Therefore, the means of the National schools (74.2), Extra- County (63.4), county (58), and sub-county (31.6) are significantly different. Critical thinking as a valued skill in society applies to all facets of work and academics. Teaching critical thinking effectively in the classroom is vital for the learners' development of other requisite skills. These are higher concentration, analytical abilities, and improved thought processing. It also enables the recipients to compare evidence, evaluate competing claims, and make sensible decisions. ((Chu, Reynolds, Tavares, Notari, & Lee, 2016; Coe et al., 2014; Dhingra & Chauhan, 2017; Kennedy & Odell, 2014; Lata & Devika, 2013; Ranjani, 2015; Singh & Gera, 2015a). Secondary schools must provide students with critical thinking skills requirements of the fast-changing world and should therefore adopt learner-centred pedagogies. Know what students have learned through effective assessment instruments. Enhancing and assessing critical thinking skills will help students come out of the current system, whose focus is passing national examinations. This has created learners who are good at reading, memorizing knowledge, and recalling the same knowledge only relevant to exams but poor at individualized critical thinking (Dhingra & Chauhan, 2017; Githui, 2019; Kaviti, 2018; Ministry of Education, 2015; Shaluhayah et al., 2021; Tirri, 2016; UNESCO, 2015b)

4.6.2 Value Addition on Self-esteem by Public National, Extra County, County, and Sub-county Public Secondary Schools in Nandi County

H₀₂: There is no statistically significant value addition on self-esteem by public National, Extra County, county, and sub-county secondary schools in Nandi County

Table 4.44 Descriptive Statistics for Self-esteem

	N	Mean	Standard Deviation	Std. error	95% confidence interval of the mean			
					Lower Bound	Upper bound	Minimum	Maximum
National	206	22.80	4.84	.34	22.14	23.47	14.00	32.00
Extra county	251	22.62	4.73	.30	22.01	23.21	13.00	40.00
County	332	22.28	4.73	.26	21.77	22.79	15.00	44.00
Sub-county	364	22.68	4.51	.24	22.21	23.14	11.00	36.00
Total	1153	22.57	4.68	.14	22.30	22.84	11.00	44.00

Table 4.44 showed no difference in self-esteem means in the four categories of public secondary schools. The means were National (22.8), Extra County (22.6), county (22.7), and Sub-County (22.7). However, there was no indication that these means were significantly different; therefore, the use of F ratio significance to confirm (Table 4.45).

Table 4.45 ANOVA Results for Self-esteem

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	42.947	3	14.316	.653	.581
Within Groups	25195.255	1149	21.928		
Total	25238.203	1152			

Table 4.45 shows that there was no statistically significant difference between the means of the different categories of schools at $F(3,1149) = 653, P(.581) > .05$. Therefore, because there was no statistically significant difference in means, all schools' categories did not add value to self-esteem.

All the categories of schools did not add value to self-esteem. The low value of the means of the four categories of schools attests to this. National schools (22.8), Extra-County (22.6), County (22.3) and sub-county (22.7). This means all the categories must ensure that students admitted to their schools improve their self-esteem.

4.6.3 Value Addition on Decision-making by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County

H₀₃: There is no statistically significant value addition on decision-making by Public National, Extra County, county, and sub-county secondary schools in Nandi County

Table 4.46 Descriptive Statistics for Decision-making

	N	Mean	Std deviation	Std. error	95% confidence interval for the mean			
					Lower Bound	Upper bound	Minimum	Maximum
National	206	52.19	6.79	.47	51.26	53.13	35.00	63.00
Extra county	251	51.61	6.04	.38	50.86	52.36	35.00	62.00
County	332	51.82	4.93	.27	51.29	52.35	39.00	64.00
Sub-county	364	52.74	5.64	.30	52.16	53.32	38.00	71.00
Total	1153	52.13	5.77	.17	51.80	52.47	35.00	71.00

Table 4.46 shows decision-making means among the four categories of public secondary schools. The means were National (52.2), Extra County (51.6), county (51.8), and Sub-County (52.7). However, the F ratio's significance indicates whether these means differ significantly (Table 4.47).

Table 4.47 ANOVA Results for Decision- making.

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	234.852	3	78.284	2.358	.070
Within Groups	38139.110	1149	33.193		
Total	38373.962	1152			

Table 4.47 showed that there was no statistically significant difference between the means of the different categories of schools at $F(3,1149) = 2.36$, $P(.070) > .05$.

Therefore, the means, National (52.2), Extra- County (51.6), county (51.8), and sub-county (52.7), did not differ significantly. These results show that all the categories of schools added the same value to the decision-making; none added more value than the other.

4.6.4 Value Addition on Problem-solving by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County

H_{04} : There is no statistically significant value addition on the problem-solving by public National, Extra County, county, and sub-county secondary schools in Nandi County.

Table 4.48 Descriptive Statistics for Problem-solving

	N	Mean	Std. Deviation	Std. error of the mean	95% Confidence Interval for Mean		
					Lower Bound	Upper Bound	Minimum Maximum
National	206	41.50495	2.20389	.36257	40.790	42.219726	26.00 51.00
Extra county	251	41.13945	2.52019	.34843	40.453	41.825732	26.00 57.00
County	332	41.09646	2.00577	.32961	40.448	41.744830	26.00 64.00
Sub-county	364	41.75275	2.27371	.27642	41.209	42.296328	26.00 56.00
Total	1153	41.38595	2.53550	.16302	41.066	41.705826	26.00 64.00

Table 4.48 shows decision-making means among the four categories of public secondary schools, which were National (41.5, Extra - County (41.1), county (41.1), and Sub-County (41.8). Again, the F- ratio significance interpretation (Table 4.49) determines whether these means differ significantly.

Table 4.49 ANOVA Results for problem-solving

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	94.975	3	31.658	1.033	.377
Within Groups	35204.278	1149	30.639		
Total	35299.252	1152			

Table 4.49 show that there is no statistically significant difference between the means of the National, Extra- County, county, and sub-county Public secondary schools in problem-solving, $F(3,1149) = 2.36$, $P(.377) > .05$. None of the four categories of schools added more value than the other. The means of the four categories of schools give evidence that they added the same value to problem-solving: National (41.5), Extra- County (41.1), County (41.1) and sub-county (41.8).

All the categories of schools should have instructional programs that are attractive and engaging to students. In addition, the career foci of their curriculum and classroom activities should stress active learning and problem-solving applications (Dhingra & Chauhan, 2017; Duerden et al., 2012; Nair & Fahimirad, 2019; Shek et al., 2021; Srivastava, 2019; Swapna & Nagarajan, 2021; Thakar & Modi, 2016).

4.6.5 Value addition on effective communication by Public National, Extra County, County, and Sub-County secondary schools in Nandi County

H₀₅: There is no statistically significant value addition on effective communication by public National, Extra County, county, and sub-county secondary schools in Nandi County.

Table 4.50 Descriptive Statistics for Effective Communication

	N	Mean	Std Deviation	Std. error	Confidence Interval for mean			
					Lower Bound	Upper Bound	Minimum	Maximum
National	206	40.21	8.89	.62	38.99	41.43	21.00	64.00
Extra county	364	43.73	8.44	.44	42.86	44.60	24.00	72.00
County	332	38.16	7.02	.39	37.40	38.92	24.00	60.00
Sub-county	251	37.97	6.92	.44	37.11	38.83	25.00	63.00
Total	1153	40.24	8.20	.24	39.77	40.72	21.00	72.00

Table 4.50 showed that the means for effective communications by the four categories of public secondary schools were National (40.2), Extra County (43.7), county (38.1), and Sub-County (38.0). Again, the F ratio interpretation will determine whether the means of National, Extra -county, county, and sub-county schools differed.

Table 4.51 ANOVA Results for Effective Communication

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7161.106	3	2387.035	38.999	.000
Within Groups	70328.382	1149	61.208		
Total	77489.488	1152			

Table 4.51 showed that there was a statistically significant difference between the means of the different categories of schools on effective communication at $F(3,1149) = 39.0$, $P(.000) < .05$. However, this did not indicate which school categories differ; therefore, Bonferroni's post hoc results in Table 4.52 explain the difference.

Table 4.52 Bonferroni Multiple Comparisons for Effective Communication

(I) Category of school	(J) category of school	Mean Difference (I- J)	Std Error	Sig.	95% confidence interval	
					Lower Bound	Upper Bound
Extra county	County	5.56838*	.59373	.000	3.9992	7.1375
	Sub- county	5.75989*	.64188	.000	4.0635	7.4563
County	National	3.51928*	.68212	.000	1.7166	5.3220
	Extra county	-5.56838*	.59373	.000	-7.1375	-3.9992
Sub-county	sub-county	.19151	.65439	1.00	-1.5379	1.9209
	National	-2.04910*	.69390	.019	-3.8829	-.2152
National	Extra county	-5.75989*	.64188	.000	-7.4563	-4.0635
	county	-.19151	.65439	1.00	-1.9209	1.5379
National	National	-2.24061*	.73552	.014	-4.1845	-.2968
	Extra county	-3.51928*	.68212	.000	-5.3220	-1.7166
National	County	2.04910*	.69390	.019	.2152	3.8829
	Sub-county	.224061*	.73552	.014	.2968	4.1845

*. The mean difference is significant at the 0.05 level.

Bonferroni post hoc results showed the mean differences between Extra - County and County schools (mean difference =5.6, $P=.000$) and Sub- County (mean difference 5.8, $P=.000$), National (mean difference 3.5, $P=.000$). Whereas, National in comparison to County (mean = 2.0, $P=.019$) and sub-county (mean difference 2.2, $P=.014$)

Therefore, on effective communication, there was a significant mean difference between categories of schools, $F(3,1149) = 39.0$, $P(.000) < .05$. Bonferroni's post hoc

results revealed substantial differences in effective communication in the different categories of schools. Therefore, Extra- County schools added more value, followed by National, county, and sub-county. The means were 43.3,38.2,38 and 40.2, respectively.

A person must know how to communicate their feelings, thoughts, and opinions and at the same time be able to support them regardless of gender, ethnicity, race, or level of education. Communication is not a one-sided process; only one person transmits information. It is a complex system involving two or more people, one of which is a transmitter, and the other, or at least one, is a receiver. Effective communication also consists in transmitting a clear message, which requires understanding and ensuring it is sent and received by the intended person or institution without disturbance (Aras & Gnanam, 2018; Chu et al., 2016). Effective communication by the teacher enables the utilization of this context to facilitate learning. Individual attention to learners is therefore significant too in enhancing knowledge.

4.6.6 Value Addition on Coping with Emotions and Stress by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County

H₀₆: There is no statistically significant value addition on coping with emotions and stress by public National, Extra County, county, and sub-county secondary schools in Nandi County

Table 4.53 Descriptive Statistics for Coping with Emotions and Stress

	N	Mean	Std Deviation	Std error	95 % confidence interval for the mean			
					Lower Bound	Upper Bound	Minimu m	Maximum
National	206	34.50	7.43	.52	33.48	35.53	21.00	49.00
Extra County	251	37.21	6.49	.41	36.41	38.02	24.00	50.00
County	332	37.45	5.81	.32	36.82	38.07	22.00	50.00
Sub- county	363	38.38	7.73	.41	37.58	39.18	19.00	76.00
Total	1152	37.16	7.01	.21	36.76	37.57	19.00	76.00

Table 4.53 showed that the means for coping with emotions and stress in the four categories of public secondary schools were National (34.5), Extra County (37.2), county (37.5), and sub-county (38.1). Again, F ratio significance is interpreted to determine whether these means differ significantly.

Table 4.54 ANOVA Results for Coping with Emotions and Stress

	Sum of squares	df	Mean Square	F	Sig
Between groups	2018.022	3	672.674	14.139	.000
Within groups	54618.623	1148	47.577		
Total	56636.645	1151			

Table 4.54 showed that there was a statistically significant difference between the means of the different categories of schools on effective communication at $F(3,1148) = 14.1, P(.000) < .05$. However, this did not indicate which categories of schools differ; therefore, Bonferroni's post hoc results in Table 4.55 showed the differences.

Table 4.55 Bonferroni Multiple Comparisons for Emotions and Stress

(I) Category of school	(J) category of school	Mean Difference	Std Error	Sig.	95% confidence interval	
					Lower Bound	Upper Bound

		(I - J)				
National	Extra county	-2.71*	.6485	.000	-4.42	-.99
	county	-2.94*	.6118	.000	-4.56	-1.32
	sub-county	-3.87*	.6017	.000	-5.46	-2.28
Extra county	National	2.71*	.6485	.000	.99	4.56
	county	-.23	.5769	1.00	-1.76	1.29
	Sub-county	-1.17	.5662	.24	-2.66	.330
County	National	2.94*	.6118	.000	1.32	4.56
	Extra county	.23	.5769	1.00	-1.29	1.76
	sub-county	-.93	.5238	.45	-2.3	.45
Sub-county	National	3.87*	.6016	.000	2.28	5.46
	Extra county	1.17	.5662	.24	-.33	2.66
	County	.93	.5238	.45	-.45	2.32

* The mean difference is significant at the 0.05 level

A significant difference between the means of Extra County and National schools was found by Bonferroni post hoc analysis (mean difference =2.71, P =.000). County and the National means differed by 2.94 and 3.87 points, respectively (P =.000). As a result. There was a significant mean difference in how well schools handled stress and emotions in different groups. $F(3,1148) = 14.1, P(.000) < .05$, Bonferroni post hoc results revealed significant differences between Extra County and National schools (mean contrast =2.71, P =.000) and County compared to National (mean difference 2.94, P =.000). Sub-county compared to National mean = 3.87, P =.000 and sub-county. Therefore, the results show that Sub- County schools added more value, followed by Extra - county and County schools at the same level and then National schools.

4.6.7 Value addition on self-awareness by Public National, Extra County, County, and Sub-County secondary schools in Nandi County

Table 4.56 Descriptive Statistics for Self-awareness

		95% confidence interval for the mean						
	N	Mean	Std Deviation	Std Error	Lower Bound	Upper Bound	Minimum	Maximum
National	206	24.48	8.25	.57	23.34	25.61	12.00	46.00
Extra	251	24.59	7.75	.49	23.62	25.55	13.00	43.00

county								
County	332	22.44	6.25	.34	21.77	23.12	13.00	40.00
Sub-county	363	23.50	7.11	.37	22.77	24.23	12.00	45.00
Total	1152	23.60	7.28	.21	23.19	24.03	12.00	46

Table 4.56 showed that the means for self-awareness in the four categories of public secondary schools were National (24.5), Extra County (24.6), County (22.4), and Sub-County (23.5). F ratios interpretation (Table 4.57) shows the significance of the difference in the means.

Table 4.57 ANOVA Results for Self-awareness

	Sum of squares	df	Mean Squares	F	Sig.
Between groups	850	3	283.3	5.41	.001
Within groups	601171	1148	52.4		
Total	61021				

Table 4.57 showed that there was a statistically significant difference between the means of the different categories of schools at $F(3, 1148) = 5.41$, $P(.001) < .05$. However, this did not indicate which categories of schools differ, and therefore, Bonferroni's post hoc results in Table 4.58

Table 4.58 Self-awareness Post hoc Results – Multiple Comparisons

(I) Category of school	(J) Category of school	Mean of Difference (I-J)	95% confidence Std. error	Sig.	interval Upper Bound	Upper Bound
National	Extra county	-.10993	.68063	1.000	1.9087	1.6889
	County	2.03296*	.64211	.000	.3360	3.7300
	Sub-county	.97435	.63153	.739	-.6947	2.6434
Extra county	National	.10993	.68063	1.000	1.6889	-3.7433
	County	2.14289*	.60555	.003	.5425	2.6550
	Sub-county	1.08428	.59431	.410	-.4864	-1.9087
County	National	-2.03296*	.64211	.010	3.7300	-.3360
	Extra county	-2.14289*	.60555	.003	3.7433	-.5425
	Sub-county	-1.05861	.54978	.326	2.5116	.3944
Sub- county	National	-.97435	.63153	.739	2.6434	.6947

Extra county	-1.08428	.59431	.410	2.6550	.4864
Sub-county	1.05861	.54978	.326	-.3944	2.5116

*The mean difference is significant at the .05 level

There was a significant mean difference in self-awareness between categories of schools at $F(3, 1148) = 5.41, P(.001) < .05$ (Table 4.57). In Table 4.58 Bonferroni post hoc, results revealed significant differences between National and county schools (mean difference; 2.03, $P = .000$), Extra -County compared to county (mean difference 2.14, $P = .003$). However, there were no significant differences between the means of National and Extra – county ($P = 1.00$), National and Sub- County ($P = .074$), and Extra-County and sub-county ($P = .410$). These findings don't show any significant differences between the means of National, Extra- County, and sub-county schools (24.5, 24.6, and 23.5, respectively). This means the three categories added the same value to students on self-awareness, followed by county schools (mean = 22.4). However, these results also show that the value added by all the categories of schools was very low, as revealed by the low means of all school categories.

4.6.8 Value Addition on Empathy by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County

Table 4.59 Descriptive Statistics for Empathy

	N	Mean	Std. Deviation	Std. error	95% Confidence Interval for Mean			
					Lower Bound	Upper Bound	Minimum	Maximum
National	206	35.82	8.43	.59	34.76	37.08	21.00	57.00
Extra County	251	34.94	7.23	.46	34.04	35.84	21.00	53.00
County	332	34.84	6.14	.34	34.17	35.50	19.00	50.00
Sub-county	363	35.94	7.87	.41	35.12	36.75	20.00	58.00
Total	1152	35.40	7.39	.22	34.97	35.83	20.00	58.00

Table 4.59 showed that the means for empathy in the four categories of public secondary schools were National (33.8), Extra County (35.0), county (34.8), and Sub-County (35.9). Again, the significance of the means is determined by interpreting the F ratio.

Table 4.60 ANOVA Results for Empathy

Between Groups	318.900	3	106.300	1.950	.120
Within Groups	62569.620	1148	54.503		
Total	62888.520	1151			

Table 4.60 showed that there was no statistically significant difference between the means of the different categories of schools in empathy at $F(3, 1148) = 1.95, P(.120) > .05$. Therefore, all the categories of schools did not add value to empathy.

4.6.9 Value Addition on Interpersonal Relationships by National, Extra County, County, and Sub-County Public Secondary Schools in Nandi County

Table 4.61 Descriptive Statistics for Interpersonal Relationship

	N	Mean	std. Deviation	Std. error	95% Confidence Interval for Mean			
					Lower Bound	Upper Bound	Min	Max
National	206	43.82	11.74	.8182	42.20	45.43	23.00	85.00
Extra County	251	43.40	9.69	.61142	42.19	44.60	23.00	67.00
County	332	41.93	8.48	.46545	41.01	42.85	20.00	64.00
Sub- county	361	42.68	9.61	.50557	41.69	43.68	17.00	85.00
Total	1150	42.82	9.75	.28763	42.21	43.39	17.00	85.00

Table 4.61 showed that the means for interpersonal relationships in the four categories of public secondary schools were National (43.8), Extra County (43.4), county (41.9), and sub-county (42.7). Again, interpreting the F- ratio significance determined if the means differed significantly.

Table 4.62 ANOVA Results – Interpersonal Relationship

	Sum of squares	df	Mean Square	F	Sig
Between Groups	557.596	3	185.865	1.959	.118
Within Groups	108756.922	1146	94.901		
Total	109314.518	1149			

Table 4.62 showed that there was no statistically significant difference between the means of the different categories of schools in an interpersonal relationship at $F(3, 1146) = 1.96$, $P(.118) > .05$. Therefore, all the categories of schools added the same value to the interpersonal relationship. No school added more value than the other.

4.6.10 Value Addition on Teamwork by Public National, Extra County, County, and Sub-County Secondary Schools in Nandi County.

Table 4.63 Descriptive Statistics for Teamwork

	N	means	Std. Deviation	std. error	95% Confidence Interval for mean			
					Lower Bound	Upper Bound	Minimum	Maximum
National	206	32.13	5.73	.399	31.34	32.92	15.00	75.00
Extra county	251	24.42	6.52	.411	23.61	25.23	10.00	72.00
County	332	19.03	4.04	.222	18.60	19.47	10.00	28.00
sub-county	364	18.34	4.098	.214	17.92	18.76	10.00	34.00
Total	1153	22.33	7.16	.211	21.91	22.74	10.00	75.00

Table 4.63 showed that the means for teamwork in the four categories of public secondary schools were National (32.1), Extra County (24.4), county (19.0), and sub-county (18.3). Again, interpreting the F ratio significance determined the means of significant difference.

Table 4.64 ANOVA Results for Teamwork

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	30281.014	3	10093.671	402.648	.000
Within Groups	28803.406	1149	25.068		
Total	59084.420	1152			

Table 4.64 shows that there was a statistically significant difference between the means of the different categories of schools at $F(3, 1149) = 402.65$, $P(.000) > .05$. Interpretation of Bonferroni post hoc results in Table 4.65 will show which categories of schools differ.

Table 4.65 Teamwork Post-hoc Results-Multiple Comparisons

(I) category schools	of(J)category schools	ofMean Difference (I-J)	Std.Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
National	Extra county	7.70876*	.47071	.000	6.4648	8.9528
	County	13.09794*	.44407	.000	11.9243	14.2715
	Sub-county	13.78766*	.43653	.000	12.6340	14.9413
Extra county	National	-7.70876*	.47071	.000	-8.9528	-6.4648
	County	5.38918*	.41878	.000	4.2824	6.4960
	Sub-county	6.07890*	.41078	.000	4.9933	7.1645
County	National	-13.09794*	.44407	.000	-14.2715	-11.9243
	Extra county	-5.38918*	.41878	.000	-6.4960	-4.2824
	Sub-county	.68973	.37997	.419	-3.145	1.6939
Sub-county	National	-13.78766*	.43653	.000	-14.9413	-12.6340
	Extra county	-6.07890*	.41078	.000	-7.1645	-4.9933
	County	-.68973	.37997	.419	-1.6939	.3145

*. The mean difference is significant at the 0.05 level.

Table 4.65 shows that National schools' mean differed between Extra - county (mean difference =7.7, P=.000), County (mean difference 13.1, P=.000), Sub- County (mean difference 13.8, P=.000). Extra county in comparison to County (mean =5.4, P=.000), sub-county (mean difference 6.1, P=.000). Therefore, on Teamwork, there was a significant mean difference between the categories of schools., $F(3, 1148) = 402.65, P(.000) > .05$. Bonferroni's post hoc results revealed significant differences in teamwork in all categories of schools. National compared to Extra - county, county, and sub-county, $P = .000$, Mean difference 7.7, 13.1, and 13.8, respectively. Extra-county, county, and sub-county showed a significant difference at $P = .000$, with mean differences of 5.4 and 6.1, respectively. Therefore, the results show that National schools added more value to teamwork (Mean = 32.1), then Extra- County (mean =24.4), followed by county (mean =19.0) and finally, sub-county (18.34).

These results agree with SDG 5 2019, which reported that there is” insufficient progress on structural issues. These results are in line with SDG 5 2019, which stated that "insufficient progress has been made on structural issues of gender inequality, such as legal discrimination, unfair social norms and attitudes; decision-making on sexual and reproductive problems; and low levels of political participation.". Learning Generation and the Education Commission forecast that around half of the world’s jobs are at a high risk of being lost to automation by 2050. Technology will replace much of the 21st-century workforce, but mastery of it and non-routine cognitive or (socio-emotional) skills will increase youth job readiness. Seen from a Gender Perspective, girls and women already lag in science, technology, engineering, and Math (STEM). Many of the most educated women, especially in the developing world, will face high barriers to entering the workforce.

Therefore, education should equip learners with 21st-century skills like communication, basic literacy, talents, life skills, and essential health and hygiene practices. It should also promote the other aspects of the learners' holistic development physical, social, psychological, spiritual, intellectual, moral, and character formation. Therefore, learners should acquire communication, health, good personal hygiene, numeracy, and literacy skills (KICD, 2016). Furthermore, education offered in secondary schools should be guided by The Sessional Paper No. 14 of 2012 on Reforming Education and Training in Kenya, which has outlined the following: values and principles, including encouraging independent critical thinking cultivating discipline, skills, and capacities for reconstruction and development, attitudes, values, learning a skill, innovation, creativity, and the use of technology and entrepreneurial culture. This approach to education is expected to achieve holistic development of the

learners and have secondary school graduates who can actively participate in the socio-economic development activities of the nation.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

Key findings of the study are outlined in this chapter are summarized based on three key research objectives. The conclusions of the results are also presented based on the findings to answer the study's questions and hypotheses. Finally, this chapter also offers recommendations for further action.

5.2 Summary of Findings

5.2.1 Value Addition to student Academic Performance by Public Secondary Schools of Different Categories in Nandi County

The residual value (-2.541) indicated that National public schools added no value to the student's academic performance since the actual grades were less than expected. The residual value (-3.152) showed that public Extra County schools added no value to the student's academic performance. The actual grades were lower than the expected grade. The residual value (-2.690) showed that public County schools added no value to the student's academic performance. The residual value (-4.094) showed that public Sub-County schools added no value to the student's academic performance.

5.2.2 Value Addition to Student's Talents by Public National, Extra County, and Sub-county Public Secondary Schools in Nandi County

National schools did not add value to student participation in football, $Z = -.689$, $P = .491$, mean ranks; positive (22), negative (52); Median, primary (2.00), secondary (2.00). Extra county secondary schools did not add value to student participation in football; $Z = -1.285$, $P = .199$, ranks; positive (22), negative (52). However, county schools added value to student participation in football. $Z = -4.194$, $P = .000$, ranks;

positive (126), negative (62), Median; primary (1.00), Secondary (2.00). Sub-county schools also added value to student participation in volleyball. $Z = -1.583$, $P = .113$, Median; Primary (2.00), secondary (1.00), ranks; positive (57), negative (56).

National schools added value on volleyball, $Z = -7.061$, $P = .000$ ranks; positive (72), negative (6); Media, primary (1.00), secondary (2.00). Extra county secondary schools added value; $Z = -8.638$, $P = .000$, ranks; positive (105), negative (7). County schools added value to volleyball. $Z = -7.512$, $P = .000$). Ranks; positive (114), negative (28), Median; primary (1.00), Secondary (2.00). Sub-county schools also added value to student participation in volleyball. $Z = -6.195$, $P = .000$, Median; Primary (1.00), secondary (2.00), ranks; positive (114), negative (28).

National schools added value on racket games participation, $Z = -5.129$, $P = .000$. Median: primary (1.00), secondary (2.00), mean ranks; positive (19.29), Negative (14.00). Extra county schools added value to students' participation in racket games. $Z = -2.366$, $P = .018$, median; primary (1.00), secondary (2.00), mean ranks; positive (20.08), negative (14.35). County schools added value to student participation in racket games, $Z = -4.693$, $P = .000$, median; primary (1.00), secondary (2.00). Mean ranks; positive (16.90), negative (10.50). Sub-county schools added value to racket game participation. $Z = -6.711$, $P = .000$, median: primary (1.00), secondary (1.00), mean ranks; positive (39.38), negative (34.50).

National schools added value to student participation in swimming. $Z = -11.606$, $P = .000$, median; primary (2.00), secondary (4.00), ranks; positive (175), negative (1), mean ranks; positive (154.50), negative (88.12), There was value addition on swimming by extra county schools. $Z = -6.140$, $P = .000$, median; primary (1.00), secondary (2), ranks; positive (61), negative (4), mean ranks; positive (32.68), negative (38.00). For County schools, there was no value addition to swimming.

$Z = -1.778$, $P = .075$, median primary (1.00), secondary (1.00), ranks; positive (27), negative (7), mean ranks; positive (14.80), negative (27.93). There was no value addition by the sub-county public secondary school., $Z = -.857$, $P = .391$, median; primary (1.00), secondary (1.00), ranks; positive (5), negative (2), mean ranks; negative (4.50), positive (3.80). National schools added value to athletics. Median; primary (1.00), secondary (2), $Z = -6.692$, $P = .000$, ranks; positive (72), negative (9), Mean ranks; positive (41.10), negative (40.32). There was value addition by Extra-County schools, $P = .000$, $Z = 9.7340$, median; primary (1.00), secondary (2.00), ranks; positive (118), negative (7) mean ranks; positive (73.99), negative (82.44). County schools added value to student participation in athletics; $Z = -9.442$, $P = .000$, Median; primary (1.00), secondary (2.00), ranks; positive (139), negative (9), mean rank; negative (82.44), positive (73.99). Sub-county schools added value on participation in athletics, $Z = -10.856$, $P = .000$, median; primary (2), secondary (3), ranks; positive (169), negative (9), mean ranks; negative (109.06), positive (88.46).

National schools added value to student participation in music, $Z = -7.146$, $P = .000$, median; primary (1.00), secondary (3.00), ranks; positive (102), negative (11), Mean ranks; negative (69.68), positive (55.63). There was value addition by Extra- County schools., $Z = -10.078$, $P = .000$, median; primary (1.00), secondary (2.00). Ranks: positive (146), negative (11), mean rank; negative (72.50), positive (81.55).

County schools added value to student participation in music. $Z = -5.681$, $P = .000$, median; primary (1.00), secondary (2.00), ranks; positive (126), negative (39), mean rank: negative (87.68), positive (81.55). There was value addition by the sub-county of this school on student participation in music. $Z = -10.856$, $P = .000$, median; primary (2.00), secondary (3.00), ranks; positive (147), negative (36), mean rank (negative (90.54), positive (92.36)).

National schools added value to student participation in Drama, $Z = -2.628$, $P = .009$, median; primary (1.00), secondary (2.00), ranks; positive (29), negative (12), mean ranks; negative (19.42), positive (21.66). There was value addition by Extra-County schools in Drama, $Z = -6.379$ $P = .000$, median; primary (1.00), secondary (.000), ranks; positive (71), negative (4), mean ranks; negative (56.88), positive (36.94). There was value addition by county schools. $Z = -3.584$, $P = .000$, median; primary (1.00), secondary (2.00), ranks; positive (85), negative (21), mean ranks; negative (67.21), positive (50.11). Sub-County schools added value to student participation in Drama. $Z = -5.866$, $P = .000$, median; primary (1.00), secondary (2.00), ranks; positive (90), negative (18), mean ranks; negative (58.47), positive (53.71).

National schools did not add value to student participation in netball $Z = -.352$, $P = .725$, median; primary (1.00), secondary (1.00), ranks; positive (18), negative (22), mean ranks; negative (24.14), positive (17.52). Extra-county schools did not add value in Netball, $Z = -1.227$, $P = .220$, median; primary (1.00), secondary (1), ranks; positive (41), negative (30), mean ranks; negative (36.16), positive (35.78). However, there was a value addition to students' participation in netball by county schools. $Z = -3.584$, $P = .000$, median; primary (1.00), secondary (2.00), ranks; positive (14), negative (30), mean ranks; negative (28.35), positive (25.07). Sub-County schools did not add value to student participation in Netball. $Z = -.657$, $P = .511$, median; primary (1.00), secondary (1.00), ranks; positive (55), negative (49), mean ranks; negative (51.79), positive (53.14).

5.2.3 Value Addition to Student's Life Skills by Public Secondary Schools of Different Categories in Nandi County

There was value added by all the categories of schools in Critical thinking. There was a significant mean difference between the categories of schools, $F(3,1149) = 975$, P

(.000) < .05. Bonferroni's post hoc results revealed substantial differences in critical thinking in all categories of schools. National schools differed significantly from Extra-County, county, and sub-county, $P = .000$, with Mean differences of 10.8, 16.2, and 43.6, respectively. Extra-county and county showed a significant difference at $P = .000$, with mean differences of 5.4 and 32.8. County and sub-county had statistically significant differences at $P = .000$ and a mean difference of 27.4.

There was no significant difference between the means of the different categories of schools at $F(3,1149) = 653$, $P(.581) > .05$. All the categories of school did not add value to self-esteem. National schools (22.8), Extra-County and Sub-County were the least valuable compared to their county or sub-county counterparts.

There was no statistically significant difference between the means of the different categories of schools at $F(3,1149) = 2.36$, $P(.070) > .05$ on decision-making. Therefore, the means, National (52.2), Extra-County (51.6), county (51.8), and sub-county (52.7), did not differ significantly. Therefore, all the categories of schools did not add value. Additionally, there was no statistically significant difference in the means of problem-solving abilities between the National, Extra-County, County, and Sub-County Public Secondary Schools., $F(3,1149) = 2.36$, $P(.377) > .05$. All the four categories of schools did not add value.

There was a significant mean difference between categories of schools, $F(3,1149) = 39.0$, $P(.000) < .05$. Bonferroni's post hoc results revealed significant differences in effective communication in the different categories of schools. Extra - County and County schools (mean difference = 5.6, $P = .000$) and Sub-County (mean difference 5.8, $P = .000$), National (mean difference 3.5, $P = .000$). Whereas, National in comparison to County (mean = 2.0, $P = .019$) and sub-county (mean difference 2.2, $P = .014$).

Therefore, Extra- County schools added more value, followed by National, county, and sub-county. The means were 43.3,38.2,38 and 40.2, respectively.

There was a significant mean difference between categories of schools on coping with emotions and stress. $F(3,1148) = 14.1, P(.000) < .05$, Bonferroni post hoc results revealed significant differences between Extra County and National schools (mean difference =2.71, $P = .000$) and County compared to National (mean difference 2.94, $P = .000$). Sub-county compared to National mean = 3.87, $P = .000$ and sub-county. Therefore, the results show that Sub- County schools added more value, followed by Extra - county and County schools at the same level and then National schools.

There was a significant mean difference in self-awareness between categories of schools at $F(3, 1148) = 5.41, P(.001) < .05$ (Table 4.57). In Table 4.58 Bonferroni post hoc, results revealed significant differences between National and county schools (mean difference;2.03, $P = .000$), Extra -County compared to county (mean difference 2.14, $P = .003$). However, there were no significant differences between the means of National and Extra – county ($P=1.00$), National and Sub- County ($P=.074$), and Extra-County and sub-county ($P=.410$). All the categories of schools added value at the same level.

There was no statistically significant difference between the means of the different categories of schools in empathy at $F(3, 1148) = 1.95, P(.120) > .05$. Therefore, all the categories of schools did not add value to empathy. There was no statistically significant difference between the means of the different categories of schools in an interpersonal relationship at $F(3, 1146) = 1.96, P(.118) > .05$. Therefore, all the categories of schools did not add value. On Teamwork, there was a significant mean difference between the categories of schools., $F(3, 1148) = 402.65, P(.000) > .05$. Bonferroni's post hoc results revealed significant differences in teamwork in all

categories of schools. National compared to Extra - county, county, and sub-county, $P = .000$, Mean difference 7.7, 13.1, and 13.8, respectively. Extra-county, county, and sub-county showed a significant difference at $P = .000$, with mean differences of 5.4 and 6.1, respectively. Therefore, the results show that National schools added more value to teamwork (Mean = 32.1), then Extra- County (mean =24.4), followed by county (mean =19.0) and finally, sub-county (18.34).

5.3 Conclusions

The categories of schools, national Extra County, county, and sub-county did not add value to academic performance. All the categories of schools added value to volleyball, basketball, athletics, music, and drama. National, county, and sub-county schools added value to racket games and National and Extra- County schools added value to swimming. County schools added value to netball. Netball and racket games did not profit from extra-county schools. County schools did not promote swimming. Sub-county schools did not improve in swimming or netball. In life skills, all the categories of schools added value to critical thinking, effective communication, coping with emotions and stress, self-awareness, and teamwork. On the other hand, all the categories of schools did not add value to self-esteem, decision-making, and interpersonal relationship.

5.4 Recommendations

The following suggestions are made considering the study's results.

1. Secondary schools must implement mechanisms that ensure no value subtraction from learners. These include providing resources to all categories of schools, adequate training, and induction of teaching staff, and using learner-

friendly modern teaching methods. The school management board should maintain internal quality assurance and teacher and student discipline. The teachers should ensure efficient teaching and that the learners are adequately motivated.

2. The Ministry of Education should see to it that each school has a talent development office run by a qualified individual with the know-how to assist students in identifying and developing their talents. Additionally, additional resources must be made available to schools, particularly in sports like football, swimming, and netball, where little added value exists. Further, to encourage kids to discover their skills, schools should make participation in various activities mandatory.
3. The Ministry of education and school management should reinforce the inclusion of life skills in the curriculum. In addition, life skills should be taught and examined. Therefore, the CBC education system should be strengthened and embraced at all levels of the education system.
4. The Kenya National Examination Council should develop a comprehensive assessment system that considers the development of cognitive, life skills, and talents.

5.5 Suggestions for Further Research

The following suggestions were made for further research:

1. Value-added estimations based on gender, school type, KCPE, and KCSE were used in the study. However, when conducting investigations, additional factors should be considered, such as infrastructure, school facilities, and safety;

instruction, learning, discipline, and monitoring; teacher factors; and the socioeconomic situation of the student.

2. All educational levels, including primary, secondary, and university institutions, should conduct a similar study.
3. Research to develop an assessment tool that measures value addition by all schools on the holistic development of learners.

REFERENCES

- Abbasnasab Sardareh, S., & Mohd Saad, M. R. (2013). Defining assessment for learning: A proposed definition from a sociocultural perspective. *Life Science Journal*, 10(2), 2493–2497.
- Abdelaziz, B., Storr, S., Westad, J., Daltry, R., Makino, Y., Nichols, T., Jourdan, D. (n.d.). *Life skills education school handbook Prevention of noncommunicable diseases*.
- Abobo, F., & Orodho, J. A. (2014). Life skills education in Kenya: An assessment of the level of preparedness of teachers and school managers in implementing life skills education in Trans- Nzoia District, Kenya. *IOSR Journal of Humanities and Social Science*, 19(9), 32–44. <https://doi.org/10.9790/0837-19923244>
- Agingu, E. A. (2018). School differences in the predictive validity of primary school examinations among secondary school students in Kenya. *International Journal of Academic Research in Business and Social Sciences*, 7(12), 1042–1052. <https://doi.org/10.6007/ijarbss/v7-i12/3733>
- Ajayi, K. F. (2014). *Does school quality improve student performance?: New Evidence from Ghana*. Boston Univ., Department of Economics, Inst. for Economic Development.
- Akhtar, Md. I. (2014). Research design research design. *Research in social science: Interdisciplinary perspectives*, (September), 68–84.
- Akinyi, O. D. (2015). *School based factors affecting girls academic performance (KCSE) in mixed secondary schools: A case of Nakuru Municipality*. 2(4), 35–68.
- Akubuilu, F. (2012). *Holistic assessment of student's learning outcome*. 3(12), 56–60.
- Aliyu, A. A., Bello, M. U., Kasim, R., & Martin, D. (2014). Positivist and non-positivist paradigm in social science research: Conflicting paradigms or perfect partners? *Journal of Management and Sustainability*, 4(3), 79–95. <https://doi.org/10.5539/jms.v4n3p79>

- Almlund, M., Duckworth, A. L., Heckman, J., & Kautz, T. (2011). Personality psychology and economics. *Handbook of the Economics of Education*, 4, 1–181. <https://doi.org/10.1016/B978-0-444-53444-6.00001-8>
- Al-Qatawneh, S. S., Alsalhi, N. R., Eltahir, M. E., & Siddig, O. A. (2021). The representation of multiple intelligences in an intermediate Arabic-language textbook and teachers' awareness of them in Jordanian schools. *Heliyon*, 7(5). <https://doi.org/10.1016/j.heliyon.2021.e07004>
- Ambaa, C. (2015). Analysis of the Kenyan 8-4-4 system of education in relation to aims of education for self-reliance. A research project submitted in partial fulfillment of the requirements for the award of the Degree of Master of Education (Philosophy of Education) of the. (August).
- Amoke, P. A., & Sika, J. O. (2021). Selected school based factors' influence on value addition in secondary education in public secondary schools in Rachuonyo South Sub-couny, Homabay County, Kenya. *European Journal of Education Studies*, 8(11)
- Annum, G. (2019). Research instruments for data collection methods. *Research Methodology*, 1–6.
- Anyang, N. O., & Boit, J. M. (2019). *School effectiveness and improvement: Value-added by Extra-County schools to students' entry marks upon exit*. (August), 39–55.
- Aparna, N., & Raakhee, A. S. (2011). Life skills education for adolescents: Its relevance and importance. *GESJ: Education Science and Psychology*, 2(19).
- Aras, P., & Gnanam, D. (2018). Importance of life skills. *International Journal of Trend in Research and Development*, 1(special issue).
- Archer, E. (2017). The assessment purpose triangle: Balancing the purposes of educational assessment. *Frontiers in Education*, 2(August), 1–7. <https://doi.org/10.3389/educ.2017.00041>
- Article, P. (2012). *Value-added measures in education: The best of the alternatives is simply not Good enough*. 2010–2012. <https://doi.org/10.3102/0013189X08316420>

- ASA, & American Statistical Association. (2014). *ASA Statement on using value-added models for educational assessment*. 2016(10th January), 7 p.
- Asige, G. L. (2017). Impact of students' motivation and discipline on academic achievement in public secondary schools in Hamisi Sub-County, Kenya | Livumbaze | European Journal of Education Studies. *European Journal of Education Studies*, 361–376. <https://doi.org/10.5281/zenodo.244169>
- Aydin, H. (2019). *The effect of multiple intelligence (s) on academic success : A systematic review and meta-analysis*. 15(1993).
- Azlina, N., Ahmad, N., Nina, S., & Syed, S. (2020). *Utilization of Gardner' s multiple intelligence theory for school counselling system with usability testing*. (6), 2253–2260. <https://doi.org/10.35940/ijrte.E6058.038620>
- Baş, G. (2016). The effect of multiple intelligences theory-based education on academic achievement: A meta-analytic review. *Kuram ve Uygulamada Egitim Bilimleri*, Vol. 16. <https://doi.org/10.12738/estp.2016.6.0015>
- Basque, M., & Bouchamma, Y. (2013). *Academic achievement in effective schools*. 59(3), 503–519.
- Behrani, P. (2016). Implementation aspects of life skills education program in central board of secondary education schools. *International Education & Research Journal*, 2(3), 68–71.
- Belliappa, J. L. (2019). Practical research methods in education. In *Practical Research Methods in Education*. <https://doi.org/10.4324/9781351188395>
- Berg, B. L. (Bruce L., & Lune, H. (2017). *Qualitative research methods for the social sciences (Ninth Edition) Global Edition*.
- Bernardino, S. (n.d.). *International Handbook of Holistic Education*.
- Betts, J. R., Hahn, Y., & Zau, A. C. (2017). Can testing improve student learning? An evaluation of the mathematics diagnostic testing project. *Journal of Urban Economics*, 100(00008), 54–64. <https://doi.org/10.1016/j.jue.2017.04.003>

- Bhardwaj, A. (2016). Importance of education in human Life: a Holistic approach. *International Journal of Science and Consciousness*, 2(2), 23–28.
- Bian, H. (2007). Designing and conducting mixed methods research. In *Australian and New Zealand Journal of Public Health* (Vol. 31).
<https://doi.org/10.1111/j.1753-6405.2007.00096.x>
- Birenbaum, M., DeLuca, C., Earl, L., Heritage, M., Klenowski, V., Looney, A., ... Wyatt-Smith, C. (2015). International trends in the implementation of assessment for learning: Implications for policy and practice. *Policy Futures in Education*, 13(1), 117–140. <https://doi.org/10.1177/1478210314566733>
- Blaikie, N. (2000). Strategies for answering research questions. *Designing Social Research: The Logic of Anticipation*.
- Blaikie, N. W. H., & Priest, J. (2017). Fundamental Choices in Social Research. *Social Research: Paradigms in Action*.
- Blaikie, Norman, & Priest, J. (2017). Social research: Paradigms in action. In *Rural Sociology* (Vol. 84).
- Borg, Joyce P. Gall, walter R. (2014). Applying Educational Research: How to Read, Do, and Use Research to Solve Problems of Practice. In *New York and london. Longman publishing Inc*.
- Bowen, G. A. (2009). Document analysis as a qualitative research method. *Qualitative Research Journal*, 9(2), 27–40. <https://doi.org/10.3316/QRJ0902027>
- Brace, I. (2013). Design Survey Material for Effective. In *Business*.
- Bridges, D. (2016). Philosophy in educational research: Epistemology, ethics, politics and quality. In *Philosophy in Educational Research: Epistemology, Ethics, Politics and Quality*. <https://doi.org/10.1007/978-3-319-49212-4>
- Bridges, D. (2017). Philosophy in educational research. In *Philosophy in Educational Research*. <https://doi.org/10.1007/978-3-319-49212-4>
- Brocki, J. M., & Wearden, A. J. (2006). A critical evaluation of the use of interpretative phenomenological analysis (IPA) in health psychology.

Psychology and Health, 21(1), 87–108.

<https://doi.org/10.1080/14768320500230185>

- Brown, G. T. L. (2013). Asttle - A national testing system for formative assessment: How the national testing policy ended up helping schools and teachers. *Advances in Program Evaluation*, 14(c), 39–56. [https://doi.org/10.1108/S1474-7863\(2013\)0000014003](https://doi.org/10.1108/S1474-7863(2013)0000014003)
- Brown, M., Mcnamara, G., & Hara, J. O. (2016). *Quality and the rise of value-added in education: The case of Ireland*. <https://doi.org/10.1177/1478210316656506>
- Brown, M., McNamara, G., & O'Hara, J. (2016). Quality and the rise of value-added in education: The case of Ireland. *Policy Futures in Education*, 14(6), 810–829. <https://doi.org/10.1177/1478210316656506>
- Brown, M., McNamara, G., Ohara, J., O'Brien, S., & Faddar, J. (2018). Integrated co-professional evaluation? Converging approaches to school evaluation across frontiers. *Australian Journal of Teacher Education*, 43(12), 76–90. <https://doi.org/10.14221/ajte.2018v43n12.6>
- Bruijn, T. de. (2016). *Assessment and Demonstration of Achieved Learning Outcomes: Recommendations and Good Practices*. (February), 32.
- Burnett, N., Packer, S., Nicole, Bella., Benavot, A., Buchert, L., Caillaud, F., ... Lind, A. (2006). Education for All: Literacy for Life. In *Unesco*.
- Busschaert, C., De Bourdeaudhuij, I., Van Holle, V., Chastin, S. F. M., Cardon, G., & De Cocker, K. (2015). Reliability and validity of three questionnaires measuring context-specific sedentary behaviour and associated correlates in adolescents, adults, and older adults. *International Journal of Behavioural Nutrition and Physical Activity*, 12(1), 1–13. <https://doi.org/10.1186/s12966-015-0277-2>
- Kothari, G. G. (2019). Research Methodology, Methods and Techniques. In *New Age International (p) Limited, Publisher* (Vol. 9783642405).
- Calik, B. (2013). Multiple intelligence theory for gifted Education: Criticisms and implications. *Journal for the Education of the Young Scientist and Giftedness*, 1(2). <https://doi.org/10.17478/jeysg.201329002>

- Callender, W. A. (2017). Teaching and learning in secondary schools. *Using RTI in Secondary Schools: A Training manual for successful implementation*, 1(2), 33–76. <https://doi.org/10.4135/9781452290522.n3>
- Carneiro, R. (2015). Learning: The treasure within - Prospects for education in the 21st century. *European Journal of Education*, 50(1), 101–112. <https://doi.org/10.1111/ejed.12110>
- Carneiro, R., Desjardins, R., Gordon, J., & Looney, J. (2015). Editorial. *European Journal of Education*, 50(1), 1–9. <https://doi.org/10.1111/ejed.12111>
- Carnoy, M. (2012). *The low achievement traps*.
- Carnoy, M., Ngware, M., & Oketch, M. (2015). The role of classroom resources and national educational context in student learning gains: Comparing Botswana, Kenya, and South Africa. *Comparative Education Review*, 59(2), 199–233. <https://doi.org/10.1086/680173>
- CASEL. (2015). CASEL guide: effective social and emotional learning programs - middle and high school edition. *Collaborative for Academic, Social and Emotional Learning*, 1–45.
- CASEL Guide. (2013). Effective social and emotional learning programs. *Preschool and Elementary School Edition*. <https://doi.org/http://casel.org/wp-content/uploads/2016/01/2013-casel-guide-1.pdf>
- Chiriswa, A. P. (2015). *The Contribution of the secondary school curriculum to peace in Kenya*. 6(3), 164–174.
- Chu, PH. and Chang, YY. (2017). John W, Creswell, Research Design: Qualitative, quantitative, and mixed methods approaches. *Journal of Social and Administrative Sciences*, 4(June).
- Chu, S. K. W., Reynolds, R. B., Tavares, N. J., Notari, M., & Lee, C. W. Y. (2016). 21st century skills development through inquiry-based learning: From theory to practice. In *21st Century Skills Development Through Inquiry-Based Learning: From Theory to Practice*. <https://doi.org/10.1007/978-981-10-2481-8>

- Coe, R., Aloisi, C., Higgins, S., & Major, L. E. (2014). *What makes great teaching ? Review of the underpinning research.* (October), 57.
- Cohen, L., Manion, L., & Morrison, K. (2007). The Ethics of educational and social research - The field of ethics. In *Research Methods in Education.*
- Cohen, L., Manion, L., & Morrison, K. (2018). Case studies. In *Research methods in education.* <https://doi.org/10.4324/9781315456539-19>
- Cohen, L., Manion, L., & Morrison, K. (2021). The ethics of educational and social research. In *Research Methods in Education.*
<https://doi.org/10.4324/9780203224342-7>
- Cohen, L., Manion, L., Morrison, K., & Publishers, R. (2009). Book Reviews Research Methods in Education (6th ed). *The A Ustr Alian Educational Researcher*, 36(2), 147–156.
- Cohen, L., Manion, L., & Morrison, K. R. B. (n.d.). *Research methods in education.*
- Collins, C., & Amrein-Beardsley, A. (2014). Putting growth and value-added models on the map: A national overview. *Teachers College Record*, 116(1), 1–18.
- Collins, C. S., & Stockton, C. M. (2018). The Central Role of Theory in Qualitative Research. *International Journal of Qualitative Methods*, 17(1), 1–10.
<https://doi.org/10.1177/1609406918797475>
- Collins, K. &. (2018). Sampling design in mixed research (MR). *Mixed Methods Webinar Series.*
- Cresswell, J. W., & Creswell, D. J. (2018). Research design: Qualitative, quantitative, and mixed Methods approaches. In *Journal of Chemical Information and Modeling* (Vol. 53).
- Creswell, John. W. (2013). Research design: Qualitative, quantitative, and mixed methods approaches. In *Research Design, Qualitative, quantitative, and mixed methods approach.*
- Creswell, J., & Plano Clark, V. (2011). Designing and conducting mixed methods research, 2nd Edition. In *Designing and conducting mixed methods research.*

- Creswell, J. W., & Poth, C. N. (2018). Qualitative inquiry and research design choosing among five approaches (4th Edition ed.). In *Journal of Materials Processing Technology* (Vol. 1).
- Creswell, John W. (2014). Proceedings of the Annual Conference of the International Speech Communication Association, INTERSPEECH. *Proceedings of the Annual Conference of the International Speech Communication Association, INTERSPEECH*.
- Creswell, John W. (2015). A concise introduction to mixed methods research. In *Docl.Bibliothek. Li*.
- Creswell, John W., & Guetterman, T. C. (2019). Educational research: Planning, conducting, and evaluating quantitative and qualitative research, 6th Edition. In *Pearson*.
- Creswell, John W, J. D. C. (2018). Research design .Qualitative, quantitative, and mixed methods approaches. In *Sage* (Vol. 53).
- Creswell, John W., & Plano Clark, V. L. (2011). 'Choosing a mixed method research design' in designing and conducting mixed methods research. In *SAGE Publications, Inc*.
- Creswell, W. J., & Creswell, J. D. (2018). Research design: Qualitative, quantitative and mixed methods approaches. In *journal of chemical information and modeling* (Vol. 53).
- Creswell W.John. (2014). Research design: Qualitative, quantitative and mixed methods approaches. In *SAGE* (Vol. 53). <https://doi.org/10.1177/1757743818812093>
- Cunningham, J. (2019). Missing the mark: Standardized testing as epistemological erasure in U.S. schooling. *Power and Education, 11*(1), 111–120. <https://doi.org/10.1177/1757743818812093>
- Danganan, R. G., Ph, D., Nuqui, A. V, & Ph, D. (2015). *Personal development and academic performance of students and their participation in co and extra curricular activities: Inputs to students' enhancementpProgram. 2*(2), 1–9.

- Daniel, S., & Mark, O. (2019). Competency based curriculum in primary schools in Kenya: Prospects and challenges of implementation. *Journal of Popular Education in Africa*, 3(7), 39–48.
- Darling-hammond, L. (2015). *Can value added add value to teacher evaluation?* 44(2). <https://doi.org/10.3102/0013189X15575346>
- Dean, J. R. (2015). *Comparing Schools: From Value Added to Sound Policy*.
- Del Rosario Martínez-Aguilera, G. (2022). Multiple intelligences in physical education class; a formative experience in primary school students. *Retos*, 45. <https://doi.org/10.47197/retos.v44i0.89393>
- Denzin, N. K. (2009). The elephant in the living room: Or extending the conversation about the politics of evidence. *Qualitative Research*, 9(2), 139–160. <https://doi.org/10.1177/1468794108098034>
- Dhingra, R., & Chauhan, K. S. (2017). Assessment of life-skills of adolescents in relation to selected variables. *International Journal of Scientific and Research Publications*, 7(8).
- Dogara, G., Kamin, Y. Bin, & Saud, M. S. Bin. (2020). *The Impact of Assessment Techniques on the Relationship between Work-Based Learning and Teamwork Skills Development*. *IEEE Access*, 8, 59715–59722. <https://doi.org/10.1109/ACCESS.2020.2983487>
- Dos Santos Fringe, J. J. (2018). Promoting holistic learning for the development of competences in Mozambique. *Tuning Journal for Higher Education*, 5(2), 19–43. [https://doi.org/10.18543/tjhe-5\(2\)-2018pp19-43](https://doi.org/10.18543/tjhe-5(2)-2018pp19-43)
- Duerden, M. D., Witt, P. A., Fernandez, M., Bryant, M. J., & Theriault, D. (2012). Measuring Life Skills: Standardizing the Assessment of Youth Development Indicators. *Journal of Youth Development*, 7(1). <https://doi.org/10.5195/jyd.2012.155>
- Dunn, L. B., & Jeste, D. V. (2001). Enhancing informed consent for research and treatment. *Neuropsychopharmacology*, 24(6), 595–607. [https://doi.org/10.1016/S0893-133X\(00\)00218-9](https://doi.org/10.1016/S0893-133X(00)00218-9)

- EAEA Policy Paper. (2019). Life Skills and Participation in Adult Learning. *European Association for the Education of Adults*, (December).
- Edmonds, W. Alex, & Kennedy, T. D. (2020). An Applied Guide to Research Designs: Quantitative, Qualitative, and Mixed Methods. In *An Applied Guide to Research Designs: Quantitative, Qualitative, and Mixed Methods*. <https://doi.org/10.4135/9781071802779>
- Edmonds, William Alex, & Kennedy, T. D. (2017). An applied reference guide to research designs. Quantitative, qualitative, and mixed methods. In *Sage Publication*.
- Educational Research: Ethics, Social Justice, and Funding Dynamics. (2018). In *Educational Research: Ethics, Social Justice, and Funding Dynamics*. <https://doi.org/10.1007/978-3-319-73921-2>
- Eldridge, J. (2017). Reliability, Validity, and Trustworthiness. *Introduction to Nursing Research: Incorporating Evidence-Based Practice, Fourth Edition*, 340–373.
- Elks, P. (2016). *Lessons learned from introducing value added performance measures in Uganda DFID think piece*. (July).
- Elsenburg, L. K., Abrahamse, M. E., & Harting, J. (2021). Implementation of a Dutch school-based integrated approach targeting education, health, and poverty—a process evaluation. *Health Promotion International*, 1–11. <https://doi.org/10.1093/heapro/daab028>
- Ersoy, E. (2018). *Opinions of School Psychological Counselors on Giftedness and Gifted Students' Education*. 2(2), 120–142.
- European Commission. (2014). *Proposal for key principles of a Quality Framework for Early Childhood Education and Care. Report of the Working Group on Early Childhood Education and Care under the auspices of the European Commission*. 71.
- European Commission. (2019). Education and training monitor 2019 - Spain. *Education and Training Monitor*, 2. <https://doi.org/10.2766/1>

- Fairman, J., Johnson, A., Mette, I., Wickerd, G., & LaBrie, S. (2018). A Review of Standardized Testing Practices and Perceptions in Maine. *Center for Education Policy, Applied Research, and Evaluation*, (April).
- Faryadi, Q. (2019). PhD Thesis Writing Process: A Systematic approach—How to write your Methodology, Results and conclusion. *Creative Education*, 10(04). <https://doi.org/10.4236/ce.2019.104057>
- Feifei, W., & Yanqiang, C. U. I. (2014). *On value-Added assessment in Higher Education*. 7(2), 37–43. <https://doi.org/10.3968/5281>
- Fernández, E., García, T., Gómez, C., Areces, D., & Rodríguez, C. (2019). Creativity and perceived multiple intelligences as predictors of scholastic aptitude in primary education. *Electronic Journal of Research in Educational Psychology*, 17(49). <https://doi.org/10.25115/ejrep.v17i49.2597>.
- Garrison, K. L., Kimmel, S. K., & Forest, D. E. (2021). Reading Across the World. *IASL Annual Conference Proceedings*. <https://doi.org/10.29173/iasl7815>
- Gazibara, S. (2020). “Head, Heart and Hands Learning” - A challenge for contemporary education. *Journal of Education Culture and Society*, 4(1), 71–82. <https://doi.org/10.15503/jecs20131.71.82>
- Geiger, T., Amrein-Beardsley, A., & Chan, S. J. (2019). Student perception surveys for K-12 teacher evaluation in the United States: A survey of surveys. *Cogent Education*, 6(1). <https://doi.org/10.1080/2331186X.2019.1602943>
- Geršak, V. (2012). Creative movement – An opportunity for affective education. *International Journal of Arts & Sciences*.
- Gill, M. (2015). Empowering the Youth with Life Skills Through Value Integrated Education. *IMPACT: International Journal of Research in Humanities, Arts and Literature (IMPACT: IJRHAL)*, 3(2).
- Ginsburg, M., Joy, M., & Agostino, A. (n.d.). *Education for Transformation A conversation between Stephen*. 1–6.

- Githui, Jn. (2019). Role of Life skills Education in the Prevention of Corruption in Kenya. *African Journal of Humanities and Social Sciences*.
- Glennerster, R., Kremer, M., Mbiti, I., & Takavarasha, K. (2011). Access and Quality in the Kenyan Education System: A Review of the Progress, Challenges and Potential. *Victoria Advocate*, B8.
- Gocoglu, V., Korkmaz, M., & Gunduz, O. A. (2017). *The use of document analysis technique in Turkish scientific studies: DAS workshops and their stand by potential for Turkey*. 6(2), 18–28.
- Golfashni, N. (2011). Validity and Reliability in Social Science Research. *Education Research and Perspectives*, 38(1), 105–123.
- Government of Kenya. (2017). *Education for Sustainable Development Policy for the Education Sector*. 58.
- Government of Kenya. (2012). *Task force on the re-alignment of the education sector to the constitution of Kenya 2010*. (February), 306
- Government of Kenya (GoK). (2012). *Sessional paper of 2012: Reforming education and training in Kenya*. 1–133.
- Grant, C., & Osanloo, A. (2014). Understanding, Selecting, and Integrating a Theoretical Framework in Dissertation Research: Creating the Blueprint for Your “House”. *Administrative Issues Journal Education Practice and Research*, 4(2), 12–26. <https://doi.org/10.5929/2014.4.2.9>
- Guba, E. G., & Lincoln, T. S. (1994). Competing paradigms in qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (pp. 105–117). *Thousand Oaks, CA: Sage*, 105–117.
- Gutman, L., & Schoon, I. (2013). The impact of non-cognitive skills on outcomes for young people. A literature review. *London.*, (November).
- Government of the Republic of Kenya. (2013a). *The Universities Act, 2012*. 192(192).
- Haelermans, C., Huijgen, T., Jacobs, M., Levels, M., van der Velden, R., van Vugt, L., & van Wetten, S. (2020). Using Data to Advance Educational Research,

- Policy, and Practice: Design, Content, and Research Potential of the Netherlands Cohort Study on Education. *European Sociological Review*, 36(4), 643–662.
<https://doi.org/10.1093/esr/jcaa027>
- Haghshenas, Z. (2015). *Case Studies in Three Domains of Learning: Cognitive*. 9(6), 2104–2107.
- Hanushek, E., & Woessmann, L. (2015). Universal basic skills, What countries stand to gain. In *Universal basic skills: What countries stand to gain*
<https://doi.org/10.1787/9789264234833-en>
- Haq, I., & Haq, R. (2019). *Removing educational barriers for out-of-school- children using an innovative framework*. (October), 634–642.
- Harlen, W. (2014). Assessment, standards and quality of learning in primary education. In *Cambridge Primary Review Trust* (Vol. 1).
- Herdiana. (2013). Dr Catherine Dawson. *Journal of Chemical Information and Modeling*, 53(9), 1689–1699.
- Hill, P., & Barber, M. (2014). *Preparing for A Renaissance in Assessment*.
Holistic Education. (2020). https://doi.org/10.1007/978-3-319-95870-5_300119
- Hollstein. (2014). Mixed Methods Social Networks Research: An Introduction. *Mixed Methods Social Networks Research: Design and Applications*.
- Holtey-weber, J. (2015). *Talent Development in Sports and Beyond*. *Talent Development in Sports and Beyond*. (June 2015), 1–46.
<https://doi.org/10.13140/RG.2.2.35783.55208>
- Hoque, M. E. (2016). Three domains of learning - cognitive, affective, and psychomotor. *The Journal of EFL Education and Research (JEFLER)*, 2(2), 45–52.
- Hoskins, B., & Liu, L. (2019). *Measuring life skills in the context of Life Skills and Citizenship Education the Middle East and North Africa*.

- Hunt, I., & Merrotsy, P. (2010). Adding value and value adding: The concept of 'value added' in partially and fully selective schools. *Australasian Journal of Gifted Education*, 19(2), 37–48.
- Husnah, Z. (2019). Multiple intelligence based-education Mewujudkan Indonesia sebagai Bangsa Para Juara. *Al-Mudarris (Jurnal Ilmiah Pendidikan Islam)*, 1(2). <https://doi.org/10.23971/mdr.v1i2.1030>
- Hyman, M. R., & Sierra, J. J. (2016). *Open- versus close-ended survey questions*. (September 2015).
- Ingleby, E. (2012). Research methods in education. In *Professional Development in Education* (Vol. 38). <https://doi.org/10.1080/19415257.2011.643130>
- Okere, M. (2013). Influence of School Characteristics on the Achievement of Secondary School Chemistry Students in the Cognitive Science process Skill of Evaluation in Kenya. *European Journal of Educational Research*, 2(4), 171–183. <https://doi.org/10.12973/eu-jer.2.4.171>
- Irungu, M. N., & Grace, N. (2013). *Determinants of academic performance in Kenya Certificate of Secondary Education in public secondary schools in Kiambu*. 4(12), 38–44.
- Isaac, P., Kimengi, N., Kiptala, W., & Okero, R. (2014). *Students' Co -Curricular Participation Perception and Academic Performance in Kenyan Secondary Schools Kimengi , Kiptala and Okero Kimengi , Kiptala and Okero*. 1(November), 31–39.
- John, (2017). Holistic Approach in Education-An Overview. In *Journal Homepage: International Journal of Research in Social Sciences* (Vol. 7).
- Jagannathan, R., Camasso, M. J., & Delacalle, M. (2018). The effectiveness of a head-heart-hands model for natural and environmental science learning in urban schools. *Evaluation and Program Planning*, 66. <https://doi.org/10.1016/j.evalprogplan.2017.09.001>

- Jakubowski, M. (2021). Improving a Country's Education. In *Improving a Country's Education*. Springer International Publishing. <https://doi.org/10.1007/978-3-030-59031-4>
- James, A. M., Simiyu, A. M., & Riechi, A. (2016). Factors Affecting Subsidized Free Day Secondary Education in Enhancing Learners Retention in Secondary Schools in Kenya. *Journal of Education and Practice*, 7(20), 49–55.
- Jepketer, A., Kombo, P. K., & Kyalo, D. N. (2015a). Relationship between Teacher Capacity Building Strategy and Students' Performance in Public Secondary Schools in Nandi. *International Journal of Humanities and Social Science Invention*, 4(10), 37–50.
- Jepketer, A., Kombo, P. K., & Kyalo, D. N. (2015b). *Teachers' Classroom Strategy for Enhancing Students' Performance in Public Secondary Schools in Nandi County, Kenya*. 20(7), 61–73. <https://doi.org/10.9790/0837-20726173>
- Jeżowski, A. J. (2014). Educational Value Added in lower secondary schools in Warsaw. *Contemporary Educational Leadership*, 1(4), 56–67.
- John, A. C. (2015). Reliability and Validity: A Sine Qua Non for Fair Assessment of Undergraduate Technical and Vocational Education Projects in Nigerian Universities. *Journal of Education and Practice*, 6(34), 68–75.
- John, G., Choge, R., & Mutisya, S. M. (2019). Effect of Public Secondary Schools Categorisation on Students' Commitment to Democratic Values. *The International Journal of Humanities & Social Studies*, 7(8), 320–325. <https://doi.org/10.24940/theijhss/2019/v7/i8/hs1908-078>
- John, P. J. (2017). Holistic Approach in Education-An Overview. *International Journal of Research in Social Sciences*, 7(4), 346–353. Retrieved from https://www.ijmra.us/project doc/2017/IJRSS_APRIL2017/IJMRA-11420.pdf
- Johnson, A. (2015). Three Views of Teaching. *ArcGIS 9.3 Desktop Help*, 1–2.
- Johnson, B., & Christensen, L. B. (2020). Standardised measurement and assessment. In *Educational research: quantitative, qualitative, and mixed approaches*.

- Joshi, S., & Dubey, A. (2014). Emotional intelligence in children: a step towards. *horizons of holistic education*, (July), 32–45.
- Journals, Q. (2015). *Education for development: Towards a holistic approach to curriculum implementation in Kenya*. 3(6), 59–63.
- Kajira, V. M. (2013). Determinants of mainstreaming life skills education curriculum in Secondary Schools in Tharaka South District , Kenya. *Thesis*.
- Kalugina, D. A. (2015). The quality of content, process and outcoms of higher education from the students' viewpoint. *The Education and Science Journal*, (6). <https://doi.org/10.17853/1994-5639-2013-6-75-90>
- Kamau, A. W. (2015). *Effects of participation in competitive sports on school connectedness among public secondary school students in Murang'a County, Kenya*. (April), 1–87.
- Kautz, T., Heckman, J., Diris, R., Weel, B. ter, & Borghans, L. (2014). Fostering and measuring skills: Non-cognitive skills to promote lifetime success. *OECD Education Working Papers*, (110), 63. <https://doi.org/10.1787/19939019>
- Kaviti, L. (2018). The New curriculum of education in Kenya: A Linguistic and education paradigm shift. *Journal of Humanities and Social Science*, 23(2), 84–95. <https://doi.org/10.9790/0837-2302108495>
- Kawalekar, D. (Smt) J. S. (2017). The Value of life skills in higher education. *IOSR Journal of Research & Method in Education (IOSRJRME)*, 07(03), 43–46. <https://doi.org/10.9790/7388-0703054346>
- Kelchen, R., & Harris, D. N. (2012). *Kelchen_Harris_Paper*. (September).
- Kelley, T. R., & Knowles, J. G. (2016). A conceptual framework for integrated STEM education. *International Journal of STEM Education*, 3(1). <https://doi.org/10.1186/s40594-016-0046-z>
- Kelly, M., Dowling, M., & Millar, M. (2018). The search for understanding: The role of paradigms. *Nurse Researcher*, 25(4), 9–13. <https://doi.org/10.7748/nr.2018.e1499>.

- Kennedy, T. J., & Odell, M. R. L. (2014). Engaging Students In STEM Education. *Science Education International*, 25(3), 246–258.
- Kenya Institute of Curriculum Development. (2017). *Basic Education Curriculum Framework*. 1–145.
- Kenya institute of Curriculum Development (2017). *Report on Needs Assessment for Curriculum Reform in Kenya Special Needs Education*.
- KICD. (2014). *Report on Needs Assessment for School Curriculum Reform in Kenya*. 117.
- KICD. (2016). *Kenya Institute of Curriculum Development Report on Needs Assessment for school curriculum in Kenya*.
- KICD .(2017). *Facilitator's Training Manual for Early Years Education Curriculum Table of Contents*. (November), 1–71.
- Kimeu, R. M., Tanui, E., & Ronoh, A. (2016). Influence of instructional resources on secondary school students' academic performance in Makueni County, Kenya.
- Kivunja, C. (2018). Distinguishing between theory, theoretical framework, and conceptual framework: A systematic review of lessons from the field. *International Journal of Higher Education*, 7(6), 44–53.
<https://doi.org/10.5430/ijhe.v7n6p44>
- Kivunja, C., & Kuyini, A. B. (2017). Understanding and applying research paradigms in educational contexts. *International Journal of Higher Education*, 6(5), 26.
<https://doi.org/10.5430/ijhe.v6n5p26>
- Knight, J. (DCSF), Flórez, M., Sammons, P., & Scriven, M. (2013). The Assessment for Learning Strategy. *CfBT Education Trust*, 39–83.
- Koedel, C., Mihaly, K., & Rockoff, J. E. (2015). *Value-added modelling : A Review*. (January).
- Kothari and Gaurav Garg. (2014). Research methodology, methods and technique. In *New Age International Publishers*.

- Krauss, S. (2015). Research paradigms and meaning making: A Primer. *The Qualitative Report*. <https://doi.org/10.46743/2160-3715/2005.1831>
- Kumatongo, B., & Muzata, K. K. (2021). Research paradigms and designs with their application in education. *Journal of Lexicography and Terminology*, 5(1).
- Kurtz, M. D. (2018). Value-added and student growth percentile models: What drives differences in estimated classroom effects? *Statistics and Public Policy*, 5(1), 1–8. <https://doi.org/10.1080/2330443X.2018.1438938>
- Lata, P., & Devika. (2013). Instilling creativity, critical thinking and values for holistic development through humanities and liberal arts courses among engineering students. *Pertanika Journal of Social Science and Humanities*, 21(1), 329–340.
- Lauricella, S., & MacAkill, S. (2015). Exploring the potential benefits of holistic education: A Formative analysis Sharon Lauricella & Steph MacAskill University of Ontario, Canada. *The Journal of Education Alternatives*, 4(2), 54–78.
- Lauricella, S., & Macaskill, S. (2016). *Exploring the potential benefits of holistic education: A formative analysis Exploring the Potential Benefits of Holistic Education: A Formative Analysis*. (July).
- Leckie, G., & Goldstein, H. (2019). The importance of adjusting for pupil background in school value-added models: A study of Progress 8 and school accountability in England. *British Educational Research Journal*, 45(3), 518–537. <https://doi.org/10.1002/berj.3511>
- Lee, J., Kang, B., & Lee, D. (2016). 1, 2 & 3. 6(1), 14–23.
- Lee, J. T. (2014). Education hubs and talent development: policymaking and implementation challenges. *Higher Education*, 68(6), 807–823. <https://doi.org/10.1007/s10734-014-9745-x>
- Leonard, M., H, P. A., S, P. O. R., Kiiro, M., & Mumo, R. (2018). *Status of life skills education teaching and learning in secondary schools in Kibwezi Sub-County of Makueni County, Kenya*. 6(3), 32–38.

- Lewis, S. (2015). Qualitative inquiry and research design: Choosing among five approaches. In *Health Promotion Practice* (Vol. 16).
<https://doi.org/10.1177/1524839915580941>
- Livumbaze, A. G., & Achoka, S. J. (2017). Analysing the effect of teaching/learning resources on students' academic achievement in public secondary schools, Hamisi sub-county, Kenya. *European Journal of Education Studies*
- Lucas, A. M., & Mbiti, I. M. (2014). Effects of school quality on student achievement: Discontinuity evidence from Kenya. *American Economic Journal: Applied Economics*, 6(3), 234-263
- Luttah Waseka, E., & M.W. Simatwa, E. (2016). Student factors influencing academic performance of students in Secondary education in Kenya: A Case Study of Kakamega County. *Educational Research*, 07(03).
<https://doi.org/10.14303/er.2016.138>
- Mackatiani, C. I. (2017). Influence of examinations oriented approaches on quality education in primary schools in Kenya. *Journal of Education and Practice*, 8(14), 51–58. Retrieved from
<http://widgets.ebscohost.com/prod/customlink/hanapi/hanapi.php?profile=4dfs1q6ik%2BHE5pTp1ZLu0eGT1tTR28jqzaLXyajL2dTV482lyNzZoJmu5NS8q%2BnPKU%3D&DestinationURL=http%3A%2F%2Fsearch.ebscohost.com%2Flogin.aspx%3Fdirect%3Dtrue%26db%3Deric%26AN%3DEJ1143881%26>
- Mackatiani, C., Imbovah, M., Imbova, N., & Gakungai, D. K. (2016). Development of education in Kenya: Influence of the political factor beyond 2015 MDGs. *Journal of Education and Practice*, 7(11), 55–60.
- Mackenzie, N., & Knipe, S. (2006). Research paradigms, methods and methodology. *issues in educational research*, 16(3), 213–231.
- Madani, R. A. (2019). Analysis of educational quality, a goal of education for all policy. *Higher Education Studies*, 9(1), 100.
<https://doi.org/10.5539/hes.v9n1p100>

- Madjid, A., & Samsudin, M. (2021). The urgency of implementation of integrated holistic education in the learning system in Indonesia. *Review of International Geographical Education Online*, 11(8). <https://doi.org/10.48047/rigeo.11.08.65>
- Mahmoudi, S., Jafari, E., Nasrabadi, H. A., & Liaghatdar, M. J. (2012a). Holistic education: An Approach for 21 Century. *International Education Studies*, 5(3), 178–186. <https://doi.org/10.5539/ies.v5n3p178>
- Mahmoudi, S., Jafari, E., Nasrabadi, H. A., & Liaghatdar, M. J. (2012b). Holistic education: An Approach for 21 Century. *International Education Studies*, 5(3). <https://doi.org/10.5539/ies.v5n3p178>
- Majid, U. (2018). *Research fundamentals: Study design, population , and sample size research fundamentals : Study design , population , and sample size*. (June). <https://doi.org/10.26685/urncst.16>
- Makombe, G. (2017). An expose of the relationship between paradigm, method, and design in research. *Qualitative Report*, 22(12), 3363–3382.
- Makori, A., Onyura, G., Cheboiwo, F., Yegon, J., & Kandie, J. (2015). *Form one selection process, an encouragement or a discouragement: Examining parents ' perceptions in Baringo County , Kenya*. 3(7), 228–234.
- Marope, M. (2015). *Repositioning and reconceptualizing the curriculum for the effective realization of Sustainable Development Goal Four*. (May).
- Martin, B., McNamara, G., & O'Hara, J. (2016). Quality and the rise of value-added in education: The case of Ireland. *Policy Futures in Education*, 14(6), 810–829. <https://doi.org/10.1177/1478210316656506>
- Mbiti, I. M., & Lucas, A. M. (2014). Effects of school quality on student achievement: Discontinuity evidence from Kenya. *American Economic Journal: Applied Economics*, 6(3), 234–263.
- McCaffrey, D., Mccaffrey, D. F., & Hamilton, L. S. (2016). *Value-added assessment in practice: Lessons from the Pennsylvania value-added assessment system pilotpProject*. (May).

- Md Ghazali, N. H. (2016). A Reliability and validity of an instrument to evaluate the school-based assessment system: A Pilot study. *International Journal of Evaluation and Research in Education (IJERE)*, 5(2), 148.
<https://doi.org/10.11591/ijere.v5i2.4533>
- Michael, M. W. (2012). *Determinants of the development of students talents in co-curricular activities in secondary schools in Mwatate District, Kenya. A Research Project Report Submitted in Partial Fulfillment of the Requirement for the Award of a Master of Arts Degree in P.*
- Milligan, L. O. (2017). *Education quality and the Kenyan 8-4-4 curriculum: Secondary school learners' experiences.*
<https://doi.org/10.1177/1745499917711550>
- Ministry of Planning and Devolution. (2007). The Kenya vision 2030. The Popular Version. *Government of the Republic of Kenya*, 32.
- Ministry of Education. (2015). *National Education Sector Plan. Volume Two: Operational Plan 2013-2018.*
- Ministry of Education. (2018). *Republic of Kenya Ministry of Education, Science and Technology Volume One.*
- Manion, L., & Morrison, K. (2007). Research Methods in *education and training*, 7(August), 469–470.
- Mobegi, F. O., Ondigi, A. B., & Oburu, P. O. (2010). Secondary school headteachers' quality assurance strategies and challenges in Gucha district, Kenya. *Educational Research and Reviews*, 5(7), 408–414.
- MoE. (2012). Sessional Paper n. 14 on reforming education and training sectors in Kenya. *Ministry of Education*, 33(July), 32. Retrieved from
<http://dx.doi.org/10.1016/j.actamat.2015.12.003>
https://inis.iaea.org/collecti on/NCLCollectionStore/_Public/30/027/30027298.pdf?r=1&r=1
<http://dx.do i.org/10.1016/j.jmrt.2015.04.004>
- MOE. (2019). *Republic of Kenya Ministry of Education Sessional Paper No . 1 of 2019.* (1), 1–18.

- Mohajan, H. K. (2017). Two criteria for good measurements in research: Validity and reliability. *Annals of Spiru Haret University. Economic Series*, 17(4), 59–82. <https://doi.org/10.26458/1746>
- Mohammad, A. D., & Hussien, A. M. (2020). The 21st century skills of the female students of practical education in the Department of Kindergartens in Faculty of Education - King Faisal University. *Advances in Social Sciences Research Journal*, 7(3). <https://doi.org/10.14738/assrj.73.7959>
- Molina-Azorin, J. F., & Feters, M. D. (2017). The Journal of mixed methods research starts a new decade: The First 10 years in review. *Journal of Mixed Methods Research*, 11(2), 143–155. <https://doi.org/10.1177/1558689817696365>
- Morgan, D. L. (2014). Pragmatism as a paradigm for social research. *Qualitative Inquiry*, 20(8), 1045–1053. <https://doi.org/10.1177/1077800413513733>
- Morse, J., & Niehaus, L. (2016). Mixed method design, Principals and procedures. In *Taylor & Francis Group* (Vol. 4).
- Mugambi, M., & Ochieng, R. (2017). *Transforming the image of the teaching profession in kenya*. (February 2014).
- Murungi, C. G. (2018). *International Researchers* (October).
- Muskat M. (2020). *Mixed Methods Research Workshop*. (May). <https://doi.org/10.13140/RG.2.2.35670.47680/1>
- Muthike, W. N., Mwaruvie, J., & Mbugua, Z. (2017). *Influence of School Policies on Students' Participation in Co-Curricular Activities: a Case of Public Secondary Schools in Aberdare Central Region , Kenya*. 4(5), 553–555.
- Mwaka, M. (2013). *The national goals of education in Kenya: Interrogating the achievement of national unity*. 4(4), 149–156.
- Myers, J. L., Well, A. D., & Lorch, R. F. (2013). Research design and statistical analysis, third edition. In *Research Design and Statistical Analysis, Third Edition* (Vol. 9780203726631). <https://doi.org/10.4324/9780203726631>

- Nair, P. K., & Fahimirad, M. (2019). A qualitative research study on the importance of life skills on undergraduate students' personal and social competencies. *International Journal of Higher Education*, 8(5).
<https://doi.org/10.5430/ijhe.v8n5p71>
- Napolitano, C. M., Sewell, M. N., Yoon, H. J., Soto, C. J., & Roberts, B. W. (2021). Social, emotional, and behavioral skills: An integrative model of the skills Associated with success during adolescence and across the life Span. *Frontiers in Education*, 6. <https://doi.org/10.3389/feduc.2021.679561>
- Ndirangu, K. M. (2015). *Participation in non-academic talents in Kenya*: 3(11), 283–294.
- Neuman, W. L. (2011). Social research methods: Qualitative and quantitative approaches. In *Pearson Education*.
- Ngale, I. F., & Monaheng, M. (2019). Holistic education. *Humanities and Social Science Research*, 2(1), p15. <https://doi.org/10.30560/hssr.v2n1p15>
- Ngeti, R. N., Bulinda, M. H., & Peter, B. (2018). Influence of facilities and equipment on female teachers' management of competitive sports in secondary schools in Taita Taveta County. *International Journal of Sports and Physical Education*, 4(4).
- Nijhawan, L., Janodia, M., Muddukrishna, B., Bhat, K., Bairy, K., Udupa, N., & Musmade, P. (2013). Informed consent: Issues and challenges. *Journal of Advanced Pharmaceutical Technology and Research*, 4(3), 134–140.
<https://doi.org/10.4103/2231-4040.116779>
- Nilsen, P. (2015). Making sense of implementation theories, models and frameworks. *Implementation Science*, 10(1), 1–13. <https://doi.org/10.1186/s13012-015-0242-0>
- Njeng'ere, D. (2014). *The role of curriculum in fostering national cohesion and integration: Opportunities and challenges*. 13.
- Njue, E. K., Muthaa, G. M., & Muriungi, P. K. (2014). Effectiveness of examination handling and distribution procedures in curbing malpractices in secondary

- schools in Eastern Province, Kenya. *Creative Education*, 05(08).
<https://doi.org/10.4236/ce.2014.58068>
- Noor, N. A. M., Saim, N. M., Alias, R., & Rosli, S. H. (2020). Students' performance on cognitive, psychomotor, and affective domain in the course outcome for embedded course. *Universal Journal of Educational Research*, 8(8).
<https://doi.org/10.13189/ujer.2020.080821>
- Nulhakim, L., & Berlian, L. (2020). *Investigation of multiple intelligence of primary school students*. 6(1), 101–113.
- Nyagosia, P. O., Waweru, S. N., & Njuguna, F. W. (2013). *Factors influencing academic achievement in public secondary schools in central Kenya: An effective schools' perspective*. 2(2), 174–184.
- Nyamai, D. K., & Mugambi, M. (2019). *Competence-Based Education: New Wine in Old Wine Skins?* (4), 60–74.
- Nyangweso, J. O., Maiyo, J. K., & Kati, R. (2019). Effect of secondary school categorization on value addition in public secondary schools students in Kenya. *Journal of Education and Practice*, 10(33), 70–75.
<https://doi.org/10.7176/jep/10-33-12>
- Nyatuka, B. O., & Bota, K. N. (2014). Equity in access to secondary education in Kenya: A Historical perspective. *Journal of Education and Practice*, 5(2), 48–54.
- Nzoka, J. T., & Orodho, J. A. (2014). School management and students' academic performance: How effective are strategies being employed by school managers in secondary schools in Embu. *International Journal of Humanities and Social Science*, 4(9), 86–99.
- Odanga, S. (2018). Influence of socio-cultural factors on performance in examinations in Kenya. *Asian Research Journal of Arts & Social Sciences*, 7(1).
<https://doi.org/10.9734/arjass/2018/41051>

- Oguta, A., & Simatwa, E. M. W. (2020). *Contribution of parents to girl-child talent development in public secondary schools in Kenya: A Case Study .Kisumu East and Central Sub-counties*. (2003).
- Olela, M., & Allida, D. (2021). *The Influence of Summative Evaluation on Classroom Practices*. 2(3), 69–78.
- Olela, M., Allida, D., & M. Role, E. (2021). The influence of summative evaluation on classroom Practices in Rarieda Sub-County, Kenya. *East African Journal of Education and Social Sciences*, 2(Issue 3).
<https://doi.org/10.46606/eajess2021v02i03.0105>
- Onderi, H., & Makori, A. (2014). Understanding realities, inequalities and implications associated with policy and practice in form one selection in secondary schools in Kenya. *British Journal of Arts & Social Sciences*, 17(2), 146–164. Retrieved from
<http://connection.ebscohost.com/c/articles/95422453/understanding-realities-inequalities-implications-associated-policy-practice-form-selection-secondary-schools-kenya>
- Organisation for Economic Co-operation and Development (OECD). (2018). The future of education and skills: Education 2030. *OECD Education Working Papers*, 23. <https://doi.org/10.1111/j.1440-1827.2012.02814.x>
- Orodho, J. A., Waweru, P. N., Ndichu, M., & Nthinguri, R. (2013). Basic education in Kenya: Focus on strategies applied to cope with school-based challenges inhibiting effective implementation of curriculum. *International Journal of Education and Research*, 1(11), 1–20.
- Owen, G. T. (2014). *Qualitative methods in higher education policy analysis: Using Interviews and Document Analysis*. 19, 1–19.
- Ozier, O. (2018). The impact of secondary schooling in Kenya: A regression discontinuity analysis. *Journal of Human Resources*, 53(1), 157-188.

- Pai, P., Hochweber, J., & Klieme, E. (2013). Test score or student progress? A value-added evaluation of school effectiveness in urban China. *Frontiers of Education in China*, 8(3), 360–377. <https://doi.org/10.3868/s110-002-013-0024-0>
- Papastamatis, A., & Panitsides, E. A. (2014). Transformative learning: Advocating for a holistic approach. *Review of European Studies*, 6(4), 74–81. <https://doi.org/10.5539/res.v6n4p74>
- Park, K., Tan, L. S., Chan, L. K., & Ng, T. K. (n.d.). *Nurturing talents APFG Newsletter 2018 Issue 5 No. 1 Special Issue on Creativity, Leadership and Talent Development for Gifted Students in Asia-Pacific Published by Asia-Pacific Federation on Giftedness*.
- Patton, M. Q. (2014). *Qualitative research & evaluation methods*. 2001 Sage Publications. In *Thousand Oaks, California*.
- Pauw, J. B. de, Gericke, N., Olsson, D., & Berglund, T. (2015). The effectiveness of education for sustainable development. *Sustainability (Switzerland)*, 7(11), 15693–15717. <https://doi.org/10.3390/su71115693>
- Perry, Caroline. (2013). *Assessing value added in school inspection and supporting improvement*. (October).
- Perry, T. (2016a). English value-added measures: Examining the limitations of school performance measurement. *British Educational Research Journal*, Vol. 42, pp. 1056–1080. <https://doi.org/10.1002/berj.3247>
- Perry, T. (2016b). *The validity, interpretation, and use of school value-added measures. Ph.D Thesi*(February). Retrieved from <http://etheses.bham.ac.uk/6773/>.
- Pham, L. (2018). A Review of key paradigms: positivism, interpretivism and critical inquiry. *ResearchGate*, (4), 1–7. <https://doi.org/10.13140/RG.2.2.13995.54569>
- Phuoc, T., Nguyen, L., Nguyen, T. H., & Tran, T. K. (2020). *STEM education in secondary schools: Teachers' perspective towards sustainable development*.

- Pivovarova, M., Amrein-Beardsley, A., & Broatch, J. (2016). Value-added models (VAMs): Caveat emptor. *Statistics and public policy*, 3(1), 1–9.
<https://doi.org/10.1080/2330443X.2016.1164641>
- Pkorkor, M. (2020). *Influence of summative assessment on learner motivation*.
- Plater, M. (2017). Holistic education and embodied learning. *International Journal of Children's Spirituality*, 22(3–4).
<https://doi.org/10.1080/1364436x.2017.1379655>
- Polcyn, J. A. N. (2016). *Maximizing the quality of education by measuring the educational added value in secondary school technical type based on exam results*. 20(2), 360–378. <https://doi.org/10.1515/manment-2015-0070>
- Ponce, O. A., & Pagán-Maldonado, N. (2015). Mixed methods research in education: Capturing the complexity of the profession. *International Journal of Educational Excellence*, 1(1), 111–135. <https://doi.org/10.18562/ijee.2015.0005>
- Pouline, Habimana, T. (2013). Data collection instruments (Questionnaire & Interview). *Training in sexual and reproductive health research Geneva*, (Geneva Workshop 2013), 18.
- Prajapati, R., Sharma, B., & Sharma, D. (2016). Significance of life skills education. *Contemporar Issues in Education Research (CIER)*, 10(1), 1–6.
<https://doi.org/10.19030/cier.v10i1.9875>
- Preissle, J., Glover-Kudon, R., Rohan, E. A., Boehm, J. E., & DeGroff, A. (2015). Putting Ethics on the Mixed Methods Map. In *The Oxford Handbook of Multimethod and Mixed Methods Research Inquiry*.
- Profile, S. E. E. (2016). *Value-added indicators for Polish schools: an overview*. (January).
- Qutoshi, S. B. (2019). *Perceptions of university teachers about integrated assessment approaches towards learners' holistic development perceptions of university teachers about integrated assessment approaches towards learners' holistic development*. (May).

- Radovan, M. (2019). Cognitive and metacognitive aspects of key competency “learning to learn”. *Pedagogika*, *133*(1), 28–42.
<https://doi.org/10.15823/p.2019.133.2>
- Ranjani, B. I. (2015). Blending East and West for holistic education. *Educational Research and Reviews*, *10*(3), 244–248. <https://doi.org/10.5897/err2014.2015>
- Ray, A., Evans, H., & McCormack, T. (2009). The use of national value-added models for school improvement in English schools. *Revista de Education*, *348*, 47–66.
- Rehman, A. A., & Alharthi, K. (2016). An introduction to research paradigms. *International Journal of Educational Investigations*, *3*(8).
- Rehman, Adil Abdul, & Alharthi, K. (2016). An introduction to research paradigms in distance education. *International Journal of Educational Investigations*, *3*(October), 51–59.
- Republic of Kenya. (2013). *The Basic Education Act*. (14), 215–307.
- Republic of Kenya. (2015). *Education Sector 2013/14-2015/26 Medium Term Expenditure Framework, Republic of Kenya*. (October 2012).
- Republic of Kenya (2018). *Kenya National Education Sector Strategic Plan for the Period 2018 - 2022*. 281.
- Republic of Kenya. (2019). *Ministry of Education sessional paper No.1 of 2019 on policy framework for reforming education and training for sustainable development in Kenya*. (1), 232.
- Republic of Kenya - Ministry of Education Science and Technology. (2018). *Ministry of Kenya Education, Science and Technology Strategic Plan 2013-2017*. Retrieved from <http://www.education.go.ke/index.php/downloads/category/17-policy-documents?download=88:strategic-plan-final-2-of-23rd-may-latest-corrections11>
- Ridder, H. G. (2017). The theory contribution of case study research designs. *Business Research*, *10*(2), 281–305. <https://doi.org/10.1007/s40685-017-0045-z>

- Rosales, J., & Walker, T. (2021). The Racist Beginnings of Standardized Testing | NEA. *NeaToday*.
- Rosenstein, L. D. (2019). Research design and analysis: A primer for the non-statistician. In *Research Design and Analysis: A Primer for the Non-Statistician*. <https://doi.org/10.1002/9781119563600>
- Rothstein, J. (n.d.). *Effects of value-added policies*. 4–5.
- Ruane, J. (2016). Introducing social research methods - Essentials for getting the edge. In *Introducing Social Research Methods - Essentials for getting the edge*.
- Rudge, L. (2015). *Holistic education an analysis of its pedagogical application*. (March).
- Sambu, M. C. (2014). *Educating learners identified by teachers as gifted and talented in primary schools in Wareng District, Uasin Gishu County, Kenya*. 4(11), 232–245.
- Sambu, M. C., Karugu, G. K., & Warkach, K. T. (n.d.). *Identification of and talented learners in primary schools In Wareng District, Uasin Gishu County, Kenya*.
- Santiago, P., Benavides, F., Danielson, C., Goe, L., & Nusche, D. (2013). *OECD reviews of evaluation and assessment in education. Teacher Evaluation in Chile*.
- Sarah, B., & Lilian, K. (2015). *Perception of gifted students on compulsory subjects in their academic performance. A case of secondary schools in Uasin Gishu County in Kenya*. 6(23).
- Saravanakumar, A. R. (2020). Life skill education for creative and productive citizens. *Journal of Critical Reviews*, 7(9), 554–558. <https://doi.org/10.31838/jcr.07.09.110>
- Saunders, L. (2001). *A science in the service of an art? The use of 'value added' analyses of school performance to aid school improvement*.
- Scherman, V. (2008). The validity of value-added measures in secondary schools. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 68(8-A), 3362. Retrieved from

<http://ezproxy2.utwente.nl/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=psyh&AN=2008-99031-277&site=ehost-live>

- Sellah, L., Jacinta, K., & Helen, M. (2018). Predictive power of cognitive styles on academic performance of students in selected national secondary schools in Kenya. *Cogent Psychology*, 5(1), 1444908. <https://doi.org/10.1080/23311908.2018.1444908>
- Shaluhayah, Z., Ratih, A. K., Syamsulhuda, I., & Musthofa, B. (2021). Life skills education to improvement of teenager's knowledge, attitude, self-efficacy and risk health behavior. *KEMAS: Jurnal Kesehatan Masyarakat*, 17(1).
- Shek, D. T. L., Lin, L., Ma, C. M. S., Yu, L., Leung, J. T. Y., Wu, F. K. Y., ... Dou, D. (2021). Perceptions of Adolescents, Teachers and Parents of Life Skills Education and Life Skills in High School Students in Hong Kong. *Applied Research in Quality of Life*, 16(5). <https://doi.org/10.1007/s11482-020-09848-9>
- Shepard, L. A. (2013). *How can classroom assessment inform learning?*
- Singh, H., & Gera, M. (2015a). Strategies for development of life skills and global competencies. *International Journal of Scientific Research*, 4(6), 760–763.
- Skedsmo, G. (2020). Assessment and evaluation with clarifying purposes for policy and practice. *Educational Assessment, Evaluation and Accountability*, 32(2), 103–106. <https://doi.org/10.1007/s11092-020-09323-x>
- Skedsmo, G., & Huber, S. G. (2019). Forms and practices of accountability in education. *Educational Assessment, Evaluation and Accountability*, 31(3), 251–255. <https://doi.org/10.1007/s11092-019-09305-8>
- Skjærbæk, H. (2020). *Talents in Vocational Education. III.*
- Sönmez, V. (2017). Association of cognitive, affective, psychomotor and intuitive domains in education, Sönmez Model. *Universal Journal of Educational Research*, 5(3), 347–356. <https://doi.org/10.13189/ujer.2017.050307>
- Soraya, S., Binti, L., Kamal, A., & Kingdom, U. (2019). *Research paradigm and philosophy*. 4(3), 1386–1394.

- Srivastava, G. (2019). The importance of life skills for adolescents. In *Project Academi*.
- Stăncescu, I. (2017). *The importance of assessment .The educational process - Science Teachers' Perspective*. (March 2018), 753–759.
<https://doi.org/10.15405/epsbs.2017.07.03.89>
- Stockemer, D. (2019). Quantitative methods for the social sciences with SPSS and Stata. In *Book* (Vol. 50).
- Strand, S. (2016). Do some schools narrow the gap? Differential school effectiveness revisited. *Review of Education*, Vol. 4, pp. 107–144.
<https://doi.org/10.1002/rev3.3054>
- Strike, K. (2006). The ethics of educational research Routledge. *Handbook of Complementary Methods in Education Research*, (16137).
- Strunk, K. K., & Mwavita, M. (2020). Design and analysis in educational research. In *Design and Analysis in Educational Research*.
<https://doi.org/10.4324/9780429432798>
- Suri, H. (2020). Ethical considerations of conducting systematic reviews in educational research. In *Systematic Reviews in Educational Research*.
https://doi.org/10.1007/978-3-658-27602-7_3
- Susongko, P. (2021). *Taxonomy of educational objectives in the perspective of the old Java Educational Theory: An application to holistic Education*. (3).
<https://doi.org/10.4108/eai.30-11-2020.2303756>
- Sutarman, S., Tjahjono, H. K., & Hamami, T. (2017). The implementation of holistic education in Muhammadiyah's Madrasah Indonesia. *Dinamika Ilmu*, 17(2), 191–203. <https://doi.org/10.21093/di.v17i2.856>
- Swapna, J., & Nagarajan, K. (2021). Importance of life Skills education through indian tales in academics for children upto 15 years. *Towards Excellence*.
<https://doi.org/10.37867/te130426>

- Syarif, M. S., Ghani, A. R. A., & Suyatno. (2017). The model of implementing character-based holistic education in learning. *International Journal of Economic Research*, 14(12).
- Taber, K. S. (2018). The use of cronbach's alpha when developing and reporting research instruments in science education. *Research in Science Education*, 48(6), 1273–1296. <https://doi.org/10.1007/s11165-016-9602-2>
- Taherdoost, H. (2017). Determining sample size; How to calculate survey sample size. *International Journal of Economics and Management Systems*, 2(2), 237–239.
- Taherdoost, H. (2018). Validity and reliability of the research instrument; How to test the validation of a questionnaire/survey in a research. *SSRN Electronic Journal*, (September). <https://doi.org/10.2139/ssrn.3205040>
- Taherdoost, H., & Group, H. (2017). *Sampling methods in research methodology; How to choose a sampling methods in research methodology*. (January 2016). <https://doi.org/10.2139/ssrn.3205035>
- Tan, K. (2013). A Framework for assessment for learning: Implications for feedback practices within and beyond the gap. *ISRN Education*, 2013, 1–6. <https://doi.org/10.1155/2013/640609>
- Taylor, J., & Nguyen, A. N. (2006). An analysis of the value added by secondary schools in England: Is the value-added indicator of any value? *Oxford Bulletin of Economics and Statistics*, 68(2), 203–224. <https://doi.org/10.1111/j.1468-0084.2006.00159.x>
- Teddlie, C., & Tashakkori, A. (2009). Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioural sciences. In *Sage Publications, Inc* (Vol. 1).
- Teyhan, A., Cornish, R., MacLeod, J., Boyd, A., Doerner, R., & Sissons Joshi, M. (2016). An evaluation of the impact of 'Life skills' training on road safety, substance use and hospital attendance in adolescence. *Accident Analysis and Prevention*, 86. <https://doi.org/10.1016/j.aap.2015.10.017>

- Thakar, K. S., & Modi, K. N. (2016). Importance of life skill for adolescents. *International Journal for Research in Education (IJRE)*, 5(2).
- Timmermans, A. C., & Thomas, S. M. (2015). The impact of student composition on schools' value-added performance: A comparison of seven empirical studies. *School Effectiveness and School Improvement*, 26(3), 487–498.
<https://doi.org/10.1080/09243453.2014.957328>
- Timmermans, A., & Van der Werf, G. (2017). Accounting for previous performance of students by means of growth curves analyses to estimate the size, stability, and consistency of school effects. *Educational Research and Evaluation*, 23(5–6), 221–246. <https://doi.org/10.1080/13803611.2017.1455300>
- Tirri, K. (2016). Holistic perspectives on gifted education for the 21st Century. In *giftedness and talent in the 21st Century*. https://doi.org/10.1007/978-94-6300-503-6_6
- Tirri, K., Moran, S., & Menon Mariano, J. (2016). Education for purposeful teaching around the world. *Journal of Education for Teaching*, 42(5), 526–531.
<https://doi.org/10.1080/02607476.2016.1226551>
- Tosuncuoglu, I. (2018). Importance of assessment in ELT. *Journal of Education and Training Studies*, 6(9), 163. <https://doi.org/10.11114/jets.v6i9.3443>
- Tsurayya, H., Ghani, A. R. A., & Melati, P. (2019). *Multiple intelligence assessment in teaching English for young learners*. 5(1), 21–29.
- Türkman, B. (2020). *The evolution of the term of giftedness & theories to explain gifted characteristics 1*. 7(April), 17–24.
- Turnipseed, S., & Darling-Hammond, L. (2015). Accountability is more than a test score. *Education Policy Analysis Archives*, 23, 11.
<https://doi.org/10.14507/epaa.v23.1986>
- Unesco. (2010). Education for all. Global Monitoring Reports - Reaching the marginalized. In *Oxford University Press*.

- UNESCO. (2012). Education for All: Youth and skills: Putting education to work. In *EFA Global Monitoring Report*. [https://doi.org/April 28, 2015](https://doi.org/April%2028,%202015)
- UNESCO. (2014). *Global monitoring Report, 2014*.
- UNESCO. (2015a). Education 2030. *World Education Forum 2015*, 51.
- UNESCO. (2015b). *Student learning assessment and the curriculum: Issues and implications for policy, design and implementation. In-Progress Reflections No. 1 on 'Current and Critical Issues in the Curriculum and Learning'*. (1), 29.
- UNESCO. (2018). *Handbook on measuring equity in education*. [https://doi.org/10.1016/S0733-8619\(03\)00096-3](https://doi.org/10.1016/S0733-8619(03)00096-3)
- UNESCO Institute for Statistics. (2019). *SDG 4 Data Digest: How to produce and use the global and thematic education indicators*.
- UNESCO, (2015). Education for All 2000-2015: Achievements and challenges. In *EFA Global Monitoring Report*.
- UNICEF. (2012). Global evaluation of life skills education Programmes. *Evaluation office*, (August), 177.
- UNICEF. (2019a). *Comprehensive lifes Skills framework*.
- UNICEF. (2019b). *Global framework on transferable skills*.
- United Nations Educational Scientific and Cultural Organization. (2016). *UNESCO - Global Education Monitoring Report 2016*.
- United Nations Educational Scientific and Cultural Organization. (2018). Global education monitoring report gender review 2018: Meeting our commitments to gender equality in education. In *Global Education Monitoring Report 2017/18*.
- Van Griensven, H., Moore, A. P., & Hall, V. (2014). Mixed methods research - The best of both worlds? *Manual Therapy*, 19(5). <https://doi.org/10.1016/j.math.2014.05.005>
- Venkatesh, V., Brown, S. A., & Sullivan, Y. W. (2016). Guidelines for conducting mixed-methods research: An extension and illustration. *Journal of the*

- Association for Information Systems*, 17(7), 435–495.
<https://doi.org/10.17705/1jais.00433>
- Vogt, W. (2014). Selecting research methods. In *Selecting research methods*.
<https://doi.org/10.4135/9781446263396>
- Waiganjo, M., & Mwangi, M. (2018). Relevance of life skills Education in preparing Kenyan youth for national development. *Journal of African Studies in Educational Management and Leadership*, 10(December), 85–103. Retrieved from <http://www.kaeam.or.ke>.
- Wals, A. E. J. (2012). Shaping the education of tomorrow. *United Nations Educational, Scientific and Cultural Organization*, 100.
- Wango, Dr. G., Musomi, M., & Akinyi, C. (2012). Gender and education in Kenya and re-alignment of education to the Constitution. *TP Human Rights Towards Gender Equality Seminar*.
- Wasanga, P., & Somerset, A. (2013). Examinations as an instrument for strengthening pedagogy: Lessons from three decades of experience in Kenya. *Assessment in Education: Principles, Policy, and Practice*, 20(4), 385–406.
<https://doi.org/10.1080/0969594X.2013.833499>
- Waweru, P. N., & Orodho, J. A. (2014). Management practices and students' academic performance in national examinations in public secondary schools in Kiambu county, Kenya. *International Journal of Recent Scientific Research*, 5(2).
- Wekesa, V., Kipkoech, L., & Okemwa, P. (2021). Financial resource planning dynamics and performance of upgraded Extra-County schools to national status in western Kenya counties. *East African Journal of Interdisciplinary Studies*, 3(1). <https://doi.org/10.37284/eajis.3.1.280>
- Wekesa, V., & Kitainge, K. (2022). Academic performance of upgraded Extra-County schools to national status in western Kenya counties. *East African Journal of Education Studies*, 5(1). <https://doi.org/10.37284/eajes.5.1.538>

- Wetter, J. J., & Wetter, J. J. (2011). Research theory and methodology. *The Impacts of Research and Development Expenditures*, 63–74. https://doi.org/10.1007/978-1-4419-7530-0_3
- WHO. (2009). Preventing violence by developing life skills in children and adolescents. *World Health Organization (WHO)*.
- Wilson, L. O. (2014). Three domains of learning - Cognitive, affective, psychomotor: The second principle. *The Second Principle*.
- Winters, M. (2016). Grading schools promotes accountability and improvement. *Manhattan Institute*, (May), 2013–2015.
- Wojniak, J., & Majorek, M. (2018). Polish education system under 2017 reform: Assumptions, aims and controversies. *SHS Web of Conferences*, 48, 01043. <https://doi.org/10.1051/shsconf/20184801043>
- Wood, J., Antonowicz, L., Clarke, D., Daniel, P., Grout-Smith, J., & Tibbits, F. (2012). *Global life skills education evaluation*. (February).
- Wu, W. T. (2000). Talent identification and development in taiwan. *Roeper Review*, 22(2), 131–134. <https://doi.org/10.1080/02783190009554017>
- Yadira, I., Menéndez, C., Angel, M., Napa, C., Liceth, M., & Moreira, M. (2019). *The Importance of Formative Assessment in the Learning Teaching Process*. 3(2), 238–245.
- Yambi, T. de A. C. (2018). Assessment and evaluation in education. *Academic Press*, 1–9.
- Yankey, T., & Biswas, U. N. (2019). Impact of life skills training on psychosocial well-being of Tibetan refugee adolescents. *International Journal of Migration, Health, and Social Care*, 15(4). <https://doi.org/10.1108/IJMHS-11-2017-0049>
- Yarovaya, Y. B. (2015). Standardization of primary education in Great Britain. *European Journal of Contemporary Education*, 12(2), 169–174. <https://doi.org/10.13187/ejced.2015.12.169>

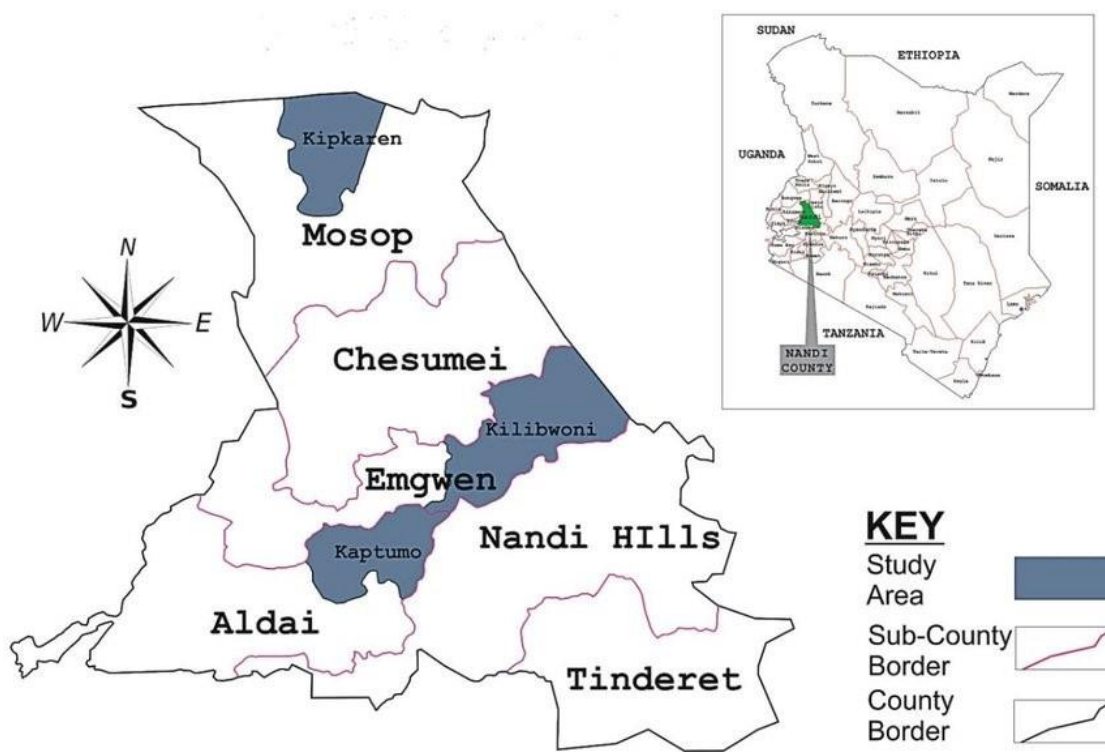
Yavich, R., & Rotnitsky, I. (2020). Multiple intelligences and success in school studies. *International Journal of Higher Education*, 9(6).

<https://doi.org/10.5430/ijhe.v9n6p107>

Yehl, A. (2010). From 'Clueless' to 'Completed': A review of the essential guide to doing your research project. *Qualitative Report*, 15(3), 746–749.

APPENDICES

Appendix I: Map of Nandi County



Appendix II: Krejcie and Morgan Table of determining sample size

N	S	N	S	N	S
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	186	2800	335
75	63	400	191	3000	338
80	66	420	196	3500	341
85	70	440	201	4000	346
90	73	460	205	4500	351
95	76	480	210	5000	354
100	80	500	214	6000	357
110	86	550	217	7000	361
120	92	600	226	8000	364
130	97	650	234	9000	367
140	103	700	248	10000	368
150	108	750	254	15000	371
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	100000	384

Note

N is the population size

S is the sample size

Appendix III: Letter of introduction to the school principals

Dear Principal,

I am a Doctor of Philosophy Student (D.Phil.) in the Department of Education Foundations and the Management University of Eldoret. I am looking for data for my research title; Value addition to the holistic development of students' public secondary schools in Kenya; A case of Nandi County. Your school is part of the study sample. I request that you voluntarily participate in this study. Information obtained will improve assessment methods and accountability systems in secondary schools. Your co-operation and assistance will be highly appreciated. All the information obtained from the responses to this questionnaire will be used only for study purposes and treated confidentially.

Thank you for accepting to participate in this study.

Yours sincerely,

Grace Chelimo Barno

Appendix IV: principal's questionnaire

This questionnaire aims to collect data for purely academic purposes on value addition by the various secondary schools in Kenya.

Please answer the questionnaire by ticking the box [] or filling appropriately in the provided spaces. The responses will be kept strictly confidential.

SECTION: Background information

1. Gender: Male [] Female []
2. Type of school: (a) Boys [] Girls [] Mixed []
 (b) National [] Extra County [] county [] sub-county []
3. Professional qualifications:
 (i) Diploma [] (ii) Degree [] (iii) Masters [] (iv) PhD []
4. Number of streams in the school:
 1[] 2[] 3[] 4[] 5 [] 6 []
5. Value-added performance for national examination results

Section1: Introduction

School name: ----- School category; -----

KNEC code: -----KCPE Year: ----- KCSE YEAR:

Please provide the KCPE and KCSE results for the 2018 cohort of students in your school

Appendix V: letter of introduction to the students

Dear Student,

I am a Doctor of Philosophy Student (D.Phil.) in the Department of Education Foundations and the Management University of Eldoret. I am studying **“Value addition to learners' holistic development in different secondary schools in Kenya. A case of Nandi County.”**

The information collected will recommend effective assessment techniques for secondary schools in Kenya. You are among those selected to participate in this study. Your co-operation and assistance will be highly appreciated. All the information obtained from your responses to the questionnaire will only be used for this study and treated confidentially. I take this opportunity to thank you in advance for taking part in this study.

Yours sincerely,

Grace Chelimo Barno

Appendix VI: students' questionnaire

SECTION A: Participation in co-curricular activities

Gender; 1 - Male 2 - Female

Category of school: 1- National 2 - Extra- County 3 - County 4 - Sub-County

There are several co-curricular activities listed below. Indicate the one you participated in at both Primary and secondary schools and the level reached in each case. Tick (v) whichever is appropriate 1 - no participation- 2. Sub-county 3 County 4 Regional level 5 National level

SECTION B: Life skills

The following table indicates life skills acquired while going through the school system. Tick, where appropriate, the skills that you think have been enhanced through secondary education by ticking on the proper box as either 5- Strongly Agree, 4- Agree, 3-Undecided, 2- Disagree, 1 - Strongly Disagree

Directions: The following statements describe how you might think about certain things daily. Select the answer corresponding to how often you have done what is described since joining secondary. For example, if you select 5 for an item, you regularly do what the statement explains. You always do it. Select whichever is appropriate 1- Never, 2- Rarely, 3- Sometimes, 4 – Often, 5- Always

Critical thinking questionnaire

No.	Item	1	2	3	4	5
i)	I think of possible results before I act					
ii)	I get ideas from other people when having a task to do.					
iii)	I develop my ideas by gathering information					
iv)	When facing a problem, I identify options					
v)	I can easily express my thoughts on a problem					
vi)	I can give reasons for my opinions					
vii)	I need to get information to support my opinions.					
viii)	I usually have more than one source of information before deciding					

- ix) I plan where to get information on in a topic.
- x) I plan how to get information on a topic
- xi) I put my ideas in order by importance
- xii) I back my decisions with the information I got.
- xiii) I listen to the ideas of others even if I disagree with them.
- xiv) I compare ideas when thinking about a topic
- xv) I keep my mind open to different ideas when planning to decide.
- xvi) I am aware that sometimes there are no right or wrong answers to a question
- xvii) I develop a checklist to help me think about an issue
- xviii) I can quickly tell whether what I did was right or wrong
- xix) I can tell the best way of handling a problem
- xx) I make sure the information I use is correct

Self-esteem questionnaire

No	Item	1	2	3	4	5
i)	I feel that I am a person of worth, at least on an equal plane with others					
ii)	I feel that I have some excellent qualities					
iii)	All in all, I am inclined to feel that I am a failure					
iv)	I can do things as well as most other people					
v)	I feel I do not have much to be proud of.					
vi)	I take a positive attitude toward myself					
vii)	Overall, I am satisfied with myself					
viii)	I wish I could have more respect for myself					
ix)	I certainly feel useless at times					
x)	At times I think I am no good at all					

Decision-making questionnaire

No	Item	1	2	3	4	5
i)	I rarely make essential decisions without consulting other people					
ii)	I double-check my information sources to be sure I have the correct facts before making decisions					
iii)	I use the advice of other people in making important decisions					
iv)	I make decisions in a logical and systematic way					
v)	When making decisions, I do what feels natural now					
vi)	I generally make snap decisions					
vii)	My decision-making requires careful thought					
viii)	When making decisions, trust my feelings and reactions					
ix)	When making a decision, I consider various options regarding a specified goal					
x)	I avoid making important decisions until the pressure is on					
xi)	I often make impulsive decisions					
xii)	I generally make decisions that feel right to me					
xiii)	I often need the assistance of other people when making important decisions					
xiv)	I postpone decision-making whenever possible					
xv)	I often make decisions on the spur of the moment					
xvi)	I often put off making important decisions					
xvii)	If I have the support of others, it is easier for me to make crucial decisions					
xviii)	I generally make important decisions at the last minute					
xix)	When making decisions, I rely on my instincts					

Problem-solving questionnaire

No.	Item	1	2	3	4	5
i)	Once I choose a solution, I develop an implementation plan with the sequence of events necessary for the completion					
ii)	After implementing a solution, I immediately look for ways to improve the idea and avoid future problems					
iii)	To avoid asking the wrong question, I take care to define each problem carefully before trying to solve it					
iv)	I strive to look at problems from different perspectives and generate multiple solutions					
v)	I try to address the issues and other consequences of the change I am proposing so that others will understand and support my solution					
vi)	I evaluate potential solutions carefully and thoroughly against a predefined standard					
vii)	I systematically search for issues that may become problems in the issues					
viii)	When I decide on a solution, I make it happen no matter what opposition I may face					
ix)	I find that minor problems often become more extensive in scope and, thus, very difficult to solve					
x)	After I implement a solution, I relax and focus again on my regular duties					
xi)	I evaluate potential solutions as I think of them					
xii)	When I need to find a solution to a problem, I usually have all the information I need to solve it					
xiii)	when evaluating solutions, I take time to think about how I should choose between options					
xiv)	I evaluate potential solutions as I think of them					
xv)	When I need to find a solution to a problem, I usually have all the information I need to solve it					
xvi)	When evaluating solutions, take time to think about how I should choose between options					
xvii)	Deciding is the end of my problem-solving process					

Effective communication questionnaire

No	Item	1	2	3	4	5
i)	I use my tone of voice to reinforce what I am trying to say					
ii)	I don't hear everything a person is saying because I am thinking about what I want to say					
iii)	My body language reinforces what I am trying to say					
iv)	When talking to someone, I try to maintain eye contact					
v)	I interrupt other people to say what I want to say before I forget it					
vi)	I recognize when two people are trying to say the same thing but in different ways					
vii)	I try to watch other people's body language to help me with what I am trying to say					
viii)	I recognize when people are using their hands to reinforce what they are saying					
ix)	I recognize when a person is listening to me but not hearing what I am saying					
x)	I use my own experiences to let my friends know that I understand what they are going through					
xi)	When I am listening to someone, I try to understand what they are feeling					
xii)	I try to see other person's point of view					
xiii)	I change how I talk to someone based on my relationship with them (i.e., friend, parent, teacher, etc.)					
xiv)	I try to respond to what someone is saying rather than just reacting to their tone					
xv)	To help a person understand me. I change the way I speak based on how another person is talking to me					
xvi)	I find it easy to get my point across					
xvii)	I use my hands to illustrate what I am saying					
xviii)	I organize thoughts in my head before speaking					
xix)	I use my body language to help reinforce what I want to say					
xx)	I make sure I understand what another person is saying before I respond					
xxi)	I rephrase what another person said to make sure I understood them					
xxii)	When someone gets mad, I change my tone of voice to help calm them down					
xxiii)	I find ways to redirect the conversation when people rattle on and on					

Coping with emotions and stress questionnaire

No	Item	1	2	3	4	5
i)	I find an outlet to express my emotions (writing in a journal, playing music, drawing or painting, reading, etc.)					
ii)	I seek out emotional support from others					
iii)	I develop strategies to get me on track					
iv)	I set goals to help improve the issue					
v)	I can communicate my need					
vi)	Stressful situations consume my thoughts					
vii)	I think of ways that I can change the situation to make it better					
viii)	I try to think of how lucky I am when compared with those who have even more complex problems					
ix)	I throw myself into reckless behaviour (i.e., heavy drug or alcohol use, risky sex, impulsive spending, gambling, or physically dangerous activities to get my mind off my real problems					
x)	I blame practically everyone but myself for my problems					
xi)	I readjust my existing goals to fit the new situation					
xii)	My thoughts about the situation prevent me from concentrating on other important tasks					
xiii)	I count to ten, take deep breaths or practice other relaxation techniques					
xiv)	I remind myself that things will eventually get better					
xv)	I outline a few strategies to resolve the issue and choose the one that seems to be the best					

Self-awareness questionnaire

No	Item	1	2	3	4	5
i)	I am satisfied with my general behaviour					
ii)	I feel I am reaching my potential					
iii)	My family is happy with me					
iv)	I get on well with other people					
v)	I am doing things I want to					
vi)	A good self-image helps me					
vii)	I am self-confident					
viii)	I feel that my general behaviour is well balanced					
ix)	I always think of myself as a positive person					
x)	I consider myself to be a responsible person					
xi)	I fully understand/accept/respect myself					
xii)	I have a lovely personality					

Empathy questionnaire

No	Item	1	2	3	4	5
i)	I try to see things from other people's points of view					
ii)	When I do not understand someone's point of view, I ask questions to learn more					
iii)	When I disagree with others, it is hard for me to understand their perspective					
iv)	I consider people's circumstances when I am talking with them					
v)	I try to imagine how I would feel in someone else's situation					
vi)	When someone is upset, I try to remember a time when I felt the same way					
vii)	When I am reading a book or watching a movie, I think about how I would react if I were one of the characters					
viii)	Sometimes I wonder what I would feel like to be in my parent's situation					
ix)	When a friend is upset, I try to show them that I understand how they feel					
x)	I say, "I can see why you feel that way."					
xi)	I am known to say, "you are wrong" when someone is sharing their opinion					
xii)	When a friend or family member is sick, my actions let them know I understand					
xiii)	I say things like, "something like that happened to me once; I understand how you feel"					
xiv)	I have told my friends things like, "You should not be upset or " stop feeling that way."					
xv)	When I know one of my friends is upset; I try to talk to them about it					

Interpersonal relationship questionnaire

No	Item	1	2	3	4	5
I)	I am usually open to getting to know people personally and establishing relationships with them					
ii)	I usually react quickly and spontaneously					
iii)	I am usually open to other people's use of my time					
iv)	I usually introduce myself at social gatherings					
v)	I usually focus my conversations on the interest of the parties involved, even If this means the discussion strays from the subject or business at hand					
vi)	I am usually not aggressive and can be patient with a slow pace					
vii)	I usually make decisions based on facts and evidence					
viii)	I usually contribute to group conversations					
ix)	I usually prefer to work with and through others, providing support when possible					
x)	I usually make emphatic statements or directly express opinions					
xi)	I primarily focus on the person, interaction, and feel					
xii)	I usually use gestures, facial expressions, and voice intonations to emphasize points					
xiii)	I usually accept others' points of view					
xiv)	I usually respond to risk and change in a cautious manner					
xv)	I usually find it natural and easy to share my feelings with others					
xvi)	I usually seek out new and different experiences and situations					
xvii)	I usually am responsive to others' agendas, interests, and concerns					
xviii)	I usually respond to conflict quickly and directly					

Teamwork questionnaire

No	Item	1	2	3	4	5
i)	I can help a group be successful					
ii)	I can be happy even when my group has decided to do something; I don't want					
iii)	I can cooperate with others					
iv)	I can place group goals above the things that I want					
v)	I can cooperate with others					
vi)	I can be a team player in a small group					
vii)	I know I can get along with other people in a small group					
viii)	I can be a group leader					


Appendix VII: Research Permit

THIS IS TO CERTIFY THAT:
MS. GRACE CHELIMO BARNO
of UNIVERSITY OF ELDORET, 318-30100
ELDORET, has been permitted to conduct
research in Nandi County

Permit No : NACOSTI/P/17/46482/1795
Date Of Issue : 7th July,2017
Fee Received :Ksh 2000

on the topic: VALUE ADDITION TO THE
HOLISTIC DEVELOPMENT OF STUDENTS
IN SECONDARY SCHOOLS IN KENYA; A
CASE OF NANDI COUNTY

for the period ending:
7th July,2018




Applicant's Signature

Director General
National Commission for Science
Technology & Innovation

CONDITIONS

1. The License is valid for the proposed research, research site specified period.
2. Both the Licence and any rights thereunder are non-transferable.
3. Upon request of the Commission, the Licensee shall submit a progress report.
4. The Licensee shall report to the County Director of Education and County Governor in the area of research before commencement of the research.
5. Excavation, filming and collection of specimens are subject to further permissions from relevant Government agencies.
6. This Licence does not give authority to transfer research materials.
7. The Licensee shall submit two (2) hard copies and upload a soft copy of their final report.
8. The Commission reserves the right to modify the conditions of this Licence including its cancellation without prior notice.

REPUBLIC OF KENYA



National Commission for Science
Technology and Innovation

RESEARCH CLEARANCE
PERMIT

Serial No.A 14805
CONDITIONS: see back page

Appendix VIII: Research Authorization By Nandi County Education Office



MINISTRY OF EDUCATION STATE DEPARTMENT FOR BASIC EDUCATION

Email: cdenandicounty@yahoo.com
When replying please quote

Ref: NDI/CDE/RESEARCH/1/VOL.11/38

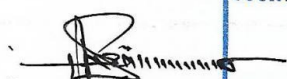
Grace Chelimo Barno,
University Of Eldoret,
P.O Box 1125-30100,
ELDORET.

County Director of Education
Kapsabet ,
P. O. Box 36-30300,
KAPSABET.
Date 11/7/2017

RE: RESEARCH AUTHORISATION.

The above named person has been granted permission by the CDE to carry out research on "*Value addition to the holistic development of students in secondary schools in Kenya*". A case in Nandi County for the period ending 7th July 2018.

Kindly provide her all necessary support she requires.


Lawrence K. Karuntimi,
County Director of Education,
NANDI COUNTY.

COUNTY DIRECTOR OF EDUCATION
NANDI COUNTY
P.O. BOX 36-30300
KAPSABET

Appendix IX: Research Authorization by The County Commissioner's Office

THE PRESIDENCY

MINISTRY OF INTERIOR AND COORDINATION OF NATIONAL GOVERNMENT

Tel: 053 52621, 52003, Kapsabet
 Fax No. 053 – 52503
 E-mail:
 nandicountycommissioner@gmail.com
 When replying, please quote



County Commissioner's Office,
 Nandi County
 P.O. Box 30,
KAPSABET.

Ref. No. NC.EDU.4/I VOL.IV/(64)

12th July 2017

Grace Chelimo Barno
 University of Eldoret
 P.O. Box 1125 - 30100
ELDORET.

RE: RESEARCH AUTHORIZATION

This is in reference to letter No. NACOSTI/P/17/46482/17956 dated 7th July, 2017 from the Director General/CEO, National Commission for Science, Technology and Innovation on the above subject matter.

You are hereby authorized to conduct a research on **“Value addition to the holistic development of students in secondary schools in Kenya: A case of Nandi County”** for the period ending 7th July, 2018.

Wishing you all the best.



JACINTAH K. MUKHULA,
 For: COUNTY COMMISSIONER
NANDI.

Appendix X: Similarity Report



University of Eldoret

Certificate of Plagiarism Check for Synopsis

Author Name	BARNO GRACE CHELIMO EDU/D.PHIL /PGPE/1001/13
Course of Study	Type here...
Name of Guide	Type here...
Department	Type here...
Acceptable Maximum Limit	Type here...
Submitted By	titustoo@uoeld.ac.ke
Paper Title	VALUE ADDITION TO THE HOLISTIC DEVELOPMENT OF STUDENTS IN PUBLIC SECONDARY SCHOOLS IN KENYA: A CASE OF NANDI COUNTY
Similarity	7%
Paper ID	994436
Submission Date	2023-10-02 13:25:51

Signature of Student



Head of the Department

Signature of Guide

* This report has been generated by DrillBit Anti-Plagiarism Software