

**RELATIONSHIP BETWEEN PRINCIPAL'S COLLABORATIVE
PROBLEM SOLVING STRATEGIES ON TEACHER MANAGEMENT IN
PUBLIC SECONDARY SCHOOLS, THARAKA SOUTH SUB-COUNTY,
THARAKA NITHI COUNTY, KENYA**

Irene Gatawara Mugambi¹, Dr. Peter Kimanathi Mbaka² and Dr. Kenkelvin Kimathi Mbaka³

¹Master of Education in Educational Management, Chuka University, Kenya.

²Doctor of Education in Educational Management, Chuka University, Kenya.

³Doctor of Education in Educational Administration, Chuka University, Kenya.

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ABSTRACT

Teacher management is widely recognized to be vital in the thriving of education systems leading to the dispensation of positive education outcomes. Principals are the heads of management in public secondary schools thus are expected to oversee teacher management functions in schools. The purpose of this study was to establish the relationship between principal's collaborative problem solving strategies and teacher management in public secondary schools. The study adopted a descriptive research design. The study was conducted in public secondary schools in Tharaka South sub-county with a target population of 402, comprising 24 principals, 377 teachers, and 1 Quality Assurance Officer. The researcher used census to sample the schools, simple random sampling to sample the teachers and the principals. Purposive sampling was used on the Quality Assurance Officer. The researcher used Krejcie and Morgan table to realise a sample size 201 comprising of 6 principals, 194 Teachers and 1 Quality Assurance Officer. The researcher used questionnaires and interview schedules as the instruments for data collection. The study analysed both qualitative and quantitative data and presented the results in tables. The results revealed a significant relationship between principal's collaborative problem solving strategies and teacher management in public secondary schools. The study concluded that public secondary schools should emphasize on effective collaborative problem solving strategies through allowing teachers to have open communication channels, include them in decision-making process and problem solving culture and lastly team building. The findings of this study are expected to be helpful; to the ministry of education and Teachers Service Commission as

they may get insights on how to address various inadequacies in teachers' management among public secondary schools in Kenya.

Keywords: principal, collaborative problem solving strategies, Teacher management

1.0 Introduction

Effective teacher management is pertinent in steering academic success. Education management is the process of planning, organizing, directing, and controlling resources (such as human, financial, and material) to achieve educational goals and objectives effectively and efficiently. It involves overseeing various aspects of educational institutions, including schools, colleges, universities, and other educational organizations, to ensure the smooth operation and continuous improvement of educational processes. In a study by UNESCO (2018), on the global status of teachers and the teaching profession, elaborate that teachers being a stem resource in educational institutions require specific management. Teacher management being a branch in human resource management typically enshrines developing a sustainable and effective workforce in education systems which effectively meet their needs. A study done in India by Srinivasacharlu (2019) on the management of teacher education implies that teacher management includes several elements such as teacher training, recruitment, personnel motivation, evaluating their performance, future planning among other indispensable needs necessary for professional development.

Education systems can meet educational development goals if teachers' human resources are effectively managed including proper planning, allocation and effective care management. Teacher management is important in ensuring that education systems align with broader educational objectives as familiarized in the Incheon declaration (2015). This further encourages the notion that teachers have a strong influence in the dispensation of education. While this is true, effective performance is hinged upon effective teacher management. A study in USA by Osman and Warner (2020) notes, teachers are empowered in environments that offer ample resources, improved working conditions, active involvement in decision-making processes, and a genuine recognition of their efforts. These elements are well known to harbor quality education outcomes. Their absence could cause negative impacts in the education environment leading to school dropouts and absenteeism due to teacher demotivation.

Collaborative problem-solving is the process where individuals work together to address and resolve common challenges. In this approach, teamwork is essential, as individuals contribute their unique skills, perspectives, and expertise to the collective effort. A study by Pruner, and Liljedahl (2021), imply, collaborative problem solving implores the need for effective communication since it offers a platform for an open exchange of ideas, information, and

feedback among team members. This ensures that members of a team develop a shared understanding of the problem and facilitate a cohesive problem-solving process.

PRINCIPAL'S COLLABORATIVE PROBLEM SOLVING STRATEGIES ON TEACHER MANAGEMENT

In educational contexts, collaborative problem solving helps educators' work together to address and resolve challenges related to teaching, learning, and the educational environment. A study in Europe by Caena and Redecker (2019) notes that the collective efforts of teachers, administrators, and other stakeholders to collaboratively analyze, identify, and develop effective solutions to problems or opportunities within the educational setting. This approach recognizes the value of diverse perspectives, skills, and expertise in finding innovative and comprehensive solutions to complex issues in education.

In a study by Morgan (2018), the author aimed to establish the leadership practices of assistant principals in public schools in a western state particularly those traits that harbor a supportive and collaborative environment. The study also endeavored to examine leadership tenets such as instructional leadership, school improvement, and management and family relations detailed as possessive qualities of assistant principals. The study establishes that in addition to the strong leadership traits that assistant principals possess in facilitating a collaborative learning environment there was need to address their gaps in instructional leadership and school improvement practices unaddressed. On collaborative environments the study notes that principals play a central role in fostering a collaborative environment where teachers collectively participate in identifying areas for skill enhancement and professional growth. The authors in the study conclude that the leadership role assistant principals' play is vital for schools and student's therefore further research should be conducted in the field to offer deeper introspection into the profession.

The study is valuable since it demonstrates a correlation between leadership and teacher management since collaborative skills are traits that assistant principals possess helping them better manage schools. Despite this, the study presents several gaps. First, it being studied in a western state presents a contextual gap which raises questions on whether the model would be effective in other states. Even though the author features collaborative environments in education systems, there is no direct reference on how they directly or indirectly affect teacher management thus meriting the findings of this study to establish.

In a study by Pineda-Báez, Bauman, and Andrew (2019), the authors studied the concept of empowering teacher leaders across three cross cultural countries, Columbia, Canada and Australia. The study argues that the challenges school systems face across the world can be

addressed through adopting creative and innovative responses to revamp school practices. The process needs an adaptive school culture and leadership roles thus needing a changed mindset and thinking in education institutions. The authors argue this can be implemented if teachers possess leadership roles. The authors further argue to harness this, there is need for teacher leaders and principals to collaborate and nurture formal and informal leadership responsibilities within schools. The authors sought to establish whether teachers can practice these skills while committing to daily teaching responsibilities in education institutions. This study is relevant as the author demonstrates that collaborative problem solving among teachers can have positive effects in teacher management. Despite this, since it's a cross cultural study in Colombia, Canada and Australia there exists contextual discrepancies as to whether models are effective in other countries. Additionally, the principle role as to whether collaborative problem solving is effective in teacher management is obscured as the focal point of the research was on empowering junior teacher leadership. These gaps give this study merit in establishing whether principals can use these techniques in effectively managing teachers.

In a study by Bayler (2017), the authors studied teacher empowerment with an aim to demonstrate the role of various principles in smooth running of education institutions. The authors note that teacher empowerment involves investing in teachers in ways that they are involved in the determination of various school policies. The study aimed to establish the role that administrators have in empowering teachers. They opined that administrators empower them by offering opportunities for collaborative decision making, improving teaching environments, fostering good relationships and practicing effective communication among teachers. Poor support for professional development has been linked with negative performance and lesser autonomy. The authors conclude that the presences of these elements are essential to improve teacher performance. Despite this, the study does not document a direct linkage with these principles engrossed in principal's teacher management strategies thus encouraging this study to explore.

Collaborative problem-solving underscores the need for educational leaders to cultivate a culture of collaboration among teachers, emphasizing teamwork and collective problem-solving skills. Effective teacher management involves creating an environment where educators can work together to address challenges, share innovative solutions, and learn from each other's experiences. This approach is relevant as it not only enhances effectiveness of teaching strategies but also contributes to a supportive and cohesive teacher professional community. A study by Patuawa, entitled addressing inequalities and underachievement (2023), notes, collaborative problem solving is important in resolving inequity challenges in education systems. The study further implies that teacher leaders who possess collaborative problem-solving practices foster a dynamic and adaptive educational environment. The approach harnesses the collective expertise

of teachers which is instrumental in improving student outcomes and navigating the complexities of modern education making this study necessary.

In Kenya, while teacher management is acknowledged, the extent of its implementation varies across different schools (Wakori, 2021; Kilonzo, Were, & Odhiambo, 2018). Teacher management in Kenyan public secondary schools has been evolving to enhance professional development and support educators. A study by Jonyo and Jonyo (2017), implies the government and educational bodies have implemented various initiatives, such as training programs, workshops, seminars and teacher recruitment, to retain teachers and reduce teacher attrition.

While substantial efforts have been made effective teacher management is tremendously complex task in several parts of the country. In a study by Jonyo & Jonyo (2017), the authors reveal that teacher management in Kenya is hampered with resource challenges, teacher shortages, and poor recruitment. These have exacerbated management functions thus increasing cases of teacher attrition. A study by Wakori (2021) suggests that teacher shortages and turnover is a consequence of low teacher empowerment due to fewer teacher promotions and low teacher motivation. These studies imply that effective teacher management is limited by poor management practices which mirror poor leadership within educational institutions.

The background has revealed pressing teacher management concerns in Kenya, which are suggestive of poor leadership practices. This study thus aimed to establish the relationship between collaborative problem solving strategy and teacher management in public secondary schools in Tharaka South Sub County, Tharaka Nithi County, Kenya. In this regard, the findings of this study may be important as it help address teacher management challenges.

2.0 Statement of the problem

The education landscape is constantly evolving thereby exposing teachers and stakeholders to various systemic challenges. Internationally, there is a steady recognition and implementation of adaptive leadership practices in the management of teachers. Collaborative problem solving strategy gives an edge in the management of teachers due its potential in addressing dynamic educational challenges. In public secondary schools, there are pressing issues concerning teacher management, manifested through high turnout and low retention rates. Despite the dedication and the expertise of the educators, the current leadership fails to provide the necessary support and adaptability required for sustaining a thriving teaching environment. The problem lies in the inadequacy of leadership strategies to effectively addressing the evolving needs and challenges encountered by the teachers, resulting to diminishing job satisfaction, burnout and ultimately, a detrimental impact on educational outcome. This research aims to investigate the correlation between Principals' Collaborative Problem Solving Strategy and effective Teacher Management

seeking to identify whether the strategy foster resilience, professional growth and retention within the teaching workforce.

3.0 Objectives and Hypothesis of the study

The study was guided by the following objective:

3.1 Objective

To establish the relationship between principal's collaborative problem solving strategies on teacher management in Public Secondary Schools, Tharaka South Sub-County, Tharaka Nithi County, Kenya.

3.2 Research Hypothesis

The study addressed the following research hypothesis in tune with the above stated objective:

H₀1. There is no statistical significant relationship between Principals' Collaborative Problem Solving Strategies and Teacher Management in Public Secondary Schools, Tharaka South Sub-County, Tharaka Niithi County, Kenya.

4.0 Methodology

4.1 Research design

This research adopted a descriptive research design. Descriptive research design is a scientific method, which involves observing and describing the topic of the study without the researcher manipulating it in any way (Seeram, 2019). The researcher chose a descriptive research design since it aligned with the specific objectives of the study, which involve examining relationships between principal's collaborative problem solving strategy and teacher management outcomes. The focus is on the variable of collaborative problem solving in the context of public secondary schools. According to Orodho (2004), a research design helps the researcher collect, analyze, and interpret data into meaningful information. Descriptive research permits the researcher to investigate the relationship in the natural setting of schools, reflecting the complexities and dynamics of leadership practices and teacher management in Tharaka South sub- County, Tharaka Nithi County.

4.2 Population and sample size

For this study, the target population entailed 24 principals, 377 teachers and 1 Quality Assurance Officer totaling to 402 (Sub- County Director, Tharaka south sub-county, 2023)

4.2.1 Sample Size.

In this study to determine the sample size Krejcie and Morgan table was used. According to the Krejcie and Morgan a target population of between 400- 420 a sample size of 201 was a good representation of the population. The sample size comprised of 6 Principals, 194 Teachers and 1 Quality Assurance Officer.

4.3 Instrumentation

Research instruments are tools used by the researcher to help collect data about the research. In this study, the researcher used questionnaires and interview schedules to collect data from Principals, Teachers and the Quality Assurance Officer who were the target population. The questionnaires were used to collect data from the teachers while the interview guide was used to collect data from the principal and the Quality Assurance Officer.

4.3.1 Questionnaires

The researcher designed questionnaires in close relation to the study objectives to gain relevant data from the target population. The questionnaires were divided into section: A, B, and C. Section A contained demographic information of the respondents, section B, teacher management and section C, principals collaborative problem solving strategies. The questionnaires contained closed ended questions as desired for improved data collection. According to (McLeod, 2018), questionnaires are a set of questions that are developed by the researcher to collect data from the respondent. The author notes, questionnaires are simple to create and manage and they are effective to assemble information from a large and diverse group. The questionnaires were administered to the teachers who were the key informers.

4.3.2 Interview Schedule

The researcher used interviews since they were relatively easy to conduct, and they gave the researcher in-depth insights on the point of view of the respondents regarding the study topic (Bearman, 2019). The interview schedule consisted of open ended questions anticipated to assemble information on the topic of study. It was administered to the principal and the Quality Assurance Officer.

4.4 Data analysis

According to (Peck, Short, & Olsen 2020), data analysis is a systematic process involving the organized examination and arrangement of data from the field. The primary objective was to enhance the researcher's comprehension of the data and facilitate their presentation to others. The collected data was coded, where each answer from the research instruments was assigned a

corresponding number. Subsequently, the coded data was transferred to a computer sheet created using the Statistical Package for Social Science (SPSS) version 26. This software has widespread use in educational research, due to its ability in handling large datasets, and its extensive range of statistical procedures designed specifically for the social sciences. The research yielded both qualitative and quantitative data. The descriptive and inferential statistics were used to analyze quantitative data that was presented by use of frequency counts and percentages. The qualitative data was obtained from open ended questions which were being organized into themes and was reported thematically in line with the objectives of the study.

5. 0 Study Findings and Discussion

5.1 Principal’s Collaborative Problem Solving Strategies Descriptive Analysis

Respondents were required to respond to a Likert rating scale on the school culture in instructional leadership. Five parameters were considered. The results obtained are shown in table 10. Where 5 is Strongly agree, 4 is Agree, 3 is Undecided, 2 is Disagree while 1 is Strongly Disagree).

Table 1: Principal’s Collaborative Problem Solving Strategies Descriptive Analysis

Descriptive Statistics	SA	A	U	D	SD
The principal actively seeks input from teachers when addressing school wide challenges	28.5	38.7	0.0	21.5	11.3
The principal maintains open communication channels that encourage teachers to share their perspectives on school wide challenges	24.8	42.8	5.9	15.7	10.8
The principal involves teachers in decision making process ensuring that diverse viewpoints are considered when addressing the issues	12.4	38.5	16.3	21.5	11.3
The principal provides adequate support and resources for teachers to collaborate effectively on problem solving tasks	17.7	43.5	5.9	11.3	21.5
The principal fosters a problem-solving culture where teachers feel empowered to propose solutions and collaborate on resolving issues.	16.7	33.1	22.8	21.5	5.9
The principal fosters a culture of trust and respect among staff members, enhancing collaborative problem-solving efforts.	15.9	39.8	11.3	21.7	11.3
The principal actively promotes team building activities and collaborative efforts among teachers to tackle common problems.	10.2	51.1	10.2	28.5	0.0

The principal effectively facilitates meetings and discussions aimed at resolving issues and improving teaching practices.	0.0	33.3	6.5	54.3	5.9
The principal values and prioritizes collaboration among teachers as an essential aspect of improving teaching practices and student outcomes.	32.8	44.6	0.0	11.3	11.3
Aggregate mean	17.67	40.6	8.77	23.03	9.92

SA-Strongly agree A-Agree U-Undecided D-Disagree SD- Strongly Disagree

Table 1 shows the results on principal’s collaborative problem solving strategies. 38.7% of the teachers agreed, as 28.5% strongly agreed on the statement that the principal actively seeks input from teachers when addressing school wide challenges as 21.5% disagreed and 11.3% strongly disagreeing. On the statement on whether the principal maintains open communication channels that encourage teachers to share their perspectives on school wide challenges 24.8% of the teachers strongly agreed on that, 42.8% of the teachers agreed while 5.9% were undecided and 15.7% disagreed. On the view of the involving teachers in decision making process ensuring that diverse viewpoints are considered when addressing the issues 12.4% of the teachers strongly agreed as almost half of the teachers 48.5% agreed agreed on the same while 6.3% of the respondents were undecided, 21.5% disagreed and 11.3%strongly disagreed on the statement. 17.7% of the respondents strongly agreed while almost half the respondents (43.5%) agreed on the statement that the principal provides adequate support and resources for teachers to collaborate effectively on problem solving tasks while 5.9% of the respondents were undecided and 11.3% disagreed as 21.5% strongly disagreed on the same.

In addition to that 16.7% of the respondents strongly agreed while 31.1% of the teachers agree while 22.8% were undecided on whether the fosters a problem-solving culture where teachers feel empowered to propose solutions and collaborate on resolving issues as 21.5% disagreed and 5.9% disagreed on the view. 15.9% of the respondents strongly agreed while almost half the respondents (44.8%) agreed on the statement that the principal fosters a culture of trust and respect among staff members, enhancing collaborative problem-solving efforts, while 6.3% of the respondents were undecided and 21.7% disagreed as 11.3% strongly disagreed on the same. On the view on whether the principal actively promotes team building activities and collaborative efforts among teachers to tackle common problems 10.2% of the respondents strongly agreed as more than half of the respondents (51.1%) agreed, moreover, 10.2% of the teachers were undecided while 28.5% disagreed on the view. On the statement on whether the principal effectively facilitates meetings and discussions aimed at resolving issues and improving teaching practices 33.3% agreed, 6.5% of the teachers were undecided as more than half of the teachers (54.3%) disagreed and lastly 5.9% strongly disagreed on the same. More than half of the teachers (50.6%) agreed while 32.8% of the respondents strongly agreed that the principal values

and prioritizes collaboration among teachers as an essential aspect of improving teaching practices and student outcomes in addition to that 5.3% disagreed to that view as 11.3% strongly disagreed. This indicates that, on an aggregate average of 40.6%, teachers in public secondary schools in Tharaka South Sub-County, Tharaka Nithi County, Kenya agreed on various statements on principal's collaborative problem solving strategies.

From the respondents these results imply that more than average of the respondents agreed that principal's collaborative problem solving strategies had an impact on teacher management. This indicates that, on average, public secondary schools in Tharaka Sub county Tharaka Nithi County, Kenya school culture improved leadership in the school.

It was confirmed principals B that:

As a principal, my approach to collaborative problem-solving revolves around fostering a culture of open communication and shared responsibility. I believe that the best solutions come from a diverse set of perspectives, so I make it a priority to involve teachers, staff, students, and parents in the decision-making process. Regular meetings, focus groups, and surveys are some of the tools I use to gather input and ensure that everyone's voice is heard. By creating an environment where people feel valued and respected, I encourage honest dialogue and creative thinking.

The Quality assurance officer agreed to that by stating that;

A key strategy I employ is building strong, trusting relationships within the school community. I take the time to get to know the individual strengths and concerns of my staff and students. This personal connection helps me understand the root causes of issues and identify the best people to involve in finding solutions. By leveraging the unique talents and insights of each member of the school community, we can tackle problems more effectively and implement solutions that are tailored to our specific needs.

These findings bridge the knowledge gaps identified in the extant empirical literature reviewed. . Pruner, and Liljedahl (2021), failed to address how collaborative problem solving implores the need for effective communication since it offers a platform for an open exchange of ideas, information, and feedback among team members. The findings are similar to a study in Europe by to Caena and Redecker (2019) that notes that the collective efforts of teachers, administrators, and other stakeholders to collaboratively analyze, identify, and develop effective solutions to problems or opportunities within the educational setting. This approach recognizes the value of diverse perspectives, skills, and expertise in finding innovative and comprehensive solutions to complex issues in education.

5.2 Influence of principal’s collaborative problem solving strategies on teacher management inferential analysis

This section offers descriptive and inferential analysis of the study first objective that was to establish the relationship between principal’s collaborative problem solving strategies on teacher management in Public Secondary Schools, Tharaka South Sub-County, Tharaka Nithi County, Kenya.

Table 2: Influence of principal’s collaborative problem solving strategies on teacher management inferential analysis

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	163.578 ^a	6	.000
Likelihood Ratio	172.293	6	.000
Linear-by-Linear Association	104.144	1	.000
N of Valid Cases	186		

a. 2 cells (16.7%) have expected count less than 5. The minimum expected count is 2.71.

Symmetric Measures

		Value	Asymptotic Standard Error ^a	Approximate T ^b	Approximate Significance
Interval	by Pearson's R	.750	.033	15.395	.000 ^c
Ordinal	by Spearman	.684	.048	12.721	.000 ^c
Ordinal	Correlation				
N of Valid Cases		186			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

The Chi-square test results determined that there was an association between principal’s collaborative problem solving strategies and teacher management. The value of Pearson chi square p (0.000<0.05) demonstrated statistical significance at the 0.05% level, whereas the corresponding result for Pearson’s correlation coefficient was 0.750. Principal’s collaborative problem solving strategies was found to have a strong positive relationship with the teacher performance. This suggests that if principal’s collaborative problem solving strategies is enhanced then teacher management in terms of teacher performance, teacher satisfaction and teacher retention is likely to be improved positively and strongly. Since the p value (0.00) was less than 0.05, we may be certain that the observed relationship between the two variables is not

merely coincidental. A correlation coefficient of +1 indicates that the two variables are perfectly and positively related in a linear sense. At the same time, -1 shows that the two variables are perfectly related but in a negative linear sense. Hair et al., (2006) observe that correlation coefficient (r) ranging from 0.81 to 1.0 is very strong; from 0.61 to 0.80 is strong; from 0.41 to 0.60 is moderate; from 0.21 to 0.40 is weak; and from 0.00 to 0.20 indicates no relationship.

Therefore, the null hypothesis formulated that there is no statistical significant relationship between principals' collaborative problem solving strategies and Teacher Management in Public Secondary Schools, Tharaka South Sub-County, Tharaka Nithi County, Kenya was rejected and therefore the conclusion principal's collaborative problem solving strategies has a strong positive relationship with teacher management.

This finding concurs with the study by the study by Meyer, et al., (2022) who explores how principal leadership influences teacher collaboration, emphasizing the mediating role of teachers' collective efficacy. It concludes that effective principal leadership enhances teachers' collective efficacy, which in turn fosters stronger collaboration among teachers, ultimately benefiting the educational environment. The results can be explained by a critical review study by Komalasari, Arafat, and Mulyadi (2020) who examines how principals' management competencies impact the quality of education. The study identifies key competencies such as strategic planning, effective communication, and resource management, demonstrating that principals with strong management skills significantly enhance educational quality. Their findings underscore the importance of leadership in educational improvement. Moreover, the results can be explained by the theoretical perspectives by the Theory of adaptive leadership by (Ronald & Marty, 2014). The Adaptive Leadership Theory, developed by Ronald and Marty is a transformative approach to leadership that addresses complex challenges and fosters organizational change. At the core of this theory is the recognition that many issues facing organizations are not technical problems with straightforward solutions but rather adaptive challenges that require shifts in mindset, behavior, and values. The theory challenges instructional leaders such as principals to introduce promotion, empowerment and mentorship programs to improve as they promote students ability to learn effectively and grow which leads to positive improvement in academic performance.

6. Conclusions

Collaborative Problem Solving Strategies and Teacher Management

Basing on the findings of the first specific objective that there is a statistically significant relationship between principal's collaborative problem solving strategies and teacher management in Public Secondary Schools, Tharaka South Sub-County, Tharaka Nithi County, Kenya. The conclusion of this study is that public secondary schools should emphasize of

effective collaborative problem solving strategies through allowing teachers to have open communication channels, include them in decision-making process and problem solving culture and lastly team building and collaboration. These activities led to enhanced teacher management

7. Recommendations

Based on the findings of this study, the researcher made the following recommendations that may be important to the Ministry of Education, Teachers Service Commission, principals in public secondary schools in Kenya.

The public secondary schools should sustain and continually improve on their collaborative problem solving strategies in order to boost the management of teachers. This can be done by investing teaching staff attending: seminar/workshop/capacity building program/examiners training, organized activities and staff mentorship programs as this will increase teacher performance, teacher satisfaction and teacher retention.

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