



# Influence of Curriculum Support Officers' Role in Teacher's Development of Instructional Resources on Quality Teaching in Public Day Secondary Schools in Kakamega County, Kenya

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**Abstract**— The role of the curriculum support officer is to help the school reach its goals and adhere to its philosophy by supporting and helping teachers present a curriculum that is based on clear expectations for high quality learning outcomes and standards. Curriculum support officers help teachers be more productive, get the results that are wanted, and reach the educational goals set out in the National Policy on Education. The purpose of this study was to investigate the influence of curriculum support officers' role in teacher use of instructional resources on quality teaching in public day secondary schools in Kakamega County. The Coaching theory was used to guide the work. Ex-post facto research method was used for the study. There are 5207 teachers and 425 school principals from 425 public day secondary schools and 37 curriculum support officers' in Kakamega County who are the target group. A group of 13 curriculum support officers from 13 Sub-Counties, 52 Principals, and 521 teachers from 52 public day secondary schools were used in the study. To choose the curriculum support officer's and administrators, purposeful sampling was used. To choose the teachers from 52 schools in Kakamega County, random simple sampling was used. A plan for interviews and a closed-ended questionnaire with a Likert scale from 1 to 5 were used to get the information. The managers decided on the face and content validity. The test-retest method, which used data from the pilot study, decided on the reliability. Cronbach's alpha coefficient was used to measure the devices' internal consistency. Since the correlation coefficient was between 0.723 and 0.862, all the factors were thought to be pretty good since it showed a strong positive link between the results of the first test and the results of the second test. Texts and straight data extracts were used in the show. Percentages, means, standard deviations, relationships, and linear regressions were used to look at the data. The study found that curriculum support officer' in the county devote insufficient attention to their role in teacher use of instructional resources and does comprise quality of education. The study's results should help the curriculum support officers to guarantee better and more efficient use of teacher resources in order to ensure quality teaching in public day secondary schools in Kakamega County.

**Index Terms**— curriculum support officers, role, instructional resources, teacher development, quality education.

## 1. Introduction

According to the Teaches Service Commission (TSC) (2015), the CSO's role is to assist instructors in developing teaching materials or aids, as well as to keep teachers informed of changes to the curriculum, pedagogy content, covering, and any other new issues in the teaching function. Provide teachers with guidance and counseling, as well as curricular information. Instructional materials are things used by teachers to improve the quality of the teaching and learning experience. They are also known as teaching/learning materials (TLM) or teaching aids. They are a collection of materials that include both living and inanimate items, as well as human and non-human resources, that a teacher might employ in teaching and learning scenarios to help students achieve their learning objectives.

Janovsky and Brooks (2015) defined instructional materials as the tools utilized in educational lessons, including active learning and evaluation. They went on to say that any resource a teacher used to help him teach his students was considered instructional material. Aditya (2021) defined instructional materials as human and non-human objects and facilities that can be used to facilitate, encourage, improve, and promote teaching and learning activities. He went on to say that they were materials (like a book, image, or map) or technology (like a DVD or computer) that a teacher utilized to supplement or enliven classroom education. Textbooks, tasks, and supplemental resources are all examples of instructional materials. Furthermore, Hilda and Bernard (2015) explained that instructional materials brought life to learning by motivating students to learn, and that the use of instructional materials in the classroom had the potential to assist the teacher in clearly explaining new concepts, resulting in students' understanding of the concepts being taught. Teaching materials refer to instructional aids used in the classroom for education and learning. In a study published in Naisiano et al. (2020), the impact of instructional materials on student growth was investigated in senior elementary schools in the Karunga region of Tanzania's Gilgil District. The study's findings revealed that,

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due to a shortage of teachers and resources, primary school students in public schools did not meet the same academic levels as those in private schools. According to Saad and Sankaran (2020), these materials provide students with the core information and abilities required to develop and support institutions, as well as problem-solving and critical analytical thinking skills. Access to educational resources is critical and enhances students' academic performance. Insufficient instructional resources lead to abstract instruction and passive learning, both of which lower performance (Wambua & Murungi, 2018).

The study by Agnetta, Kiende, and Ogulu (2022) looked at how teacher resources are used and how it influences student performance in secondary schools in Makueni County. The goal of this study was to see how teacher resource usage influences student academic progress in Makueni County secondary schools. Using teacher resources has a moderate effect on students' academic performance. The study did not address the role of CSO in assisting teachers in designing instructional materials to improve teaching and learning.

In their study of the impact of instructional resources and learning outcomes on student performance in public secondary schools in Kenya's Hamisi Sub County, Livumbaze and Achoka (2017) discovered a link between the provision of instruction and learning resources and the success of teaching and learning. To improve performance, the report proposes that underperforming schools be given adequate teaching and learning resources. The study does not address the nature or usefulness of the resources to the needs of the various learners. The study also emphasized the importance of having enough classrooms, libraries, and laboratories to improve student achievement in public schools. The investigation discovered that some schools, especially in small spaces, have converted classrooms into laboratories, making three science subjects more challenging. When schools do not have internet access, online teaching and learning becomes more difficult. Again, the report fails to address the CSO's role in developing instructional materials for optimal teaching and learning.

In Kenya, Tobister (2017) explored the elements impacting students' ability to flourish academically and acquire a Certificate in Basic Education. The study's findings showed that the availability of teaching and learning resources such as computer and science labs, libraries, classrooms, workshops, agricultural buildings and structures, farms, and playgrounds influenced students' performance in public primary schools. According to the survey, because the availability of resources and facilities in the school environment influences student performance as well as the teaching and learning process, teachers and other staff are worried about maintaining the school's physical facilities. Inadequate facilities reduce teaching quality, especially in areas such as desks, classrooms, restrooms, dorms, and teacher accommodations. Furthermore, teachers' competence and motivation to provide high-quality training are influenced by poor compensation and unfavorable working conditions, both of which are critical to the organization's operation.

A positive learning environment is associated with reduced

class sizes, which may lead to better access to resources and academic performance. A decent learning environment is critical to children's academic progress and should be modest, peaceful, pleasant, safe, and well-lit. Compared to other learning/teaching aids designated as teaching materials, textbooks have a better correlation with academic success. It should be mentioned that the study focused on the relationship between adequate physical facilities in elementary schools and the quality of teaching provided to students.

Musyoka (2018) discovered that insufficient instructional resources, specifically radio, television, computers, and projectors in public schools, as well as teacher shortages, influenced Kenyan students' performance. Another research conclusion was a lack of adequate lab and library space. Finally, the study found that principals did not routinely evaluate teachers or review their class plans. Additional research has found a positive and significant association between student achievement and physical facilities, teacher effectiveness, learning resources, and school principals' supervisory roles. Julius and Ronald (2021) investigated the impact of educational resources on academic achievement among public high school students in the West Transmara sub-County of Narok County, Kenya. The findings suggested that Transmara's educational resources had an impact on these pupils' performance.

Community grants, early enrollment, scholarships, and County development money all give financial resources that improve school administration, thereby influencing student progress. When students have access to relevant textbooks, writing assignments, e-learning tools, and teacher guidance and directions, they perform better. Physical amenities that improve student performance include well-equipped classrooms, labs, libraries, and unique areas such as staff rooms, dorm rooms, clinics, kitchens, cafeterias, and restrooms. Human resources, such as the availability of qualified teachers and support staff, help to increase student achievement.

Otieno and Ochieng (2020), who studied the effects of the 100% transition policy on public secondary schools in Machakos County, Kenya, discovered that having appropriate training facilities at all levels, including equipment and staff, improves the quality and relevance of skills taught to students. Classrooms, labs, libraries, playgrounds, and textbooks are some examples of educational resources. Physical resources are essential for creating an environment conducive to good teaching and learning. The state of instructional resources in schools influences how well they are implemented. In public schools, resources for instruction and learning are not distributed evenly. Schools with a significant proportion of low-income students often perform badly due to high student-teacher ratios and insufficient teaching and learning resources.

According to Abubakar (2020), learning materials are necessary to improve student achievement. His research found that a shortage of instructional resources in public schools contributes to low student achievement. Examples of training materials include projectors, DVDs, CDs, internet access, textbooks, and other print and electronic media. There should be more of these educational tools in public schools, and they should be more widely available. According to the findings of

Galle *et al.*'s (2020) examination of how instructional materials effect Northwestern State Colleges of Education, the majority of survey respondents acknowledged that they do not always use instructional materials when conducting lectures. Their school is lacking of instructional materials. The data also show that teaching materials have a significant impact on how well students perform academically. To improve academic accomplishment, appropriate training materials should be used. This suggests that instructional materials improve students' ability to teach quantitative economics. To reduce student poverty, higher education stakeholders should take appropriate action, such as requiring all professors to use teaching materials during the teaching and learning process and supplying teaching materials to all Nigerian universities.

According to Kimalel's (2019) research, instructional resources include both human and nonhuman materials. The study looked at the impact of educational resources on the early literacy performance of children in public preschools in Bungoma County, Kenya's Kandui ward. Teachers utilize these tools in teaching and learning situations to improve instruction and achieve their goals. The training materials are classified into four types: Specific Materials, Audio-Visual Aids, Visual Aids, and Audio-Visual Aids.

Amon (2017) investigated learning resources and academic achievement in a sample of secondary schools in Mbarara Town, Mbarara District, Uganda. According to the study, pupils' poor performance and disability were caused by an insufficient use of resources. According to Kimalel (2019), applying visual aids requires the use of images, tables, and flash cards. Learning tools are utilized to enhance instruction, increase student interest, and provide a sensory-rich atmosphere. As a result, students actively participate in learning activities in their regulated learning environment, influencing the quality of student instruction. The availability of instructional materials has a beneficial relationship with the development of students' reading skills. This shows that children can improve their reading skills more than their writing skills, thanks to the availability of teaching materials.

Thuranira, Ikiara, and Thuba (2022) investigated how teaching and learning resources influenced student performance in public primary schools in Laikipia West Sub-County. The inquiry was conducted using a descriptive survey design. The target audience consisted of 490 instructors from 49 public elementary schools located in Laikipia West Sub County. A simple random selection strategy was employed to choose a sample of 220 teachers. The researcher also sampled ten head professors. Primary data was gathered through interview guides and semi-structured questionnaires. Quantitative data was analyzed using descriptive and inferential statistics, and qualitative data was examined using thematic content analysis. Correlation analysis was utilized to determine the association between instructional materials and student academic progress. The findings indicated that teaching-learning resources had a favorable and significant impact on student performance in public primary schools. The study stated that in order to ensure greater academic attainment, the Kenyan government, through the Ministry of Education, should provide enough teachers and

instructional resources to public elementary schools.

According to Ramachandra and Rao (2006), having CSOs in secondary schools improved teachers' subject performance. Overall, the study indicated that having CSOs on the school staff improved student progress, particularly in mathematics and language. Nsakak and Santiago (2015) conducted a study in Equatorial Guinea to evaluate the role of curriculum support officers (CSOs) in the provision of teaching and learning resources, using qualitative data collected from 59 instructors. It found that CSOs play an important role in providing suitable teaching and learning resources and enhancing topic teacher performance. They recognized CSOs' key duties as inspiring teachers, supporting the use of ICT in teaching and learning, and providing feedback to instructors. The study indicated that CSOs play an essential role in enhancing the quality of education in Equatorial Guinea.

Khan (2010) conducted research in the Gambia's Western Region and discovered that CSOs had an impact on the teaching and learning environment, with 86.6% of respondents feeling that their existence resulted to higher quality teaching. Furthermore, CSOs provided teachers with teaching resources such as lesson plans. 74.6% of teachers use CSOs as their primary source of resources. Furthermore, teachers who used tools provided by CSOs reported improved subject performance. The study's findings revealed that the presence of CSOs in schools improves subject performance, with 79.2% of instructors indicating that CSOs helped them perform better in their subjects. This demonstrates that the presence of CSOs serves as a vital supply of teaching and learning materials while also improving subject performance.

Galy, Simmons, Ebot, Azango, and Shaw (2016) performed research in Rwanda to analyze the function of CSOs in providing teacher assistance in 50 Rwandan schools, finding that the majority of teachers valued their presence. Although CSOs lacked managerial support and were frequently unable to follow up on duties assigned to teachers, this study found that having an active CSO in the school boosted teacher attendance and participation in professional development. The study also found that instructors who had close relationships with their CSOs reported higher levels of teacher efficacy, better lesson plans, and increased motivation to teach.

Crawford (2018) conducted research in Kenya using both quantitative and qualitative methods to collect data from 12 secondary school teachers, 8 principals, and 6 CSOs. The findings demonstrated that CSO resources had a beneficial impact on topics taught, teacher performance, and student learning outcomes. The survey found that CSOs had made some progress in providing teaching and learning resources to teachers. The majority of teachers believed that CSOs had a favorable impact on teacher performance, while there was considerable variance in assessments of CSO influence. There was a need for additional research because Mwithe (2018) and other examined studies did not investigate how different curricular support materials and their levels of appropriateness influenced teaching and learning resources and subject performance. The study was conducted at the secondary level of education. There is a need to conduct a study in public day

secondary schools to determine the correlation between the CSO's professional practices and quality teaching, as well as the link between the two in relation to learners' KCSE performance.

## 2. Methodology

### A. Study Location

The study was carried out in Kakamega County. The county borders Bungoma County to the north, Uasin Gishu and Nandi Counties to the east, Vihiga County to the south, Siaya County to the southeast, and Busia County to the west. The county is divided into thirteen sub counties: Lugari, Likuyani, Mumias, Matungu, Navakholo, Butere, Kakamega East, Kakamega Central, Kakamega South, Kakamega North, Khwisero, Matete, and Navakholo.

The National Housing and Human Census (2019) reports a population of 1,867,579 in Kakamega County. The county has about 425 public and 19 private secondary schools, with over 208,244 students enrolled (Kenya Education Directory, 2022). Furthermore, the county has 37 CSOs and 5,100 secondary school instructors. According to Kenya's Basic Social Indicators (2017), the top five contributors to national poverty are Kakamega (4.77%), Mandera (4.69%), Turkana (4.13%), Nairobi (3.94), and Bungoma (3.79%). Furthermore, 74% of the population in Kakamega County lives in rural areas, and 75% of the rural population is impoverished. Furthermore, statistics show that 60% of the children in Kakamega County who enroll in grade 1 are from the poorest quintile and may be selected for boarding schools, contributing to the existing dismal performance and perpetuating the cycle of poverty.

### B. Target Population

The term "target population" refers to all members of an actual or hypothetical set of people, events, or objects to which the researcher desires to generalize the findings of the research study. The target group consisted of 5207 teachers and 425 school principals from 425 public day secondary schools in Kakamega County. Thirty-seven (37) CSOs from Kakamega County were also targeted for this study.

### C. Sampling Procedure and Sample Size

According to Rukayya (2016), an ideal sample is one that meets the requirements of efficiency, representativeness, dependability, and adaptability. Nassiuma (2000) claims that in most surveys or experiments, a coefficient of variation of 21% to 30% and a standard error of 2% to 5% are normally appropriate. As a result, the study used a sample size of 10% to 30% of the population, obtaining 52 principals and 521 teachers drawn at random from 52 public day secondary schools.

## 3. Results and Discussions

### A. CSO's Role in the Use of Instructional Resources and Quality Teaching

The objective of this study was to determine the influence of CSO's role in teacher use of instructional resources on quality teaching in public day secondary schools in Kakamega County. In this regard, the study was guided by the null hypothesis:

*HO:* There is no statistically significant influence of CSO's role in teacher use of instructional resources on quality teaching in public day secondary schools in Kakamega County.

To reach this goal, the study interviewed Principals and distributed questionnaires to teachers about the impact of CSOs' role in teacher usage of instructional materials on excellent teaching. Table 1, displays the variables used in the investigation.

Table 1 describes the five variables utilized to address the study's second goal. The five variables were measured using an ordinal scale. The data on variables was analysed, presented, and discussed in the following parts.

### B. CSO's Role in Teacher Use of Instructional Resources

The study attempted to determine the amount of CSO involvement in teacher utilization of instructional resources. Teachers' perspectives on how curriculum support officers (CSOs) have promoted the stated features of teacher usage of instructional resources in their subject area were measured using a five-point Likert scale ranging from strongly agree to strongly disagree. The acquired data was translated from a five-point Likert scale (Strongly Disagree, Disagree, Not Sure, Agree, and Strongly Agree). The results are shown in Table 2.

According to the findings in Table 2, the CSOs continuously observed instructors in class and advised them on appropriate teaching and learning resources, which were thought to be useful in identifying and selecting appropriate teaching and learning resources. They were crucial in assisting teachers in developing instructional approaches, as well as discovering and utilizing a variety of teaching and learning resources to accommodate student diversity in their subjects.

The findings in Table 2, are consistent with a study conducted in Equatorial Guinea by Nsakak and Santiago (2015), which evaluated the role of curriculum support officers (CSOs) in the design and development of teaching and learning resources using qualitative data collected from 59 instructors. They discovered that CSOs had an important role in providing suitable teaching and learning resources and enhancing topic teacher performance. The current findings also show that 59.0% of the teachers in this study disagreed that CSOs played a leading role in assisting teachers in developing a variety of teaching and learning resources in their subject area. This could have been influenced by the variance in subject mix among the

Table 1  
Descriptive of independent variables used in the second objective

Var.	Variable Label	Ordinal Scale
Var a	Has continuously observed you in class and advised on appropriate teaching and learning resources in your subject area.	Scale
Var b	Has continuously advised and helped you identify and select appropriate teaching and learning resources in your subject area.	Scale
Var c	Plays a leading role in helping you design a variety of teaching and learning materials in your subject area	Scale
Var d	Plays a leading role in helping you design a variety of methods of instruction in your subject area.	Scale
Var e	Has helped you to identify and use varied teaching and learning resources to cater for learner diversity in your subject area	Scale

Table 2  
CSO's role in teacher use of instructional resources

Attributes of CSO teaching and learning resources practices (n=343)	SA		A		NS		D		SD		Mean	Std.
	n	%	n	%	n	%	n	%	N	%		
Has continuously observed you in class and advised on appropriate teaching and learning resources in your subject area. (Var a)	134	39.1%	96	28.0%	14	4.1%	67	19.5%	32	9.3%	2.48	0.854
Has continuously advised and helped you identify and select appropriate teaching and learning resources in your subject area. (Var b)	92	26.8%	141	41.1%	26	7.6%	57	16.6%	27	7.9%	2.56	1.023
Plays a leading role in helping you design a variety of teaching and learning materials in your subject area (Var c)	38	11.1%	84	24.5%	31	9.0%	134	39.1%	56	16.3%	3.36	.452
Plays a leading role in helping you design a variety of methods of instruction in your subject area. (Var d)	109	31.8%	132	38.5%	31	9.0%	51	14.9%	20	5.8%	3.21	.9248
Has helped you to identify and use varied teaching and learning resources to cater for learner diversity in your subject area (Var e)	99	28.9%	119	34.7%	39	11.4%	58	16.9%	28	8.1%	2.59	1.235

KEY: SA- Strongly Agreed, A- Agreed, NS- Not sure, D- Disagreed, SD- Strongly Disagreed

Source: Field Data 2024, \*\* The statement negative was changed to positive statement during data analysis Statement

Table 3  
Teachers' Response on CSO's role in teacher use of instructional resources

Statements on CSO's learner assessment practices (N = 343)	Mean Statistic	Std. Deviation (SD)	Skewness		Kurtosis	
			Statistic	Std. Error	Statistic	Std. Error
Has continuously observe you in class and advice on appropriate teaching and learning resources in your subject area. (Var a)	3.26	0.953	.965	.103	.534	.321
Has continuously advice and helps you identify and select appropriate teaching and learning resources in your subject area. (Var b)	2.65	0.478	.856	.103	.522	.321
Plays a leading role in helping you design a variety of teaching and learning materials in your subject area (Var c)	3.12	1.023	.751	.103	.681	.321
Plays a leading role in helping you design a variety of methods of instruction in your subject area. (Var d)	2.73	1.231	1.253	.103	.751	.321
Has helped you to identify and use varied teaching and learning resources to cater for learner diversity in your subject area (Var e)	2.54	0.685	1.045	.103	.498	.321
<b>Composite values</b>	<b>2.83</b>	<b>0.728</b>	<b>0.974</b>	<b>.103</b>	<b>0.597</b>	<b>.321</b>

CSOs, which affected certain responders.

### C. Descriptive Statistics of CSO's Role in Teacher Use of Instructional Resources

In this section, the mean index and standard deviation of teachers' responses to the CSO's role in teacher usage of instructional materials were calculated. The study employed the following mean scale: 1.0-1.8 = Strongly Agree; 1.9-2.6 = Disagree; 2.7-3.4 = Not sure; 3.5-4.2 = Disagree; and 4.3-5.0 = Strongly Disagree. The altered results were later utilized to conduct additional parametric tests. Table 3 summarizes their responses, including mean values.

From Table 3, the teachers were undecided on whether CSOs played a leadership role in helping construct a variety of teaching and learning materials in certain subject areas (mean = 3.12, std. = 1.023). This could be explained by the CSOs' subject specialization, which limited their substance in certain subject areas. This is confirmed by the statement made by one CSO during the online FGD,

*"It is possible to design a lesson given an objective but not easy to identify appropriate teaching and learning materials without adequate content knowledge in the subject".*

Table 3, shows that CSOs played a substantial role in assisting teachers with the development and utilization of instructional resources. The findings are consistent with Crawford's (2018) study in Kenya, which used both quantitative and qualitative approaches to collect data from 12 secondary school teachers, 8 principals, and 6 CSOs, and found that CSO

support for instructional resource use improved topics taught, teacher performance, and student learning outcomes. Pearson Correlation was utilized to see how CSO assistance for teachers affects teaching quality.

### D. Pearson Correlation of CSO's Role in Teacher Use of Instructional Resources and Quality Teaching

Pearson Correlation measures the relationship between two variables: CSO roles in teacher usage of instructional resources and quality teaching. Pearson's correlation analysis was done to see whether there was a relationship. It delivers a numerical value between -1 and 1. A value close to one implies a strong positive linear relationship, -1 suggests a strong negative linear relationship, and zero shows no linear relationship between the variables. The measurement is continuous since most results range between 0 and 1, with 0.5 suggesting a moderate positive correlation and -0.5 indicating a moderate linear negative linear association between variables. Table 4 shows the study's findings.

Table 4 shows a moderately positive link between the CSO's continual advice and the assistance provided to teachers in identifying and selecting appropriate teaching and learning resources in various subject areas.

Table 4 above shows a clear correlation between (Var b) and excellent instruction ( $r=0.512$ ,  $p=0.034$ ) at  $\alpha=0.05$ . This finding suggests that teachers who were advised and assisted by CSOs in identifying and using diverse forms of teaching and learning resources in their subject area reported good quality

Table 4  
Pearson correlation of CSO's role in teacher use of instructional resources and quality teaching

Var	M	SD	KCSE Avg	Var2a	Var2b	Var2c	Var2d	Var2e
KCSEAvg	3.912	1.234	1					
Var a	3.26	0.953	.213	1				
Var b	2.65	0.478	.512**	.425**	1			
Var c	2.73	1.231	.567**	.624**	-.214	1		
Var d	3.12	1.023	.012	-.314	.483**	.368	1	
Var e	2.54	0.685	.624**	.573**	.725**	.497**	.624**	1
			.000	.042	.000	.0372	.000	

Note: \*\*. Correlation is significant at the 0.05 level (2-tailed) Var=Variables, M=Mean, SD= Standard Deviation, KCSE Avg. = KCSE mean marks from 2019 to 2023

Table 5  
The regression model summary for influence of CSO's role in teacher use of instructional resources on quality teaching

Model Summary					
Model	R	R- Square	Adjusted R- Square	Std. Error of the Estimate	p-value
1	.524 <sup>a</sup>	.473	.403	.35965	.000

a. Predictors: (Constant), CSO's role in the use of classroom instructional resources

b. Dependent Variable: Quality teaching

teaching, or that the advice had a modest effect.

The study found a significant correlation ( $r = 0.567$ ,  $p = 0.026$ ) at  $\alpha = 0.05$  between the involvement of CSOs in assisting teachers in designing teaching materials in specific topic areas (Var c) and quality teaching. This suggests a moderately good association between the factors.

Table 4, indicates a substantial positive correlation between the variable "CSOs help to locate and apply diversified teaching and learning materials to cater for learner variety in your subject area" (Var e) and quality teaching ( $r = 0.624$ ,  $p = 0.01$ ) at  $\alpha = 0.05$ ). This implied that teachers who were supervised and assisted by CSOs in identifying and utilizing a diverse range of teaching and learning resources to accommodate student diversity in a specific subject area provided high-quality instruction.

Otherwise, there was a slight link between the variables "CSOs continuously observed teachers in class and advised on appropriate teaching and learning resources in their subject area" as demonstrated by (Var a) ( $r = 0.213$ ,  $p = 0.234$ ) at  $p = 0.05$ ) and secondary school teaching quality. This could indicate that CSOs are observing lessons but providing little feedback, or that there is a lack of trust in CSOs' ability to deliver such services.

Teachers argued that CSOs play a leading role in helping them construct a range of methods of education in their subject area, as evidenced in (Var d) ( $r = 0.012$ ,  $p = 0.534$ ) at  $\alpha = 0.05$ . These findings were not statistically significant in this investigation; hence, they were not used for further analysis.

### E. Hypothesis Testing and Analysis of the Study Model

The objective of this study was to determine the influence of CSO's role in teacher use of instructional resources on quality teaching in public day secondary schools in Kakamega County. To achieve this objective, the study formulated and tested the following hypothesis:

$H_0$ : There is no statistically significant influence of CSO's role in teacher use of instructional resources on quality teaching in public day secondary schools in Kakamega County.

The multiple linear regression (MLR) model was used to determine the impact of independent variables on the dependent variable. This is a statistical method that employs multiple explanatory variables to forecast the result of a response variable. The purpose of MLR was to represent the linear relationship between independent (explanatory) and dependent (response) variables. The study included five explanatory (aspect) variables, which were modelled to predict their connection with the dependent variable. Before performing linear regression analysis on this data, the researcher verified that the assumptions were not broken. Table 5 presents the MLR model's results.

Table 5 displays the value in R ( $r = 0.524$ ), demonstrating a medium positive link between the two variables: CSO's role in teacher usage of instructional resources and quality teaching. The coefficient of determination, modified R-Square ( $R^2 = 0.403$ ), indicates that the amount of variability in quality teaching may be explained by the CSO's role in teacher usage of instructional materials. In this scenario, the modified R square value indicates that CSO's influence in teacher usage of instructional materials accounts for 40.3% of the variability in quality teaching. According to the analysis, 59.7% of the unexplained variation can be attributable to causes other than those included in this model. Table 6 shows the ANOVA results.

Table 6 shows that the model was statistically significant. Table 6 displays ANOVA findings of  $F = 68.235$  with 1 and 342 degrees of freedom, where F is significant at  $p < 0.05$ . Given this finding, it may be assumed that the regression model accurately predicts the extent to which CSOs' role in teacher usage of instructional materials influences quality teaching. The regression equation from this output is  $F(1,343) = 68.235$  ( $p < 0.0001$ ). Furthermore, the Regression Coefficient (Table 7) shows how the predictor variable (CSO's role in teacher utilization of instructional materials) fits into the model.

Table 7, displays the regression coefficient results. The equation describes how the value of the dependent variable (quality teaching) changes in response to a one-unit change in



Table 6

ANOVA Test for the influence of CSO's role in teacher use of instructional resources on quality teaching

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	78.365	1	53.254	68.235	.000 <sup>a</sup>
	Residual	102.324	342	3.254		
	Total	180.689	343			

a. Predictors: (Constant), CSO's role in teacher use of instructional resources

b. Dependent Variable: Quality teaching

Table 7

Regression coefficients for influence of CSO's role in teacher use of instructional resources on quality teaching

Coefficients		Unstandardized Coefficients			Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta			
1	Constant	2.99	.533			12.265	.000
	CSO's role in teacher use of instructional resources	.185	.021	.076		9.235	.000

a. Predictors: (Constant), CSO's role in teacher use of instructional resources

b. Dependent Variable: Quality teaching

the independent variable.

Table 7, shows the model  $Y$  (excellent teaching) =  $2.99 + 0.185 X_2 + \varepsilon$  ( $X_2$  = CSO's influence in teacher usage of instructional materials), where  $Y$  represents the estimated value of the dependent variable and  $X$  represents the independent variable. According to the regression coefficient, a unit (1) increase in CSO's influence in teacher use of instructional materials results in a 0.185 unit (18.5%) increase in teaching quality. Tables 5 and 6 show that the CSO's role in teacher utilization of instructional resources accounts for a considerable share of variation in excellent teaching ( $R^2=0.403$ ,  $F(1,372)=68.235$ ,  $p<.0001$ ).

Based on this evidence, the study rejected the null hypothesis,  $H_0$  that "there is no statistically significant influence of CSO's role in teacher use of instructional resources on quality teaching in public day secondary schools in Kakamega County."

The findings in Tables 5 and 6 are consistent with Nyamwembe's (2021) claim that curriculum support officers assisted educators in creating and using relevant teaching aids and other reference materials. He also advised teachers on how to use the appropriate resources, such as consumables, audiovisual aids, reference books, and other materials needed for effective education. Similarly, Ozingi (2011) stated that school supervisors must perform the task of curriculum instruction, which includes determining the goals and purposes, designing and developing courses or organizing learning activities, and promoting changes and improvements to curriculum and instructions.

The findings in Table 7 complement Agnetta et al., (2022), who confirmed that the use of teacher resources in public secondary schools in Makueni County had a statistically significant impact on student achievement. Their conclusion was that teacher resources were not being used efficiently in Makueni County's public secondary schools, despite the fact that teachers attended classes on time and more than half completed the syllabus on time. This means that the CSO did not assist or advise teachers in determining which instructional resources to employ. Based on the findings of this study, there is a strong belief that CSOs play an important role in the direction and quality of KCSE outcomes in day secondary schools throughout Kakamega County.

#### 4. Conclusion

Based on the findings presented, the study concludes that curriculum support officers in the county devote insufficient attention to instructional resource of teachers and hence compromise quality of education.

#### 5. Recommendations

The current study recommends that the curriculum support officers should guarantee better and more efficient use of teacher resources in order to ensure quality teaching in public day secondary schools

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