



RELATIONSHIP BETWEEN SELECTED TOTAL QUALITY MANAGEMENT PRACTICES EMPLOYED BY PUBLIC SECONDARY SCHOOLS PRINCIPALS AND STUDENTS' PERFORMANCE IN KENYA CERTIFICATE OF SECONDARY EDUCATION IN KIAMBU COUNTY, KENYA

Margaret W. Ruinge^{1†} --- Gerald N. Kimani²

¹Maasai Mara University, Narok, Kenya

²University of Nairobi, Department of Educational Administration and planning, Nairobi, Kenya

ABSTRACT

The Purpose of the study was to investigate the relationship between selected total quality management (TQM) practices employed by principals and students' performance in Kenya Certificate of Secondary Education (KCSE) in public secondary schools in Kiambu County, Kenya. The selected TQM practices were; school focus on meeting students' needs, goal setting (establishing performance objectives) and communication of curricular issues. Ex post facto research design was adopted for the study. Target population consisted of 227 school principals from public secondary schools in Kiambu County and 3736 teachers in these schools. Kiambu County has 10 sub-counties. Cochran's sample size formula was used to determine the sample size of 143 principals and 343 teachers. In order to ensure equal representation of principals and teachers from all public secondary schools in the 10 sub-counties, 14 principals ($143 \div 10$ sub-counties = 14.3) from schools in each sub-county and 3 teachers [$(343 \div 10$ sub-counties) \div 14 schools = 2.5] from each sample school were selected using simple random sampling technique. A questionnaire developed by the researchers was administered to 140 principals from the sample schools and 420 teachers. Correlations were generated to establish the relationships between the three selected TQM practices employed by school principals and students' performance. Linear regression analysis was used to test the hypothesis and identify predictor variable for the students' performance in KCSE. The findings revealed that, school focus on meeting student's needs, establishment of performance objectives (goal setting) on curricular activities and embracement of high level of communication on curricular issues especially from the students, enhance students' performance in national examinations.

Keywords: School focus on meeting students' needs, Goal setting, Communication, Students' performance, Total quality management, School management practices, Public secondary schools management.

Contribution/ Originality

This study is one of very few studies which have investigated the relationship between students' performance in national examinations and total quality management practices employed by public secondary schools principals analyzing data using linear regression analysis to estimate the unknown effect of school management practices over students' performance in examinations.

1. INTRODUCTION

The Kenya's Basic Education Act, 2013 gives the Cabinet Secretary the responsibility for the overall governance and management of basic education to all children at national and county levels. According to Teh *et al.* (2008), senior leaders and the management do guide the organization and assess the organizational performance. Frequent use of effective leadership practices resulted in greater school improvement progress and school effectiveness learning climate (Orr and Orphanos, 2011). Managers must be involved in the effectiveness of TQM and they must provide vision, reinforce values emphasizing quality, set goals, allow free flow of information, ensure training and development of staff, deploy resources for the quality programs and monitor the progress of the same Harold and Heinz (2010). It is a concern that students in public secondary schools in Kiambu County perform poorly in national examinations. Table 1 in Appendix A shows an analysis of KCSE performance in public secondary schools in Kiambu County for 5 years: 2009-2013. The students' average mean grade for the years under review was 'D+' (mean of 4.58 out of expected maximum score of 12) and thus, reflecting poor performance. Data also revealed that, 78.35% of the students got below a mean grade of C+ which is the minimum requirement for entry to Kenyan universities and 67.94% got below grade C which is the minimum entry requirement to a diploma college.

Quality management is a source of enhancing organizational performance through continuous improvement in organizations activities (Teh *et al.*, 2009). School management influences how students learn, and good management helps ensure that school funds are used prudently (U.S.A.I.D, 2011). Related literature also show that customer focus is critical in total quality management (Arumugam *et al.*, 2008; Zakuan *et al.*, 2010; Alison and Hon Keung, 2011). Specific areas of customer needs and in the context of a school "students' needs" in relation to school management practices need to be addressed. The researchers attempted to address some of these needs. Apart from institutional goals/targets, rarely do students set their individual goals. This study clearly show that students require to have their own target goals for schools to achieve the set academic performance goals and feedback from them on curriculum issues is essential.

Darling-Hammond *et al.* (2007) recognize the important role of school leaders in developing high performing schools. Table 2 in Appendix B shows the number of principals that were transferred and dropped between January 2009 and May 2013 in public secondary schools in

Kiambu County. Data reveal that 74(33%) principals were demoted or transferred within this period. The transfers and demotions are an indication of instability in school leadership. Poor students' performance in KCSE examinations could partly be attributed to leadership and management practices in these schools. It was for this reason that the researchers chose to carry out a study to establish whether there were any significant relationships between three selected TQM practices; school focus on meeting student's needs, goal setting and communication of curricular issues and students' performance in KCSE in public secondary schools in Kiambu County. These TQM practices are among key factors that have been identified to affect students' performance.

1.1. Objectives of the Study

The following were the objectives of the study:

1. To determine whether there was a significant relationship between the level which a school focuses on meeting student's needs and students' performance in KCSE.
2. To determine whether there was a significant relationship between establishment of performance objectives (goal setting) by the school on curricular activities and students' performance in KCSE.
3. To determine whether there was a significant relationship between the school's level of communication on curricular issues and students' performance in KCSE.

1.2. Hypotheses

The following hypotheses were formulated to guide the study:

- Ho₁: There is no significant relationship between the level which a school focused on meeting student's needs and students' performance in KCSE.
- Ho₂: There is no significant relationship between establishing of performance objectives (goal setting) by the school on curricular activities and students' performance in KCSE.
- Ho₃: There is no significant relationship between the school's level of communication on curricular issues and students' performance in KCSE.

1.3. Theoretical Perspective

The theoretical basis for this study was derived from the systems theory and transformational leadership theory. Systems Theory was founded by Ludwig Von Bertalanffy in 1948. The theory postulates that schools are like other open systems mainly concerned with relationships of structures and independence. Schools are interdependent with their environments and school people are a part of those environments (Weick, 1995). Teams (students, teachers and parents) in a school, just like other organizations are like living organisms or open systems that have input and output processes. The teams can be looked at as micro-organizations that can be viewed in the light of systems theory.

Burns (1978) gave a conceptual grounding for transformational leadership by focusing on the relationship between the leader and the “followers”. The “followers” in this study are the teams. Transformational leaders motivate followers by raising their consciousness about the importance of organizational goals and by inspiring them to transcend their own self-interest for the sake of the organization (Burns, 1978). Harold and Heinz (2010) indicate how various inputs are transformed through the managerial functions of planning, organizing, staffing, leading, and controlling into output. Transformational leaders attempt to shape a positive organizational culture and contribute to organizational effectiveness (Fullan, 1991). Transformational leadership has significant effects on student achievement Leithwood *et al.* (2003). As was adapted in this study, the systems and transformational leadership theories hold that the selected management practices affect students’ performance. These theories require a shared vision by the teams, a cohesive effort from all the participants and effective management practices that enhance students’ academic performance.

2. LITERATURE REVIEW/RELATED LITERATURE

Harold and Heinz (2010) found that, top managers who use TQM practices provide a vision, reinforce values emphasizing quality, set quality goals, have a free flow of information and deploy resources for the quality program which result to greater customer satisfaction, less wastage, increased total productivity, reduced costs, improved profitability and an environment in which quality has high priority. An empirical study conducted by Arumugam *et al.* (2008) explored the relationship between quality management practices and quality performance on ISO9001:2000 certified manufacturing organizations in Malaysian organizations. The study revealed that customer focus and continuous improvement were perceived as dominant total quality management practices in quality performance. Organizations must be knowledgeable in customer requirements and responsive to customer demands Zakuan *et al.* (2010). School principals should adopt a more positive attitude towards “meeting pupils” needs Alison and Hon Keung (2011).

Bobby *et al.* (2009), found that goal setting process informs workers of their specific responsibilities and ensures that necessary resources are identified and provided. In addition they assert that effective goal setting has shown to be a driver of performance. Setting goals enhance engagement and, develop optimism which results in improved performance (Dragoni and Kuenzi, 2010). Effective communication with students about their progress is a key to enhancing learning and helps them to know the degree of achievement towards the expected goals (Parshardis, 2008). In an effective organization, communication flows in various directions; downward, upward and crosswise Harold and Heinz (2010). Effective communication influence the organization to move systematically towards employee’s involvement and customer satisfaction and improves organization performance (Ooi *et al.*, 2007; Yusuf *et al.*, 2007). Success has been achieved as a result of the quality of leadership at the school level, rather than the direct influence of policy (Day *et al.*, 2009).

3. RESEARCH METHODOLOGY

This study was conducted as an *ex post facto* research. The design allowed the researchers to select the relevant variables of events or conditions that had already occurred for an analysis of their relationships. *Ex post facto* design was most suitable for this study because most of the variables had already occurred and could not be manipulated. The target population consisted of 227 schools from 10 sub-counties in Kiambu County and 3736 teachers in these schools. Cochran's sample size formula was used to determine the sample size of 143 principals and 343 teachers. To ensure equal representation of principals and teachers from all the 10 Sub-Counties in Kiambu County, principals from 14 ($143 \div 10$ sub-counties = 14.3) schools in each sub-county and 3 [$(343 \div 10$ sub-counties) $\div 14$ schools in each sub-county = 2.5] teachers from each school were selected using simple random sampling technique. A questionnaire developed by the researchers was administered to 140 principals from the sample schools and to 420 teachers.

The questionnaire had likert-type scale statements measuring dimensions of the selected TQM practices; 10 items on school focus in meeting students' needs, 8 on establishing performance objectives (goal setting) and 7 on communication of curricular issues. A measure of respondents' opinions about the use of the selected TQM practices in their schools was based on a 5-point likert-type scale (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree). The respondents were requested to circle the appropriate option that described their level of agreement with the descriptive items of the selected management practices. There was one open-ended question for each of the selected management practice where the researchers sought individual opinion or views on the relationship between the selected management practices and students' performance. The demographic data collected included; gender, age, level of education and years of service. There was also a question requesting the respondents to indicate the average mean grade in KCSE in their school for years 2010, 2011 and 2012. The return rate of secondary school principals and teachers was 89.29% and 87.62% respectively.

3.1. Data Analysis Techniques

Correlation coefficients were computer generated to test the relationship between each of the selected TQM practice and students' performance in KCSE. Linear regression analysis was used to estimate the unknown effect of the selected management practice over students' performance. Ordinary least of squares (OLS) estimation method was used to estimate the unknown parameters in the regression model by minimizing the vertical distances between the observed responses in the selected data and responses predicted by the linear approximation. Model fitness of the regression estimations were generated where R-square showed the amount of variance of KCSE score explained by the selected management practice. Root mean squared error (Root MSE), the standard deviation of the regression was obtained. The closer this value was to zero, the better the model fit. P-values of the regression models were also obtained where, p-value less than 0.05 showed a statistically significant relationship between the selected management practice and KCSE score. The researchers used two tail p-values to test the hypothesis and to reject the

hypothesis, the p-value had to be lower than 0.05. The t-values were also used to test the hypothesis. To reject the hypothesis, t-value had to be greater than 1.96 (at 0.05 confidence).

4. STUDY FINDINGS

The principals and the teachers responses on KCSE mean grade scores for their schools in year 2010, 2011 and 2012 are presented in Table 3 Appendix C. The average KCSE mean grade for the three years was a D (mean score of 4.59 out of the maximum expected of 12 points). The respondents responses to the likert- type scale statements on the three selected total quality management practices employed by school principals were analysed and their relationship with students' performance tested.

4.1. School Focus on Meeting Students' Needs with Students' Performance

In order to test the hypothesis that there is no significant relationship between the levels at which a school focused on meeting students' needs and students' performance in KCSE correlation and regression analysis were computer generated for the principals and teachers responses to the likert- type scale statements. The correlations and level of significances of the estimates are presented in the Table 4 Appendix D. The results obtained revealed that, meeting of weak students separately by the teachers for remedial teaching was the most significant compared to other variables and had the strongest relationship with a correlation of $r = 0.242$ with students' performance. Linear regression analysis results were obtained and the model fitness together with the regression estimates are presented in Table 5 Appendix E. The statement that, 'weak students were met separately by the teachers for remedial teaching' had t-value equal to 4.35, p-value equal to 0 and a coefficient 0.3102. The p-value was less than 0.05 and t-value greater than 1.96. These values were statistically significant. The null hypothesis that stated that there is no significant relationship between the levels at which a school focused on meeting students' needs and students' performance in KCSE was rejected. The findings show that there is a significant relationship between the level at which a school focuses on meeting student's needs and students' performance in KCSE. The following linear regression equation for estimating KCSE mean score based on school focus on meeting students' needs was derived: $KCSE \text{ Mean Score} = 3.7244 + 0.3102$ (Weak students are met separately by the teachers for remedial teaching) points.

The implication of the model is that for each one-point increase in meeting of weak students separately by the teachers for remedial teaching, KCSE mean score increase by **0.3102** points holding all other factors constant. Provision of instructional support and removal of any unresolved students' problems that may deter learning process will impact positively on students' academic performance. Individualized solving of students' problems and personal attention to their academic work especially in weak areas encourage and boosts the morale of the learners and results in improved students' performance. Besides this, the teacher is able to understand areas in subject content where students have difficulties and that leads to adequate preparation in subject content which leads to effective curriculum implementation and impacts positively on students'

performance. This finding is in agreement with findings of Heck *et al.* (1990) who found that in higher performing schools, leadership had greater emphasis on ensuring that staff systematically monitored student progress and, that the results were used for the purpose of program improvement (Heck *et al.*, 1991). In the same dimension, Ortlieb (2010) found that, increasing expectations of lower performers and providing greater instructional support, teachers may create changes in student opinions of their academic abilities and student's efficacy becomes stronger, the student become more enthusiastic about schoolwork and more willing to initiate contacts with the teachers which impact directly on achievement.

4.2. Level of Establishing Performance Objectives (Goal Setting) For School Curricular Activities and Students' Performance

In order to test the hypothesis that there is no significant relationship between the levels of establishing performance objectives (goal setting) for school curricular activities by the principal and students' performance in KCSE, correlation and regression analysis were computer generated for the principals and teachers responses to the likert- type scale statements. The correlations and level of significances of the estimates obtained are presented in Table 6 Appendix F. Students have a target goal in their academic performance was the most significant compared to other variables and had the strongest relationship with a correlation of $r = 0.285$ with students' performance in KCSE. Linear regression analysis results were obtained and the model fitness together with the regression estimates are presented in Table 7 Appendix G.

The statement that, 'students have a target goal in their academic performance' had t-value equal to 3.53 and p-value 0 with a coefficient of 0.3156. The p-value was less than 0.05 and t-value greater than 1.96 and these values were statistically significant. The null hypothesis that stated that there is no significant relationship between the level of establishing performance objectives (goal setting) for school curricular activities by the principal and students' performance in KCSE was rejected. The results revealed that there is a significant relationship between the level of establishing performance objectives (goal setting) for school curricular activities by the school principal and students' performance in KCSE. The following linear regression equation for estimating KCSE mean score based on the level of establishing performance objectives (goal setting) for school curricular activities by the principal was derived: $KCSE \text{ Mean Score} = 2.629 + 0.3156$ (students have a target goal in their academic performance) points.

The implication of the model is that for each one-point increase in establishing students target goal in their academic performance, KCSE mean score will increase by 0.3156 points holding all other factors constant. The explanation is that, setting of performance goals gives the students direction and focus towards achievement of the set goals and this impacts positively on students' performance. The finding imply that setting of clear curriculum target goals enable students to focus attention and effort towards achievement of these goals resulting to improved performance. Improvement on students' performance will be realized by ensuring that performance target goals are set and continuously communicating strategies to achieve these

goals to the teachers and students. This is in agreement with [Dragoni and Kuenzi \(2010\)](#) who found that setting goals enhances engagement and develops optimism which results in improved performance. [Zabarack \(1998\)](#) found that, total quality management and continuous improvement initiatives have goal setting as the key element for success. The finding is also in agreement with other research works that found effective goal setting as a mechanism that is related to academic achievement outcomes ([Braxton et al., 2004](#); [Kuh et al., 2007](#)). Transformational leaders motivate followers by raising their consciousness about the importance of organizational goals and by inspiring them to transcend their own self-interest for the sake of the organization ([Burns, 1978](#)).

4.3. School's Level of Communication on Curricular Issues and Students' Performance

In order to test the hypothesis that there is no significant relationship between the schools' level of communication on curricular issues and students' performance in KCSE the researchers generated the correlation and regression for the principals and teachers responses to the likert-type scale statements. Correlations and the level of significances of the estimates obtained are presented in Table 8 Appendix H. Results revealed that, having a suggestion box in the school where students place papers containing issues of concern was the most significant and had the strongest relationship compared to other variables with a correlation of $r = 0.279$ with students' performance in KCSE. Linear regression analysis results were obtained and the model fitness together with the regression estimates are presented in Table 9, Appendix I. The results revealed that, the statement that 'there is a suggestion box in the school where students place papers containing issues of concern' had value of t-value equal to 5.94 and p-value of 0 with a coefficient of 0.2851. The p-value was less than 0.05 and t-value greater than 1.96 and these values are statistically significant. The null hypothesis that stated that there is no significant relationship between the level of communication on curricular issues and students' performance in KCSE was rejected. The findings show that there is a significant relationship between the school's level of communication on curricular issues and students' performance in KCSE. The following linear regression equation for estimating KCSE mean score based on the schools' level of communication on curricular issues was derived: $KCSE \text{ Mean Score} = 4.9488 + 0.2851$ (A suggestion box in the school where students place papers containing issues of concern) points.

The implication of the model is that for each one-point increase in having a suggestion box in the school where students place papers containing issues of concern, KCSE mean, score increase by 0.2851 points holding all other factors constant. The explanation is that, establishment of clear lines of communication in a school is an essential tool in achieving high academic performance. This finding implies that, open lines of communication on curricular issues ensure understanding and clarity of set performance objectives resulting to improved students' performance. The finding is in agreement with [San Antonio and Gamage \(2007\)](#), who found that in communication; more bottom-up management practices significantly improve schools' effectiveness. The finding is also in the same dimension with what [Huffman and Jacobson \(2003\)](#)

found, that influential leadership style of school principal included providing an open and safe environment for diverse ideas, beliefs, and strategies to be discussed in the school community.

5. CONCLUSION AND RECOMMENDATIONS

Identification of weak students in various curriculum areas and provision of extra instructional assistance helps to improve general academic performance in students as various obstacles that hinder effective curriculum implementation are removed during remedial teaching. Thus, giving individual attention to the students creates an enabling environment for learning and performance. In addition, setting of students' performance objectives (goal setting) gives direction and focus towards achievement of curriculum goals and this impact positively on students' performance. School principals therefore, need to make teachers and students understand and be clearly aware of curricular target goals because this encourages them to put substantive effort towards the achievement of these goals resulting to improved students' academic performance. The finding in this study implies that establishment of students' open lines of communication on curricular issues by the school administration ensure understanding and clarity of set performance objectives resulting to improved students' performance. The school principal should therefore, embrace open communication and be dynamic in communicating high performance expectations to both the teachers and students for improved students' performance. This study found that, school focus on meeting student's needs, establishment of performance objectives (goal setting) on curricular activities and embracement of high level of communication on curricular issues especially from the students enhance students' performance. It is imperative for the school principal to adopt TQM practices that impact positively on students' performance in order to improve students' academic achievements.

Funding: This study received no specific financial support.

Competing Interests: The authors declare that they have no competing interests.

Contributors/Acknowledgement: All authors contributed equally to the conception and design of the study.

REFERENCES

- Alison, L.F.C. and Y. Hon Keung, 2011. Principals' and teachers' opinion of quality management: In Hong Kong primary schools. *Quality Assurance in Education*, 19(2): 170-186.
- Arumugam, V., K.B. Ooi and T.C. Fong, 2008. TQM practices and quality management performance: An investigation of their relationship using data from ISO 9001: 2000 firms in Malaysia. *The TQM Magazine*, 20(6): 636-650.
- Bobby, M., J. Green and W. Kenneth, 2009. Enhancing performance through goal setting, engagement, and optimism. *Industrial Management & Data Systems*, 109ISS(7): 943-956.
- Braxton, J.M., A.S. Hirschy and S.A. McClendon, 2004. Understanding and reducing college student departure. *ASHE-ERIC Higher Education Reports*, 30: 1-97.
- Burns, J.M., 1978. *Leadership*. New York: Harper and Row.

- Darling-Hammond, L., M. La Pointe, D. Meyerson, M.T. Orr and C. Cohen, 2007. Preparing school leaders for a changing world: Lessons from exemplary leadership development programs. Stanford, CA: Stanford Educational Leadership Institute.
- Day, C., P. Sammons, D. Hopkins, A. Harris, K. Leithwood, Q. Gu, E. Brown, E. Ahtaridou and A. Kington, 2009. The impact of school leadership on pupil outcomes. Research Report DCSF-RR108, Department for Children, Schools and Families, London.
- Dragoni, L. and M. Kuenzi, 2010. The impact of a climate for learning: Boundary conditions and facilitators. Paper Presented at the Annual Academy of Management Conference, Montreal.
- Fullan, M., 1991. The new meaning of educational change. New York: Teachers College Press.
- Harold, K. and W. Heinz, 2010. Essentials of management: An international perspective. New Delhi: Tata McGraw Hill.
- Heck, R.H., T.J. Larsen and G.A. Marcoulides, 1990. Instructional leadership and school achievement: Validation of a causal model. *Educational Administration Quarterly*, 26(2): 94-125.
- Heck, R.H., G.A. Marcoulides and P. Lang, 1991. Principal instructional leadership and school achievement: The application of discriminant techniques. *School Effectiveness and School Improvement*, 2(2): 115-135.
- Huffman, J. and A. Jacobson, 2003. Opinions of professional learning communities. *Journal of Leadership in Education*, 6(3): 239-250.
- Kuh, G.D., J. Kinzie, J.A. Buckley, B.K. Bridges and J.C. Hayek, 2007. In: Piecing together the student success puzzle: Research, propositions, and recommendations (ASHE Higher Education Report) San Francisco, CA: Jossey-Bass, 32.
- Leithwood, K., B. Riedlinger, S. Bauerand and D. Jantzi, 2003. Leadership program effects on student learning: The case of the greater new orleans school leadership center. *Journal of School Leadership and Management*, 13(6): 707-738.
- Ooi, K.B., V. Arumugam, M.S. Safa and N.A. Bakar, 2007. HRM and TQM: Association with job involvement. *Personnel Review*, 36(6): 936-996.
- Orr, M.T. and S. Orphanos, 2011. How graduate-level preparation influences the effectiveness of school leaders: A comparison of the outcomes of exemplary and conventional leadership preparation programs for principals. *Educational Quarterly*, 47(1): 18-70.
- Ortlieb, E., 2010. Beyond just books: Sparking students' interest in reading. *International Journal of Education*, 2(2): E9.
- Parshardis, G., 2008. Toward knowledge base for school climate in Cyprus's schools. *International Journal of Education Management*, 22(5): 399-416.
- San Antonio, D.M. and D.T. Gamage, 2007. PSALM for empowering educational stakeholders: Participatory school administration, leadership and management. *International Journal of Educational Management*, 21(3): 254-265.
- Teh, P.L., K.B. Ooi and C.C. Yong, 2008. Does TQM impact on role stressors? A conceptual model. *Industrial Management and Data Systems*, 108(8): 1029 - 1044.
- Teh, P.L., C.C. Yong, V. Arumugam and K.B. Ooi, 2009. Does total quality management reduce employees' role conflict? *Industrial Management and Data Systems*, 109(8): 1118-1136.
- U.S.A.I.D, 2011. Kenya in action: United States agency for international development. Available from <http://kenya.usaid.gov>.
- Weick, K.E., 1995. Sense making in organizations. Thousand Oaks, CA: Sage.

Yusuf, Y., A. Gunasekaran and G. Dan, 2007. Implementation of TQM in China and organizational performance: An empirical investigation. *Total Quality Management*, 18(5): 509-530.

Zabarack, M., 1998. The rhetoric and reality of total quality management. *Administrative Science Quarterly*, 43(3): 602-636.

Zakuan, N.M., S.M. Yusof, T. Laosirihongthong and A.M. Shaharoun, 2010. Proposed relationship of TQM and organizational performance using structured equation modeling. *Total Quality Management*, 21(2): 185-203.

Appendix-A.

Table-1. Kiambu County Public Secondary Schools KCSE Mean Analysis 2009 to 2013.

Mean Grade	Year						Total	Percent
	2009	2010	2011	2012	2013			
A	27	36	35	27	20	145	0.14	
A-	178	217	271	254	245	1165	1.15	
B+	433	442	578	620	539	2612	2.57	
B	704	718	848	887	868	4025	3.96	
B-	1263	1116	1293	1207	1220	6099	6.00	
C+	1677	1537	1678	1467	1606	7965	7.84	
C	2306	2078	2147	1984	2062	10577	10.41	
C-	2643	2587	2776	2345	2681	13032	12.82	
D+	3132	2801	3213	2958	3252	15350	15.10	
D	3904	3267	3808	3546	4348	18873	18.57	
D-	4026	3319	3807	3194	4500	18846	18.54	
E	643	582	597	372	765	2959	2.91	
Mean	4.46	4.57	4.66	4.75	4.47			

Source: Kiambu County Director of Education Office, (2014).

Appendix-B.

Table-2. Principals Transferred or Demoted from January 2009 to May 2013 in Public Secondary Schools in Kiambu County

Year	2009	2010	2011	2012	2013	TOTAL
Demoted	12	01	02	0	02	17
Transferred	14	16	09	07	11	57
TOTAL	26	17	11	07	13	74

Source: Kiambu County Teachers Service Commission Director's Office, (2013).

Appendix-C.

Table-3. Average KCSE Mean Grade Distribution for Years 2010, 2011 and 2012

Mean Grade	Average KCSE Mean Score	Freq	Total Scores	Percent
A to B+	11	8	88	1.59
B to B-	8.5	5	42.5	0.97
C+ to C	6.5	164	1066	10.32
C- to D+	4.5	76	342	31.74

D to D-	2.5	267	667.5	54.55
E	1	4	4	0.83
Total		481	2210	100.00
Average KCSE Mean Score for the three years	4.59			

Appendix-D.

Table-4. Correlation of Students' Performance with Focus on meeting Students' Needs

	KCSE Score	Needy students are given basic personal items	Weak students are met separately by teachers	Marked tests papers are returned to the students	School has adequate water	gives students chance to express themselves	students have been given text books for every subject	students are well fed	Classrooms are well lit	Classrooms are well ventilated	been given revision materials for every subject
KCSE Score	1										
Needy students are given basic personal items	0.099**	1									
Weak students are met separately by teachers	0.242***	0.353***	1								
Marked tests papers are returned to the students	-0.086*	0.091**	0.161***	1							
School has adequate water for use by students	0.0216	0.0537	0.0381	0.286***	1						
School administration gives students chance to express themselves	0.116**	0.202***	0.263***	0.225***	0.294***	1					
students have been given text books for every subject	0.0597	0.0977**	0.0794*	0.170***	0.309***	0.275***	1				
students are well fed	0.0587	0.167***	0.186***	0.314***	0.303***	0.49***	0.382***	1			
Classrooms are well lit	0.141***	0.224***	0.212***	0.183***	0.266***	0.330***	0.392***	0.441***	1		
Classrooms are well ventilated	0.0388	0.172**	0.208***	0.276***	0.277***	0.369***	0.317***	0.443***	0.558***	1	
Students have been given revision materials for every subject	0.116**	0.233***	0.2614***	0.1671***	0.166***	0.401***	0.524***	0.389***	0.348***	0.340***	1

*** p<0.01, ** p<0.05, * p<0.1

Appendix-E.

Table-5. Linear Regression of Students' Performance with Focus on meeting their Needs

Likert- type scale statements on School Focus on meeting students' needs	Coefficient	Std. Err.	t
Needy students are given basic personal items (effects that are necessary) by the school administration.	-0.0129	0.0652	-0.20
Weak students are met separately by the teachers for remedial teaching.	0.3102***	0.0712	4.35
Marked test/examination papers are returned to the students without delay.	-0.3336***	0.0991	-3.37
The school has adequate water for use by the students.	0.0396	0.0972	0.41
The school administration gives students a chance to express themselves.	0.1222	0.1103	1.11
Students have been given text books for every subject.	-0.0074	0.1041	-0.07
Students are well fed / nobody goes to class hungry.	-0.0345	0.1322	-0.26
The classrooms are well lighted.	0.1746*	0.0944	1.85
The classrooms are well ventilated.	-0.1354	0.1179	-1.15
Students have been given revision materials for every subject.	0.0873	0.0886	0.99
Constant	3.7244***	0.6296	5.92

Number of obs.	435		
F(10,424)	4.42***		
Adjusted R-squared	0.073		

*** p<0.01, ** p<0.05, * p<0.1

Appendix-F.

Table-6. Correlation of Students' Performance with Setting of Curriculum Goals

	KCSE Score	Able to complete the syllabus on time	Students have been issued adequate reference materials	There is reading culture in the school	Students have a target goal in their academic performance	Teachers always find extra time to teach lessons not taught	Students do not waste time during study	Students have been issued adequate	teaching the allocated lessons in the time table
KCSE Score	1								
Able to complete the syllabus on time	0.170***	1							
Students have been issued adequate reference materials	0.155***	0.400***	1						
There is reading culture in the school	0.193***	0.296***	0.344***	1					
Students have a target goal in their academic performance	0.285***	0.362***	0.298***	0.544***	1				
Teachers always find extra time to teach lessons not taught	0.172***	0.279***	0.227***	0.334***	0.363***	1			
Students do not waste time during study	0.194***	0.283***	0.270***	0.586***	0.503***	0.418***	1		
Students have been issued adequate reference materials	0.086*	0.275***	0.217***	0.207***	0.326***	0.282***	0.339***	1	
Teachers do not miss teaching the allocated lessons in the time table	0.020	0.162***	0.261***	0.336***	0.249***	0.442***	0.379***	0.269***	1

*** p<0.01, ** p<0.05, * p<0.1

Appendix-G.

Table-7. Linear Regression of Students' Performance with Setting of Curriculum Goals

Likert- type scale statements on Goal setting	Coefficient	Std. Err.	t
Am able to complete the syllabus in my subjects in time.	0.0598	0.0830	0.72
The students have been issued adequate reference materials.	0.1124	0.0811	1.39
There is a reading culture in the school.	0.0326	0.0856	0.38
Students have a target goal in their academic performance	0.3156***	0.0895	3.53
Teachers always find extra time to teach lessons not taught.	0.1426*	0.0815	1.75
Students do not waste time during study/prep time.	0.0846	0.0829	1.02
Students have been allocated enough time to do their class work /revision.	-0.0664	0.0803	-0.83
Teachers do not miss teaching the allocated lessons in the time table.	-0.1863**	0.0852	-2.19
Constant	2.629***	0.4189	6.28
Number of obs.	455		
F (8, 446)	6.43***		
Adjusted R-squared	0.0873		

*** p<0.01, ** p<0.05, * p<0.1

Appendix-H.

Table-8. Correlation of Students' Performance with Communication

		comfortable and free to express their feelings and problems to the school administration	The school administration gives prompt feedback on any issue of concern raised by the teachers	Teachers receive official information on programmes and activities without delay	Teachers views are normally valued by the school administration	All the teachers interact well with one another	There is a suggestion box in the school where students papers containing issues of concern	Teachers can easily access the school administration
KCSE Score	1							
Teachers normally feel comfortable and free to express their feelings and problems to the school administration	-0.011	1						
The school administration gives prompt feedback on any issue of concern raised by the teachers	-0.041	0.294***	1					
Teachers receive official information on programmes and activities without delay	0.028	0.529***	0.278***	1				
Teachers views are normally valued by the school administration	0.033	0.665***	0.324***	0.690***	1			
All the teachers interact well with one another	0.158***	0.341***	0.143***	0.235***	0.267***	1		
There is a suggestion box in the school where students papers containing issues of concern	0.279***	0.081*	0.097**	0.231***	0.218***	0.036	1	
Teachers can easily access the school administration	-0.025	0.494***	0.489***	0.539***	0.562***	0.219***	0.205***	1

*** p<0.01, ** p<0.05, * p<0.1

Appendix-I.

Table-9. Linear Regression of Students' Performance with Communication

Likert- type scale statements on Communication	Coefficient	Std. Err.	t
Teachers normally feel comfortable and free to express their feelings, problems/concerns to the school administration.	0.1509	0.1046	1.44
The school administration gives prompt feedback on any issue of concern raised by the teachers.	-0.4040***	0.1228	-3.29
Teachers receive official information on programs and activities without delay.	0.1350	0.1141	1.18
Teachers' views are normally valued by the school administration.	0.2014	0.1409	1.43
All the teachers interact well with one another.	-0.3092***	0.0779	-3.97
There is a suggestion box in the school where students place papers containing issues of concern.	0.2851***	0.0480	5.94
Teachers can easily access the school administration.	-0.1785	0.1292	-1.38
Constant	4.9488***	0.5003	9.89
Number of obs.	450		
F(7, 442)	9.94***		
Adjusted R-squared	0.1223		

*** p<0.01, ** p<0.05, * p<0.1

Views and opinions expressed in this article are the views and opinions of the author(s), International Journal of Education and Practice shall not be responsible or answerable for any loss, damage or liability etc. caused in relation to/arising out of the use of the content.