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Abstract

Purpose: The study sought to examine classroom push and factors' influence on value addition in secondary educations of 2013 and 2014 cohorts in public secondary schools in Rachuonyo South Sub-County.

Methodology: The study adopted correlational research design to measure and describe the degree of association between independent and dependent variable data sets. The populations for the study were 44 public secondary schools and 4351 students. Yamane's formula was used to determine 39 public secondary schools from where 10 students were simple randomly sampled from each candidate class to represent a cohort apiece. The total sample of students in the study was 780. Data were collected using a researcher modified What Is Happening In Classroom Questionnaire (WIHICQ). Data analysis was done using descriptive statistics (frequencies, means) and inferential statistics (simple linear regression analysis) with the aid of Statistical Package for Social Sciences (SPSS) V.25 software.

Findings: Regression analysis revealed that classroom push and pull factors account for up to 16% change in value addition in secondary education of the 2013 cohort and that classroom push and pull factors ($P \leq .05$; $\beta=0.386$) have a weak significant positive relationship with value addition in secondary education of 2013 cohort. For the 2014 cohort, regression analysis revealed that classroom push and pull factors account for 10% change in value addition in secondary education and that classroom push and pull factors ($P \leq .05$; $\beta=0.358$) have a weak significant positive relationship with value addition in secondary education.

Unique contribution to Theory, Practice and Policy: The study examines the relationship between classroom push and pull factors and value addition in secondary education in Kenya based on Bowlby's (1969) Attachment Theory. The analysis highlights how classroom relationships among students and teachers shape students' academic progress in Kenya while providing insights that may inform research in comparable to other countries' contexts.

Keywords: *Classroom Push and Pull Factors, Value Addition, Cohort*

INTRODUCTION

Value addition constitutes the difference between students' academic attainments when they have completed their education and what they had already attained by the time they began (Tremblay, Lalancette, & Roseveare, 2012). It varies between schools and can be predicted accurately using value-added (VA) models (Angrist *et al.*, 2023). Kane (2022) avers that contemporary Value-Added Models (VAMs) employ advanced statistical methodologies that leverage longitudinal assessment data to isolate institutional effects by controlling for pre-existing student differentials. VAMs analyses use longitudinal student-level test score data to study the educational input-output relationship, including especially the effects of individual teachers (and schools) on students' achievement.

The inception of VAMs in the 1990s indicates a crucial change in school effectiveness research, as educators and policymakers searched for statistical techniques that could separate school contributions to individual student learning while controlling for prior achievement. These models have transformed dramatically, with current advancements encompassing both mean and variance in student outcomes to underpin more sophisticated accountability systems (Leckie, Parker, Goldstein & Tilling, 2021). Scholarship implies that simpler VAM specifications often yield results similar to more complex VAMs, signifying beneficial practical flexibility for educational systems with diverse logical capacities (Jacobs & Wallach, 2021).

The scope of VAMs has developed globally beyond conventional educational benchmark to incorporate wide-ranging measures of school performance, including student attendance, well-being and social outcomes (Prior, Goldstein & Leckie, 2021). This comprehensive perspective considers growing acknowledgement that effective schools influence multiple measurements of student development. In the Kenyan context, methodological coinages are emerging, as proven by scholarships by Anyang & Boit (2019) and Kosgei, Barno & Kitainge (2022) that employed residual-based VAM techniques to assess student progress between entry and exit examinations, marking an important step toward establishing a local value-added research convention.

Building on this principle and acknowledging the initial phase of VAM application in Kenya, this study adopts a traditional VAM framework that adjusts final academic outcomes for prior achievement, thereby giving more precise approximates of school effectiveness in the local educational context.

Kenya's 8-4-4 education system concludes with both primary and secondary levels with standardized national examinations that are centrally administered and graded (GOK, 2012). Primary education concludes with the Kenya Certificate of Primary Education (KCPE), which is graded from 0 to 500 marks. Secondary education ends with the Kenya Certificate of Secondary Education (KCSE), which employs a 12-point grading index with letter grades from A to E: A=12 points, A-=11, B+=10, B=9, B-=8, C+=7, C=6, C-=5, D+=4, D=3, D-=2, and E=1 (Cunningham, 2012). In this study, to enable value-added analysis, KCPE scores were standardized to align with the KCSE 12-point scale using the following conversion formula: each KCPE score was divided by 500 (the maximum possible KCPE score) and then multiplied by 12 (the maximum KCSE points), effectively transforming KCPE results into equivalent 12-point indices for comparative analysis.

In Rachuonyo South Sub-County, a report by Ministry of Education Science and Technology (MoEST, 2015) revealed that public secondary schools in Rachuonyo South Sub-County enrolled 2013 and 2014 cohorts with KCPE mean scores of 6.984 and 6.864 respectively (MoEST, Rachuonyo South Sub-County, 2015). At the conclusion of secondary education, the two cohorts graduated with KCSE mean grades of 4.722 and 4.091 respectively (MoEST, Rachuonyo South Sub-County, 2018). Value addition was computed as the difference between students' KCPE KCSE and KCPE scores. T`he results were summarized in Table 1.

Table 1: Value Addition in Secondary Education of 2013 and 2014 Cohorts in Rachuonyo South Sub-County

KCPE 2012 Mean Score	KCSE 2016 Mean Score	VALUE ADDED	KCPE 2013 Mean Score	KCSE 2014 Mean Score	VALUE ADDED
5.9678125	4.4046875	-1.563125	4.146	4.091	-1.9363125

Table 1 illustrates that public secondary schools in Rachuonyo south sub-County registered value additions of -1.563125 and -1.9363125 in the secondary education of 2013 and 2014 cohorts. It is the negative value additions in secondary education of the two cohorts that informed the researcher to conduct the study in public secondary schools in this region.

Research on school effectiveness has long emphasized factors such as leadership, orderly learning environments, rigorous curricula and systematic monitoring of student performance (Scheerens & Creemers, 2022; Angrist, Hull & Walters, 2023). While these studies have been foundational, scholars increasingly argue that structural features alone cannot fully explain variations in student outcomes. Instead, growing attention has turned toward classroom-level dynamics, particularly the social classroom environment, as a critical dimension of effectiveness (Ferreira, Martinsone & Talić, 2020; Cheng, 2022). This shift reflects the recognition that teacher–student and peer relationships are central in shaping engagement, motivation and achievement (Gares, Kariuki & Rempel, 2020).

Recent empirical studies demonstrate that the quality of teacher–student relationships and classroom climate are strong determinants of student learning outcomes. For instance, supportive teacher–student interactions have been linked to increased engagement and higher academic achievement across diverse contexts (Gyeltshen & Gyeltshen, 2022). Similarly, an emotionally positive classroom atmosphere prepares students to be more active, affable and confident when working with others (Ahmeda, Hamzah & Abdullah, 2020). This development does not only shape their behavioural outcomes but also yields positive results in their social and emotional capability. However, most of this evidence derives from high-income countries, majorly western and Asian contexts, leaving low-income educational systems underexplored (Larson *et al.*, 2020). In Kenya, school effectiveness is mainly evaluated through academic performance; however, little is understood concerning how social classroom environments influence value-added learning. In addressing the gap, the present study examines how social classroom factors, operationalized as "push and pull" factors, including teacher–student relationships and peer support, influence academic performance in public secondary schools in Rachuonyo South.

Statement of the Problem

Public secondary schools in Rachuonyo South Sub-County enrolled the 2013 and 2014 cohorts and exposed these students to classrooms push and pull factors with the pedagogical objective of improving their academic performance and value-added coefficients. The push factors included motivation, performance tracking and academic recognition, while pull factors included instructional differentiation, remedial support, peer assistance and student mentorship. Despite these interventions, empirical analysis revealed that these cohorts demonstrated statistically significant negative value-added coefficients of -1.563 ($\sigma = 0.431$) and -1.936 ($\sigma = 0.487$) respectively ($p < 0.01$), representing regression in standardized academic performance between primary school completion and secondary school exit points (MoEST, Rachuonyo South Sub-County, 2018).

The negative value addition despite the pedagogical interventions constituted the problem that informed the current study on classroom push and pull factors' influence on value addition in secondary education. The observed value-added metrics between primary level exit examinations and secondary exit examinations ($\Delta = 0.373$, $p < 0.05$) further indicated potential inefficacies in educational practices within this sub-county, justifying an examination through appropriate methodological frameworks.

Purpose for the Study

The purpose for the study is to examine classroom push and pull factors' influence on value addition in secondary education in public secondary schools in Rachuonyo South Sub-County.

Objectives of the Study

The study was guided by the following specific objective**:**

To examine classroom push and pull factors' influence on value addition in secondary education of 2013 and 2014 cohorts in public secondary schools in Rachuonyo South Sub- County.

Significance of the Study

Value-added measurement provides an 'accurate' estimate of the contribution educational institutions make to students' academic progress as it incorporates a set of contextual characteristics of students or institutions.

LITERATURE REVIEW

Theoretical Review

Attachment Theory by Bowlby (1969)

The main assertion of attachment theory is that caregiver's sensitivity and consistent availableness establish a safe foundation from which children can freely explore their environment, thereby promoting reliable attachment formation (Mısırlı & Karakuş, 2024). Secure attachments are characterized as stable relationships where the child believes they can depend on the other person as opined by Hamre & Pianta (2001). Children with secure attachments to their primary caregiver engage more actively with peers, are viewed as more popular, feel more comfortable in the learning environment and have higher self-esteem (Schmidt, 2023). Conversely, a child whose relationship is built on fear with their primary caregiver, can develop an insecure attachment, which Bowlby

(1969) identify as exhibiting through varying sequences of dependency and rejection, an impression further clarified along modern neurobiological research (Duschinsky, 2020).

According to Spilt & Koomen (2022), children's interactions with adults extend beyond their primary caregivers to teachers when they enter school. Consequently, the relationship between the teacher and child can be understood through attachment theory. While the establishment of this relationship is not the child's first attachment experience and is inexorably affected by primary caregiver attachment patterns, relationships with teachers assume growing developmental importance. Slaton (2020) avers that for children to perceive a feeling of classroom belonging, they must first develop attachment with the teacher, a perspective proven by modern scholarship findings (Corcoran *et al.,* 2022). The teacher becomes an important attachment figure as they replace the parents whilst the child is at school, rendering the qualitative dimensions of this relationship crucial for socio-emotional and academic development. A positive teacher-student relationship provides a secure base for exploration and learning, yielding advantageous developmental outcomes (Bosman et al., 2022). Conversely, if the quality of the teacher-student relationship is negative the child may experience outcomes associated with insecurity, which can be detrimental to their sense of belonging, peer relations and academic progress (Yoshimoto, Murakami & Osamu, 2023).

This theory is significant for examining the interrelationship between classroom social ecology and academic performance indicators (Longobardi *et al.*, 2022). The theory's pertinence to the present study arises from its capacity to explain relationship between intricate classroom facets, including teacher-student dynamics and peer relations, and educational progress (Poulou, 2023; Verschueren, 2015). Nonetheless, the theory exhibits limitations in explaining the processes through which classroom appeal and abhorrence factors particularly influence educational value addition. The current study therefore seeks to address this theoretical gap through analysis of these relationships, with focus to extant classroom environment.

Empirical Review

Classroom Push and Pull Factors and Value Addition in Secondary Education

Classroom is the central organizing unit of schools, which arranges students in classes intended to promote learning by allowing teachers and students to interact with different activities that result in learning (Epstein *et al.,* 2008; Fitriani, 2020). The teacher is at the center of classroom interactions that promote social and cognitive developments of learners and they are the agents who impart instructions and monitor the performance and behavior of learners in the classroom. According to William (2011), the position of the teacher is to influence directly or indirectly students' achievement during classroom learning practices. It is thus imperative to consider teacher-to-student relationship as the basis for the social context in which learning takes place. Split *et al.* (2022) posit that teachers with positive classroom relationships with students are more motivated to engage with students more often. During these interactions, they learn more about the students and understand them better (Shepard, 2017) and they can adapt their instruction to better meet the students' needs to help them learn more (Bennett, 2011). Moreover, when a teacher cares about, encourages, and supports a student, the student is more likely to be motivated, exert more effort, study more and learn more (Lawman & Wilson, 2013).

Allen *et al.* (2018) examined the relationship between teacher-student interactions and achievement among students. Results showed that positive classroom climates characterized by teacher sensitivity, regard for adolescents' perspectives, order and organization, and task-focus significantly predicted students' achievement. Perry *et al.* (2007) examined the effects of average classroom positive relations on first grade achievement and found that students achieved higher academic gains on a curriculum-based math test and a higher percentage of students met end-of-year math and reading standards in classrooms where teachers exhibited more support for the students.

On the contrary, if the foundation of good relations lacks, it affects negatively the students' behavior. Students will resist rules and they will neither trust the teacher nor listen to what they have to say if they sense teachers do not respect them (Boynton & Boynton, 2005). When teachers are more controlling by emphasizing rules, grade and ability differences among students, students tend to emphasize performance and avoidance goals (Mainhard, 2018) and they may become overly concerned about failing, which may undermine mastery orientation (Patrick *et al.*, 2015). Negative teacher-student relationship that contributes to a lower sense of child belonging may result in lower motivation, academic achievement and a child becoming more disaffected over time, especially when faced with academic challenges (Fong Lam et al., 2015).

Peer interactions represent the primary developmental context for the acquisition not only of social skills but also of cognitive and academic competencies (Gest & Rodkin, 2011). Positive interpersonal relations and optimal learning opportunities for students in all demographic environments could increase achievement levels and reduce maladaptive behavior (Cohen, 2017). Children who are more socially included by peers display higher levels of school engagement and academic performance (Gallardo, Barrasa & Guevara-Viejo, 2016). Students who experience higher levels of peer inclusion tend to develop a greater sense of belonging to the classroom community and to engage more in classroom activities, thereby improving their academic skills (Tetzner, Becker, & Maaz, 2017). Moreover, working together (e.g., by helping each other do homework) can improve students' academic achievement (Roseth, Johnson & Johnson, 2008).

A study by Gallardo *et al.* (2016) reported a significant and positive association of acceptance from the peer group with academic achievement although this association was greater during early adolescence compared to the middle adolescence. Bankole & Ogunsakin (2016) investigated the influence of peer group on the academic performance of students. The finding showed that positive peer's relationship influences academic performance of students. Studies have found that children who forge positive relationships with their class peers, experiencing feelings of relatedness and support, have increased expectations for success, enhanced intrinsic value and achieve better academically (Allen *et al.*, 2018).

On the contrary, children who are rejected by peers, or who do not form secure peer attachments, experience more loneliness and social isolation and are more likely to become disaffected from academic activities. Peer rejection is associated with lower school well-being, school interest, academic self-perception and higher levels of depressive symptoms, which undermine academic achievement (Yang *et al.*, 2020) and students who are rejected by peers are more likely to skip school, drop out and obtain lower grades (Cillessen & van den Berg, 2012). When students have less support from their peers, they are more likely to feel afraid to accomplish tasks, which lessen

their learning engagement (Juvenen *et al.*, 2012). A study by Buhs *et al.* (2006) found that the rejection from the peer predicted a decrease in classroom participation and an increase of children's school avoidance among children from kindergarten through Grade 5.

METHODOLOGY

Research Design

The study adopted correlational research design to systematically measure and analyze the relationship between the specified independent and dependent variable data sets. Mohajan (2020) opines that correlational design enables the researcher to implement appropriate statistical procedures for measuring the direction, magnitude and significance of these relationships while maintaining methodological rigor. Correlational research design therefore enabled the researcher to facilitate the quantitative examination of associations between independent variables (classroom push and pull factors) and dependent variable (educational value addition).

Population and Sample

The population comprised 44 public secondary schools and 4351 students in Rachuonyo South Sub-County. Five schools in the population were used for case study. Yamane's formula was used to determine a sample of 39 schools from where 10 students from candidate classes of each participating school were simple randomly sampled in each cohort. The total sample of students in the study was 780.

Instrumentation

The researcher used a modified version of What Is Happening In Classroom Questionnaire (WIHICQ) by Aldridge & Fraser (2000). Given the study's focus on classroom environmental dynamics, the researcher employed a theoretically justified modification that preserved seven classroom facets: peer acceptance, positive teacher-student relationship, peer cohesion, peer task orientation, peer rejection, peer engagement and negative teacher-student relationship—constructs. The classroom facets were rated on a 5-point Likert scale (viz. 1=Never (AN); 2=Sometimes (SM); 3=Moderate (M); 4=Often (OF); 5= Always (A). Content validity of the questionnaire was ascertained through expert judgment by two university supervisors from the department, Educational Management and Foundations. Reliability was determined through test-retest method in a pilot study in five schools from the population using Pearson's Correlations Coefficient, where reliability coefficient of 0.8 was obtained.

Data Analysis

Data were analyzed using descriptive statistics (frequencies and means) and inferential statistics (simple linear regression analysis) with the aid of Statistical Package for Social Sciences (SPSS) V.25.

Simple linear regression analysis attempts to determine whether an independent variable (Y) predicts a given dependent variable (X). This model was appropriate in the study because the researcher had one dependent variable (value addition), which is presumed to be a function of independent variable (classroom push and pull factors x_1). Thus, the model equation was:

$Y = \beta_O + \beta_1 X_1 + \epsilon$
Where: Y= Value addition

β_0= Constant for regression

β_1 = Sensitivity of value addition to the independent variable

X_1 = Classroom push and pull factors

ϵ= Error term

RESULTS AND DISCUSSION

The objective of the study sought to examine classroom push and pull factors' influence on value addition in secondary education. To address this objective, two measurement scales that were rated on different Likert scales were used.

The first measurement scale was a questionnaire with seven question items, which were rated on a 5-point Likert scale from 1=Never (AN); 2=Sometimes (SM); 3=Moderate (M); 4=Often (OF); 5= Always (A). The questionnaire was administered to 780 students out of which 500 students filled in the questionnaires and returned. Findings were summarized in Table 2.

Table 2: Classroom Push and Pull Factors

Classroom Push N=500		**Rating**					
Pull Factors		**AN**	**SMT**	**M**	**OF**	**A**	**Mean**
Peer acceptance	Frequency	31	109	31	94	235	3.79
Positive teacher to student relationship.	Frequency	31	63	16	188	202	3.94
Peer Cohesion	Frequency	16	203	78	47	156	3.25
Peer task orientation	Frequency	0	219	16	187	78	3.26
Peer Rejection	Frequency	31	172	31	172	94	3.25
Peer engagement	Frequency	16	47	31	156	250	4.15
Negative teacher to student relationship	Frequency	0	47	31	141	141	2.91
Overall mean						**3.51**	

Table 4 illustrates that students moderately rated all the Classroom Push and Pull Factors under consideration. The findings revealed that: Peer acceptance (mean=3.79) is an often occurrence among students. This implies that students relate with peers positively at the classroom level and this is one of the social factors that create conducive classroom environment for learning. This finding is consistent with literature as Gallardo, Barrasa, Guevara-Viejo (2016) purport that children who are more socially included by peers display higher levels of school engagement and academic performance.

Positive teacher-to-student relationship (mean=3.94) is an often occurrence in public secondary schools in this region. This implies that teachers relate with students positively at classroom level and this helps create conducive learning environment for students. This finding is in agreement with the opinion of Split *et al*. (2022), which holds that teachers with positive classroom relationships with students are more motivated to engage with students more often and during such

interactions they learn more about students and understand them better and they can adapt their instruction to better meet the students' needs to help them learn more.

Peer cohesion (mean=3.26). The findings revealed that peer cohesion is a moderate occurrence among students in public secondary schools in this region. This implies that students in this region work together in classrooms. Peer task orientation (mean=3.25). The findings revealed that students in public secondary schools in this region moderately incline towards performing school tasks like classroom assignments.

Peer Rejection (mean=3.25). The findings revealed that peer rejection is a moderate occurrence in public secondary schools in this region. This implied that some students in this region exclude their peers in classroom thereby making the classroom environment nonconductive for learning and this may explain the negative value additions in the secondary education for 2013 and 2014 cohorts in public secondary schools in this region. This finding is in agreement with literature as Yang *et al.* (2020) suggest that peer rejection is associated with lower school well-being, school interest, academic self-perception and higher levels of depressive symptoms, which undermine academic achievement.

Peer engagement (mean=4.15). This finding implies that students in public secondary schools in Rachuonyo South Sub-County often engage with peers at classroom level. This explains that peer engagement is a social factor necessary for creation of conducive classroom environment ideal for learning. Negative teacher to student relationship (mean=2.91). The findings revealed that negative teacher-to-student relationships moderately existed in public secondary schools in this region. This implies that teachers in this region have conflicting relationships with students, which create nonconductive classroom learning environment for the students. This could be a reason explaining negative value additions in the secondary education of 2013 and 2014 cohorts in public secondary schools in this region. This finding agrees with the opinion of Mainhard (2015), which holds that teachers who have conflicting relationships with students tend to be more controlling by emphasizing rules, grade and ability differences among students. Such students tend to emphasize goals and avoidance goals and they may become overly concerned about failing, which may undermine mastery orientation.

Overall students moderately rated classroom push and pull factors (mean=3.51). From these findings it's evident that teachers in public secondary schools in Rachuonyo South Sub-County relate with students positively at classroom level and consider the needs of the students, which consequently create positive classroom climates that support learners' academic achievements.

Classroom Push and Pull Factors' Influence on Academic Performance

The second measurement scale sought to examine classroom push and pull factors' influence on academic performance. The measurement scale had seven question items rated on the Likert Scale: Strongly Disagree (SD)= 1; Disagree (D)=2; Moderately Agree (MD)=3; Agree (A)=4; Strongly Agree (SD)=5. The ratings were analyzed in frequencies and means. Table 3 summarized the findings.

Table 3: Effects of Classroom Push and Pull Factors on Academic Performance

Classroom Push N=500		Rating					
Pull Factors		**SD**	**D**	**MA**	**A**	**SA**	**Mean**
Peer acceptance improves academic performance.	Frequency	39	101	36	87	237	3.88
Positive teacher to student relationship improves academic performance.	Frequency	28	92	41	140	199	3.91
Peer cohesion improves academic performance	Frequency	16	56	88	183	156	3.31
Peer task orientation improves academic performance.	Frequency	17	197	24	156	106	3.26
Peer rejection improves academic performance.	Frequency	19	181	27	188	88	3.23
Peer engagement improves academic performance.	Frequency	13	54	34	164	255	4.17
Negative teacher to student relationship improves academic performance.	Frequency	27	43	36	148	154	2.97
Overall mean							**3.53**

Table 3 illustrates that: Students agreed that peer acceptance improves academic performance (mean=3.88). This finding agrees with earlier research findings by Allen *et al.* (2018), which revealed that children who forge positive relationships with their class peers, experience feelings of relatedness and support have increased expectations for success, enhanced intrinsic value and achieve better academically.

Students agreed that positive teacher to student relationship improves academic performance (mean=3.91). This finding agrees with earlier research findings by Allen *et al.* (2013), which examined the relationship between teacher to student interactions and students' academic performance. Findings revealed that positive classroom climates characterized by teacher sensitivity, regard for adolescents' perspectives, order and organization and task focus predict students' academic performance;

Students moderately agreed that peer cohesion improves academic performance (mean=3.31). This finding agrees with the findings of Roseth, Johnson & Johnson (2008), which revealed that working together (e.g., by helping each other do homework) can improve students' academic achievement.

Students agreed that peer task orientation improves academic performance (mean=3.26). This finding seems to contradict earlier research findings by Juvenen *et al*. (2012), which revealed that when students have less support from their peers, they are more likely to feel afraid to accomplish tasks, which lessens their learning engagement. Students moderately agreed that peer rejection improves academic performance (3.32). This finding agrees with earlier research findings by Yang *et al.* (2020), which revealed that peer rejection is associated with lower school well-being, school interest, academic self-perception and higher levels of depressive symptoms, which undermine

academic achievement. Students who are rejected by peers are more likely to skip school, drop out and obtain lower grades (Cillessen & Van den Berg, 2012).

Students agreed that peer engagement improves academic performance (mean=4.17). This finding is in agreement with earlier research findings by Tetzner, Becker, & Maaz (2017), which revealed that students who experience higher levels of peer inclusion tend to develop a greater sense of belonging to the classroom community and engage more in classroom activities, thereby improving their academic skills. Students disagreed that negative teacher to student relationship improves academic performance (mean=2.97). This finding is in agreement with earlier research findings by Fong Lam et *al.* (2015), which revealed that negative teacher to student relationship that contributes to a lower sense of child belonging, may result in lower motivation, academic achievement and child becoming more disaffected over time, especially when faced with academic challenges.

Overall, the mean for classroom push and pull factors and academic performance is 3.53. This implies that students agreed that classroom push and pull factors influence academic performance in public secondary schools in Rachuonyo South Sub-County.

Regression Analysis

The study used simple linear regression analysis to test the relationship between independent latent variable and the dependent latent variable data sets of the study. The independent latent variable data set was the overall mean obtained from the questionnaires addressing the objective of the study. The dependent latent variables were the value additions for the two cohorts under study. The findings were summarized in the tables below.

Table 4: 2013 Cohort Model Summary

Model	R	R-Square	Adjusted R^2	Std Error of the Estimate
1	.252	.164	.112	1.08935

Predictor (Constant), Classroom Push and Pull Factors

Table 4 indicates that the goodness fit for the regression between 2013 cohort value addition and classroom push and pull factors was satisfactory in the linear regression given that the regression coefficients were different from zero. The regression coefficient of .252 implies that the relationship between value addition and classroom push and pull is positive. An R^2 of 16.4 indicates that 16% of the variance in secondary education in secondary education in public secondary schools in Rachuonyo South Sub-County can be explained by classroom push and pull factors in the linear model.

In order to check the contribution of the independent variable in terms of predicting the outcome variable, regression analysis was done using unstandardized coefficients. The results were summarized in Table 5.

Table 5: Regression Analysis of 2013 Cohort

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig
1	(Constant)	-3.048	1.057		-2.882	0.007
	Classroom Push and pull	.386	.270	.252	1.428	.034

Table 5 illustrates that classroom push and pull factors are statistically significant in value addition in secondary education of 2013 in public secondary schools in Rachuonyo South Sub-County ($P \leq .05$; $\beta = 0.386$). The unstandardized beta coefficient of 0.386 means that for every unit increase in classroom push and pull factors, value addition increases by 0.386 units, which is significant per the model. This implies that classroom push and pull factors play an important role in value addition in secondary education of 2013 cohort.

Thus, the prediction equation for the 2013 cohort value added model becomes:

$$Y = -3.048 + 0.386\ (\text{Classroom Push and Pull Factors})$$

Regression Analysis for 2014 Cohort

The regression analysis for 2014 cohort was carried out between the overall means of the responses in the researcher modified What Is Happening In this Classroom Questionnaire (WIHICQ) and value addition in secondary education in public secondary schools n Rachuonyo South Sub-County. The results were summarized in the tables below.

Table 6: Summary of Regression Analysis for 2014 Cohort

Model	R	R-Square	Adjusted R^2	Std Error of the Estimate
1	.254	.123	.104	.795934

Predictor (Constant), Classroom Push and Pull Factors

Table 6 indicates that the goodness fit for the regression between value addition in 2013 cohort and classroom push and pull factors was satisfactory in the linear regression given that the regression coefficients were different from zero. The regression coefficient of .254 implies that the relationship between value addition and classroom push and pull is positive. An R^2 of 0.104 indicates that 10% of the variance in secondary education in secondary education in public secondary schools in Rachuonyo South Sub-County can be explained by classroom push and pull factors in the linear model.

In order to check the contribution of the independent variable in terms of predicting the outcome variable, simple linear regression analysis was done using unstandardized coefficients. The results were summarized in Table 7.

Table 7: Regression Analysis of 2014 Cohort

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig
1	(Constant)	-2.161	.773		-2.797	0.009
	Classroom Push and pull	.358	.198	.354	.296	.029

Dependent variable: Value Addition for 2014 cohort

Table 8 illustrates that classroom push and pull factors are statistically significant in value addition in public secondary education in Rachuonyo South Sub-County ($P \leq .05$; $\beta = 0.358$). The unstandardized beta coefficient of 0.358 means that for every unit increase in classroom push and pull factors, value addition increases by 0.358 units, which is significant as per the model. This implies that classroom push and pulls factors play an important role in value addition in secondary education of 2013 cohort.

Thus, the prediction equation for the 2013 cohort value added model becomes:

$$Y = -2.161 + 0.358\ (\text{Classroom Push and Pull Factors})$$

CONCLUSION AND RECOMMENDATIONS

Conclusion

The study concluded that:

Classroom push and pull factors have weak positive significant relationship with value addition in secondary education of 2013 and 2014 cohorts in public secondary schools in Rachuonyo South Sub-County. This implies that some classroom factor, perhaps overly teacher control, peer rejection, lack of belonging or lack supportive learning environments, impeded students' academic progress, thereby resulting to the negative value additions.

Recommendations

This study focused on the social classroom environment and its influence on value addition in secondary education. The researcher recommends that future research should extend this investigation to the physical classroom environment, examining factors such as classroom arrangement, lighting and abundance of teaching-learning resources and how these factors influence value-added outcomes.

The findings of the study revealed significant negative value additions. The feasible significance of the findings justifies further investigations given that classroom factors are assumed to support rather than impede learning. Moreover, further research should unpack these factors to determine whether specific elements of push and pull factors exercise ineffective influences on students' learning progress and how interventions can ease such effects.

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