



The influence of knowledge sharing practices on teaching competencies among selected secondary school teachers in Morogoro municipality, Tanzania

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ABSTRACT

Knowledge-sharing practices and continuous development of teaching competencies are essential for improving instructional quality and student learning outcomes, particularly in resource-constrained secondary education systems in Tanzania. Guided by the Communities of Practice (CoP) theory, this study explores the influence of knowledge-sharing practices on teaching competencies among selected secondary school teachers in Morogoro municipality. Specifically, the study assessed the current status of teaching competencies among selected secondary school teachers in Morogoro municipality. The study employed a mixed-method approach, integrating quantitative and qualitative approaches to provide a comprehensive understanding of the influence of knowledge-sharing practices on teaching competencies. Quantitative data were collected from 175 secondary school teachers using questionnaires, while qualitative data were obtained through semi-structured interviews. Data were analyzed using SPSS version 27 to determine frequency, percentages, and regression analysis was used to examine the influence of knowledge-sharing practices on teaching competencies, while content analysis was used to analyze qualitative data. The study found that teachers in Morogoro municipality demonstrated relatively high competence in traditional pedagogical areas. However, the use of Information and Communication Technology (ICT) in teaching resulted in lower levels of competence, highlighting ongoing obstacles in technology-enhanced instruction. Moreover, the findings revealed that Communities of Practice comprised the most common knowledge-sharing practice among the selected secondary school teachers, recording a mean score of 3.92. Regression analysis revealed that documentation and sharing ($\beta=0.256$, $P=0.003$), peer-to-peer sharing ($\beta=0.206$, $P=0.009$), and mentorship and coaching practices ($\beta=0.236$, $P=0.008$) had a positive and statistically significant influence on teaching competencies. Therefore, the study recommends that schools and educational authorities should strengthen sustainable, school-based collaborative learning structures, mentorship systems, and institutional knowledge documentation practices while simultaneously improving Information and Communication Technology (ICT) infrastructure and institutional support systems to maximize the effectiveness of technology-supported and formal professional development initiatives. The study provides practical insights for education policymakers and school administrators to institutionalize collaborative professional development frameworks, thereby cultivating a sustainable culture of peer learning and ultimately enhancing the quality secondary education in Morogoro municipality.

Keywords: Knowledge-Sharing Practices, Morogoro Municipality, Secondary School Teachers, Teaching Competencies, Tanzania

I. INTRODUCTION

The global education environment is undergoing a paradigm shift, in which teaching quality is now viewed as a dynamic skill set that requires continuous refinement and improvement rather than a static attribute learned during initial training (Makhmetova et al., 2025). Central to this evolution, knowledge-sharing practices such as peer-to-peer sharing, documentation and sharing, technology-based sharing, Communities of Practice, workshops, and seminars, are a vital process that supports professional development among secondary school teachers, as it enables sharing of teaching strategies, experiences, and knowledge that ultimately improve instructional quality and student learning (Guo et al., 2025). Moreover, a study conducted by Makhmetova et al. (2025) revealed that these practices go beyond simple knowledge sharing; they facilitate the conversion of tacit knowledge (found in the minds of human stakeholders and derived from personal experiences) into explicit knowledge (documented and external in the form of documents, graphs, tables, charts, symbols), which greatly increases the creativity and effectiveness of instruction of individual teachers.

Professional Learning Communities (PLCs) have gained global recognition as an effective and powerful mechanism for teachers to work together to analyze student data, plan lessons, develop solutions to classroom

challenges, share strategies, and ultimately support their professional growth (Mydin et al., 2024). A cross-national study including over 127,339 teachers from 40 countries found that participation in PLCs was strongly associated with greater job satisfaction, improved self-efficacy, and more consistent application of effective teaching practices (Christensen & Jerrim, 2025).

In East Africa, there is a growing emphasis on school-based professional development as a means of strengthening teacher capacity; however, empirical studies documenting the precise forms and patterns of teacher knowledge sharing remain limited (Hardman, 2017). Formal and structured practices such as workshops, seminars, and collaborative curriculum development meetings are often implemented by school administration to provide dedicated time and space for teachers to discuss specific pedagogical issues, share resources, and receive structured feedback (Samundeeswari et al., 2024). Similarly, Werimba (2024), a study conducted in Kenya, highlights that, for secondary school teachers, engaging in seminars, workshops, and trainings is no longer a luxury but a necessity for enhancing their teaching competencies, fostering a culture of collaborative learning within their schools, and adapting to new curricula and student needs.

In Tanzania, the government has placed significant emphasis on teacher collaboration and continuous professional development as strategies for improving instructional quality through the Education and Training Policy (ETP, 2014, updated 2023) and the National Strategy for Inclusive Education. Despite this policy emphasis, there is insufficient empirical documentation on how secondary school teachers share knowledge in their daily professional environments and how these practices influence the development of key teaching competencies at the school level. Most studies in Tanzania focus on formal training programs, leaving everyday teacher interactions and informal learning processes underexplored. As a result, it remains unclear how knowledge-sharing practices contribute to teaching competencies among secondary school teachers in Morogoro municipality. According to Juma and Patel (2024), it was revealed that many Tanzanian schools lack formal structures that encourage professional collaboration, and knowledge sharing often occurs informally. Therefore, there is a need to put more effort into improving teaching competencies among secondary school teachers by encouraging various knowledge-sharing practices and the contextual factors influencing them.

1.1 Statement of the Problem

In an ideal educational environment, secondary school teachers are expected to be lifelong learners who continuously refine their pedagogical skills (Friedman & Friedman, 2023; Mateka, 2024). Effective knowledge-sharing practices, such as peer collaboration, mentoring, professional learning communities, and the use of digital platforms, among secondary school teachers would allow them to exchange teaching strategies and insights that improve their teaching methods (Mwakabenga, 2023).

However, existing studies in secondary schools in Morogoro extensively examined limitations in instructional innovation and structured learning systems, teacher professional development, ICT integration, and competency-based curriculum implementation, yet provide limited empirical evidence on how different knowledge-sharing practices influence teaching competencies among secondary school teachers (John, 2024; Makunganya & Amos, 2025; Malekani, 2018).

Understanding these practices is critical for strengthening school-based professional learning (Yonas et al., 2023). Without this context-specific understanding, educational planners, school leaders, and policymakers are constrained in their ability to design and promote professional learning interventions that strengthen collaborative teaching practices (Komba & Mwakabenga, 2019). As a result, teachers may find it difficult to enhance their teaching competencies, including classroom management, instructional strategies, lesson planning, student engagement, communication, and assessment and evaluation (Amani et al., 2021). This study, therefore, aims to explore the influence of knowledge sharing practices on teaching competencies among selected secondary school teachers in Morogoro municipality.

1.2 Research Objectives

- i. To assess the current status of teaching competencies among selected secondary school teachers in Morogoro municipality.
- ii. To examine the influence of knowledge-sharing practices on teaching competencies among selected secondary school teachers in Morogoro municipality.



II. LITERATURE REVIEW

2.1 Theoretical Review

2.1.1 Communities of Practice (CoP) Theory

The study is guided by the Communities of Practice (CoP) theory, which explains that learning and teaching competencies occur through active participation in a community where individuals interact, share experiences, and engage in collective problem-solving. CoP theory, learning occurs through participation in a professional community with three interrelated elements: Domain, Community, and Practice (Chen, 2022). In this study, the Domain represents teachers' shared professional interest in improving teaching competencies. It provides a sense of shared purpose and motivation for teachers to participate in knowledge-sharing activities. The community consists of secondary school teachers who regularly interact through formal structures such as staff meetings, subject-panel discussions, mentorship, and workshops and seminars, and informal structures (like peer observation, casual conversations, and discussions). These interactions foster trust, collaboration, and a supportive environment for sharing both successes and challenges. The practice is where tacit and explicit knowledge are shared and refined, often through collaborative lesson planning, classroom management techniques, and the use of ICT tools that teachers develop collectively. Therefore, through continuous participation in these professional communities, teachers gain access to new pedagogical approaches, classroom management strategies, students' assessment techniques, and subject-specific expertise.

According to the theory, the sharing of teaching resources, lesson plans, and best-practices enhances teachers' instructional capacity and encourages the adoption of innovative teaching methods. Moreover, sustained engagement in knowledge-sharing activities strengthens teachers' pedagogical knowledge, instructional delivery, classroom management, assessment practices, and overall professional effectiveness. Therefore, CoP theory provides a useful framework for explaining how knowledge-sharing practices serve as a mechanism through which teachers develop and improve their teaching competencies within the school environment. Although CoP theory is primarily concerned with learning through participation in social and professional communities, it also provides a basis for understanding the impact of individuals and organizational features on knowledge-sharing processes. Factors such as age, teaching experiences, educational level, gender, school type, and position/responsibility of the teacher may shape teachers' participation in communities of practice, access to professional networks, and opportunities for collaborative learning. These factors can influence both knowledge-sharing behaviors and teaching competencies.

2.2 Empirical Review

2.2.1 Teaching competencies

In the contemporary educational landscape of the 21st century, the quality of teaching heavily depends on teachers' ongoing professional development and ability to adapt to changing pedagogical demands (Didier et al., 2025). Teaching competencies refer to the combination of skills, knowledge, attitudes, values, and behaviors that teachers must possess and demonstrate to facilitate effective teaching and learning outcomes. It involves teachers' capability to plan, deliver, manage, and evaluate learning in a way that promotes students' academic and personal development. Teaching competencies has emerged as a major concern in today's education systems, driven by rising demands for quality education, competency-based learning, technological integration, and improved student outcomes (Jakob, 2026). Teachers are expected not only to possess subject knowledge but also to demonstrate pedagogical competence, classroom management skills, collaborative practices, and technological proficiency. A study by Zeng et al. (2025) found that one of the best ways to improve teachers' professional competence is knowledge-sharing, which allows educators to share experiences, instructional strategies, and subject-matter expertise. Additionally, to improve teaching competencies and address changing educational demands, governments and educational institutions around the world have increased their investments in teacher professional development programs (Kirsten, 2020). Moreover, the emergence of digital technologies, artificial intelligence, and competency-based curricula has changed traditional teaching methods and raised the demand for ongoing pedagogical development (Juma, 2026). According to studies done in a variety of educational situations, researchers have observed that despite ongoing educational reforms and technological advancements, many teachers still struggle to adapt to changing instructional standards due to inadequate training opportunities, lack of institutional support, and technological constraints (Atabek, 2019; John & Ashwarya, 2025; Koomar et al., 2022).

A study conducted in Sub-Saharan Africa found that teacher professional development continues to face significant obstacles related to inadequate teacher preparedness, limited instructional support, weak institutional coordination, and severe resource constraints, all of which affect the quality of teaching and the successful implementation of educational reforms (Bekele, 2026). In addition, educational reforms in nations like Kenya, Rwanda, and Tanzania have increasingly emphasized competency-based and skills-oriented teaching approaches to address domestic unemployment, reduce skills mismatches, and equip learners with practical competencies required in both domestic and global market demands (Barasa, 2025). Tanzania's government has implemented several educational



reforms aimed at improving the quality of teaching and learning in schools, including the adoption of competency-based curricula and the integration of Information and Communication Technology (ICT) to promote learner-centered pedagogy, technological competence, and improved educational outcomes (Nemes, 2026). Furthermore, teachers who implement such reforms must constantly update their pedagogical knowledge, classroom practices, assessment techniques, technological literacy, and professional collaboration.

Research conducted in Morogoro found that, although teachers possessed theoretical awareness of innovative teaching methods such as blended learning and mobile learning, the practical implementation of these approaches remained limited due to infrastructural challenges, insufficient training, and institutional constraints (John, 2024). The study emphasized the importance of ongoing professional development programs to help teachers improve their instructional skills and adapt to new educational demands. Similarly, a study on teachers' technological literacy for ICT integration by Kalinga (2024) revealed that inadequate ICT competencies and limited technological infrastructure constrained teachers' ability to integrate digital technologies into classroom instruction. A study conducted in Morogoro municipality by Senjiro and Lupeja (2023) assessed Geography teachers' competencies in facilitating 21st century skills among secondary school students. The study demonstrated that many teachers had limited awareness and inadequate competencies in integrating creativity, communication, collaboration, and critical thinking into classroom instruction. In addition, the study also found weaknesses in lesson planning and formative assessment processes, limiting teachers' ability to build effective teaching skills. These findings indicate that, while teachers may have academic qualifications, practical pedagogical competencies remain insufficiently developed in many secondary schools. Another study that was carried out in the Morogoro municipality examined modalities of professional training among public secondary school teachers. The results demonstrated that workplace-based professional training contributed positively to teachers' acquisition of knowledge, creativity, commitment, and professional attitudes (Mgaya, 2024a). However, the study also found differences in teachers' involvement levels and inconsistent professional training program execution.

2.2.2 Influence of knowledge-sharing practices on teaching competencies

The effectiveness of knowledge creation, dissemination, and application within professional communities is increasingly recognized as a determinant of teaching quality in contemporary education systems (Zeng et al., 2025). Knowledge-sharing methods, both tacit and explicit, have become essential tools for teachers to improve their pedagogical competencies. According to Enakrire and Mayowa-adebara (2025), the interplay between tacit and explicit knowledge has direct implications for teaching competencies, especially in resource-constrained and rapidly evolving educational environments. Liu et al. (2026) show that teachers who engaged in "collaborative reflection" showed a higher rate of adopting innovative technology in the classroom compared to those who worked in isolation. Moreover, a systematic review conducted by Pasipamire (2025) suggests that in high-trust environments, knowledge-sharing normally occurs on "tacit" knowledge, which has a greater influence on teaching competencies than the sharing of "explicit" knowledge. Digital technologies have become increasingly important in facilitating knowledge-sharing, particularly in the post-2020 digital transformation era. Platforms such as Learning Management Systems and mobile communication applications (like WhatsApp groups) facilitate the SECI model's "combination" phase by enabling the rapid integration, restructuring, and dissemination of explicit knowledge across users (Žatuchin, 2024). These technologies greatly improve knowledge recombination capabilities through digital repositories, communication networks, and collaborative platforms, although their effectiveness depends on contextual and organizational factors.

In Tanzania, a study conducted by Mugisha (2023), titled "Collaborative practices as a teacher professional development pathway," revealed that teachers' professional development and instructional improvement were greatly enhanced by collaborative practices such as coaching, mentoring, and teamwork. According to the study, teachers were able to strengthen classroom effectiveness, improve pedagogical techniques, and resolve instructional challenges through collaborative interactions. However, the study focused on collaborative practices as professional development pathways rather than their direct impact on teaching competencies among secondary school teachers.

Moreover, research on ICT use in secondary schools in Morogoro municipality also found that teachers had limited opportunities for ICT-related professional learning and collaboration due to inadequate infrastructure, poor internet access, and insufficient training schedules (Malekani, 2018). These restrictions negatively affected teachers' ability to integrate technology into teaching and constrained opportunities for digital knowledge-sharing among teachers. Furthermore, a study conducted by Costantine et al. (2025) in Morogoro municipality on teacher resilience and challenging teaching environments also contributes to understanding teaching competencies. According to the study, teachers had to deal with a variety of workplace challenges, such as poor support networks, a lack of resources, and stressful working environments, all of which had a detrimental impact on their confidence, motivation, and professional effectiveness. Such conditions may hinder teachers' ability to continuously improve their instructional competencies.

III. METHODOLOGY

3.1 Description of the Study Area

This study was conducted in Morogoro municipality, which is located in the Morogoro region. Morogoro municipality lies between latitudes 4°49' and 6° south of the Equator and longitudes 37°4' and 38° east of the Greenwich Meridian. Morogoro Municipality serves as the administrative center for Morogoro Region, and it is bordered by Morogoro Rural District to the east, Mvomero District to the north, and the Uluguru Mountains to the south. Morogoro municipality has thirty-one (31) public secondary schools and thirty-two (32) private schools.

Morogoro municipality was selected because it features a mixture of urban and peri-urban secondary schools, which can reflect different challenges and opportunities in knowledge-sharing. This diversity allowed for a comprehensive analysis of different teaching practices and the potential for knowledge-sharing across different educational contexts. Furthermore, Morogoro municipality is experiencing urbanization, which has the potential to alter educational dynamics. The urban context provided unique opportunities for teachers to engage in knowledge-sharing practices by leveraging community resources and networks, which are more widespread in urban settings than in rural locations (Ndhlovu & Sawe, 2022).

3.2 Research Design

Based on the nature of this study, the research design adopted was cross-sectional, which measured units from a sample of the population at only one point in time. The researcher chose this research design because it allowed a combination of various survey methods for gathering both qualitative and quantitative data. The design also offers quick results at minimal cost (Hunziker & Blankenagel, 2024).

3.3 Research population

The target population of 359 comprised both private and public secondary school teachers from Morogoro Municipal. This group was selected because they are the major actors participating in the processes of knowledge-sharing and professional competencies in the education system. Headmasters/headmistresses and District Secondary Educational Officer (DSEO) were also part of the study as key informants. Their inclusion was essential due to their strategic roles in shaping the school environment, and they are responsible for organizing professional development activities, fostering a collaborative culture, and supporting internal communication among teachers. Moreover, the DSEO provided a broader, policy-level perspective on educational policy implementation and resource allocation.

3.4 Sampling Procedures

A combination of purposive, random, and stratified sampling techniques was employed in this study to enhance the relevance of the findings. The purposive sampling technique was used to select secondary schools to be included in the study. Again, the purposive sampling technique was used to select key informants: Heads of secondary schools and the District Secondary Education Officer (DSEO). Moreover, the stratified sampling technique was employed to select respondents from two main strata based on ownership type, namely public secondary schools and private secondary schools. Within each selected school, teachers were selected randomly from staff lists to minimize selection bias and to ensure that each teacher had an equal chance of inclusion.

3.5 Sample Size

The study involved 189 respondents as a sample size from the total population of 359 (comprising 297 public and 62 private secondary school teachers) obtained from the official list provided by the Municipal Secondary Education Office. Eight (8) secondary schools were selected (four public and four private) purposefully by considering two best performing schools from urban and peri-urban areas, including public and private, and two low performing schools, including private and public from urban and peri-urban areas of Morogoro municipality. However, for data presentation and with a consideration of confidentiality and fluent discussion, the eight secondary schools were assigned a unique code and were identified as school A, B, C, D for private schools and school 1, 2, 3, 4 for public schools instead of using actual names. One (1) respondent was a District Secondary Education Officer (DSEO), and eight (8) respondents were heads of schools from the eight different secondary schools. The sample size was obtained using Yamane's formula for calculating sample size $n = \frac{N}{1+N(e^2)}$ Where N is the population size and e is the level of precision, which is ± 5 , thus,

$$n = \frac{359}{1+359(0.0025)} = 189$$

Table 1*Summary of sample sizes for private secondary schools*

S/N	Name of the school	Number of secondary school teachers	Sample size (n)
1.	School A	13	07
2.	School B	21	11
3.	School C	19	10
4.	School D	09	05
Total		62	33

Source: Number of secondary school teachers obtained from Morogoro Municipal Secondary Education Office

Table 2*Summary of sample sizes for public secondary schools*

S/N	Name of the school	Number of secondary school teachers	Sample size (n)
1.	School 1	53	28
2.	School 2	108	57
3.	School 3	76	40
4.	School 4	60	31
Total		297	156

Source: Number of secondary school teachers obtained from Morogoro Municipal Secondary Education Office

However, out of the 189 questionnaires distributed to secondary school teachers, 175 were completed and returned, yielding a response rate of 92.6%, while 14 questionnaires (7.4%) were not returned. According to Seibu et al. (2025) argues that a response rate above 80% is considered excellent for analysis and reporting. The high response rate implies significant participant involvement and provides sufficient data for further statistical analysis, thereby enhancing the credibility and representativeness of the study findings (Holtom et al., 2022).

3.6 Data collection methods

This study used two main data collection methods, namely questionnaires and semi-structured interview guides. Primary data were collected using the qualitative method for non-numerical data, which is an interview guide, and the quantitative method for numerical data, which is the questionnaire. These methods were designed to complement each other in terms of analysis and verification. Questionnaires were the main tool for data collection in the study, and the unit of analysis consisted of teachers from secondary schools in Morogoro municipality. A five-point Likert scale was used to assess the current status of teaching competencies among selected secondary school teachers. Knowledge-sharing practices (the independent variable) were measured using a five-point Likert type frequency scale. Response options ranged from Never, Rarely, Sometimes, Often, to Always, and were coded as 1,2,3,4, and 5, respectively. Again, the dependent variables (teaching competencies) were measured using a five-point Likert-type frequency scale. Response options ranged from Never, to Always, and were coded as 1,2,3,4, and 5, respectively. Before analysis, the instruments internal consistency was assessed using Cronbach's alpha. The instrument yielded a Cronbach's alpha value of 0.86, indicating good internal consistency reliability.

3.7 Statistical analysis

Qualitative information collected from the interview guide was conceptualized, summarized, and analyzed using content analysis. Quantitative data were coded and analyzed using SPSS version 27. Descriptive statistics such as mean, standard deviation, and inferential statistics such as linear regression were used to analyze the influence of knowledge sharing practices on teaching competencies among secondary school teachers in Morogoro municipality. The employed multiple linear regression model was expressed as:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \dots + \beta_{12}X_{12} + \varepsilon$$

Where,

Y = Teaching skill development

 β_0 = Y intercept $\beta_1 - \beta_{12}$ = Regression coefficients

X1 = Peer-to-peer sharing

X2 = Mentorship and coaching practices

X3 = Documentation and sharing

X4 = Technology-based sharing

X5 = Communities of Practice

X6 = Workshops and seminars
 X7 = Age
 X8 = Teaching experience
 X9 = Education level
 X10 = Sex
 X11 = School type
 X12 = Position/Responsibility
 ε = Error term

Before running linear regression, the following assumptions were tested: multicollinearity, autocorrelation, and homoscedasticity. Moreover, the model was used to determine the relative contribution of each knowledge-sharing practice to teaching competencies among teachers in Morogoro municipality.

IV. FINDINGS & DISCUSSION

4.1 Findings

Table 3 presents descriptive statistics of respondents' demographic and professional characteristics, including gender, age, education level, teaching experience, position or responsibility, and school type. Understanding the characteristics of participants is crucial for contextualizing the findings and strengthening the validity of the analysis

Table 3

Demographic information of the participant (n=175)

Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	102	58.3
	Female	73	41.7
Age (Years)	21-30	35	20.0
	31-40	71	40.6
	41-50	57	32.6
	51-60	12	6.8
Education level	Diploma in Education	10	5.7
	Bachelor's Degree	149	85.1
	Postgraduate Diploma	8	4.6
	Master's Degree	8	4.6
Teaching experience	Less than 1 year	5	2.9
	1-5 years	39	22.3
	6-10 years	48	27.4
	More than 10 years	83	47.4
Position/Responsibility	Ordinary teacher	132	75.4
	Head of department	25	14.3
	Academic teacher	18	10.3
School type	Public/Government	142	81.1
	Private	33	18.9

The findings in Table 3 indicate that out of 175 respondents, 102 teachers (58.3%) were male, while 73 teachers (41.7%) were female. Moreover, with respect to age distribution, the findings show that the largest proportion of respondents was within the 31-40 years age group (40.6%), followed by those aged 41-50 years (32.6%). This pattern indicates that the teaching workforce in the sampled schools is predominantly composed of mid-career professionals. Regarding education qualifications, the data show that a very large majority of respondents, 149 teachers (85.1%) hold a Bachelor's degree. This distribution suggests that most teachers in the study area have attained the maximum professional qualification required for teaching in secondary schools in Tanzania. The teachers were asked to indicate their teaching experience. Findings show that 83 teachers (47.4%) have more than 10 years of teaching experience, followed by teachers with 6-10 years of experience, who account for 27.4%. These findings demonstrate that the majority of teachers in the sample are highly experienced professionals. Furthermore, concerning professional roles within schools, the majority of respondents, 132 teachers (75.4%), are ordinary classroom teachers, while 25 teachers (14.3%) serve as heads of departments, and 18 teachers (10.3%) hold the position of academic teachers. Finally, regarding school ownership, the results show that 142 respondents (81.1%) work in public or government schools, while 33 respondents (18.9%) are employed in private schools.

Table 4*Knowledge-sharing practices used/employed by secondary school teachers in Morogoro municipality (n=175)*

Knowledge-sharing practice	Mean	SD
Peer-to-peer sharing	3.85 ^{ab}	.84842
Mentorship and coaching practices	3.74 ^{ab}	.95988
Documentation and sharing	3.78 ^{ab}	.99921
Technology-based sharing	3.52 ^a	1.08207
Communities of Practice	3.92 ^b	.95323
Workshops and seminars	3.72 ^{ab}	1.06673

Means sharing the same letter in the same column are not significantly different at $P < 0.05$. Sum of squares (Between Groups = 7.174, Within Groups = 1113.611, Total = 1120.786), $F(1.345)$, $P = 0.243$. The table presents descriptive statistics (Mean and Standard deviation) for six knowledge-sharing practices used/adopted by secondary school teachers in Morogoro municipality. The practices examined included peer-to-peer sharing, mentorship and coaching practices, documentation and sharing, technology-based sharing, workshops and seminars, and Communities of Practice. The responses were measured using a five-point Likert scale and analyzed using descriptive statistics, particularly means and standard deviations.

The findings of the study in Table 4 indicate that knowledge-sharing practices among selected secondary school teachers are generally practiced at a moderate to high level, as reflected by mean scores ranging from 3.52 to 3.92 on the five-point Likert scale. The predominance of “often” and “always” responses across all practices suggests that teachers actively engage in different mechanisms that facilitate the sharing of professional knowledge, teaching experiences, and pedagogical strategies within their schools. The results show that Communities of Practice is commonly practiced among secondary school teachers, with a mean score ($M=3.92$, $SD=0.95323$), with nearly 70% of respondents reporting regular participation. This suggests that teachers frequently participate in collaborative professional groups where they discuss subject content, teaching methodologies, and classroom challenges. This was confirmed during the interview, as the Heads of schools said that;

“We do have subject panels where teachers meet and discuss performance and teaching approaches, but these are not always consistent or guided by clear frameworks.” Interviewed on 12/02/2026

Furthermore, the findings indicate that technology-based knowledge sharing recorded the lowest mean score among the examined practices ($M=3.52$, $SD=1.08207$), although it still falls within the high level of practice. This suggests that while teachers use digital platforms such as WhatsApp groups and online forums related to teaching, the level of utilization is relatively lower compared to other knowledge-sharing practices. Several Heads of schools reported that;

“Some teachers use WhatsApp groups and online platforms such as Shule Direct and LearningHub Tanzania to share materials, but not all are comfortable with technology; internet access and high data costs are sometimes a challenge.” Interviewed on 12/02/2026

Results from Table 4 highlight that Communities of Practice, peer-to-peer knowledge sharing, and mentorship are highly practiced and adopted knowledge sharing among secondary school teachers in Morogoro municipality. This was supported by the study conducted by Swai and Glanfield (2018), who demonstrated that teacher-led Communities of Practice foster professional growth, mutual support, and pedagogical innovation through sustained interaction and shared practice in Tanzania secondary schools. Moreover, Communities of Practice and peer-to-peer provide a collaborative, context-sensitive platform for sustained professional growth, especially in resource-constrained environments, and are widely endorsed in both policy and practice (Hu & Endozo, 2024). Research conducted in Tanzania by Mugisha (2023) found that teachers frequently engage in professional discussions and subject panel meetings, which significantly enhance instructional problem-solving but remain weakly structured. In Tanzania specifically, a 2023-2024 study on teacher mentorship and support in secondary schools demonstrates that school-based mentorship programs create “communities of learners,” leading to improved classroom management practices, subject mastery, and collaborative pedagogy (Urio & Mwakabenga, 2025).

Despite its potential, technology-based knowledge sharing is the least adopted practice among selected secondary school teachers in Morogoro municipality. This is consistent with numerous studies highlighting inadequate infrastructure, unreliable electricity, limited access to computers, and insufficient technical support as major obstacles (Bendera, 2024; Peter, 2022). Moreover, a teacher survey in Tanzania Koomar et al. (2022) found that nearly half of teachers did not use digital technologies for teaching, despite positive attitudes towards technology. This low adoption is widely attributed to inadequate infrastructure, unreliable electricity supply, limited access to devices, and insufficient technical and pedagogical support.

Table 5*Teaching competencies indicators (n=175)*

SN	Teaching skill development	Mean	Std. Deviation
1	Use of ICT in teaching	3.37 ^a	1.247
2	Assessment techniques	4.34 ^b	.750
3	Lesson planning	4.43 ^{bc}	.707
4	Instructional delivery skills	4.46 ^{bc}	.684
5	Subject mastery	4.55 ^{cd}	.658
6	Classroom management	4.69 ^d	.605

Means sharing the same letter in the same column are not significantly different at $P < 0.05$. Sum of squares (Between Groups = 197.483, Within Groups = 671.282, Total = 868.765), $F(60.838)$, $P < 0.001$. The findings presented in Table 5 indicate varying levels of teaching competencies among teachers across different instructional competencies. In this study, teaching competencies was measured on six indicators, which include lesson planning, classroom management, instructional delivery skills, subject mastery, assessment techniques, and use of ICT in teaching. The results showed that there were statistically significant differences in the indicators of teaching competencies ($P < 0.05$). Moreover, the mean scores indicate that teachers demonstrated a relatively high-level of competence in most teaching competencies categories, with mean scores ranging from 4.34 to 4.69; however, there are significant variations between technology-related competencies and traditional pedagogical competencies. Furthermore, the results reveal that the highest teaching competence was in classroom management with a mean score of 4.69, suggesting that teachers perceived themselves as highly competent in managing classroom activities, maintaining discipline, organizing learning environments, and facilitating student engagement. This finding is consistent with recent studies conducted by Handini (2024) and Kayhan (2023), who found that experienced teachers tend to develop greater classroom management competencies through continuous practical classroom engagement, reflective instructional experience, and sustained professional interaction. Similarly, subject mastery recorded a high mean score ($M=4.55$, $SD=0.658$), indicating that teachers possessed a strong command of subject content and curriculum knowledge. A study conducted in Nigeria by Hart (2025) found that strong subject mastery is essential for effective instructional delivery because it allows teachers to explain concepts clearly, respond accurately to students' inquiries, organize learning content appropriately, and adapt content to students' learning requirements. Moreover, the result corroborates a previous study conducted in Tanzania, which revealed that teachers have higher content knowledge than pedagogical innovation competencies (Athuman, 2023). Additionally, the high mean score for subject mastery was supported by the DSEO, who said that,

"Teachers generally have good knowledge of their subjects because many of them are professionally trained and have taught for several years. The challenges are not content knowledge, but mainly the methods and technologies employed to convey that knowledge." Interviewed on 17/02/2026

Regarding assessment techniques also relatively strong ($M=4.34$, $SD=0.750$), indicating that teachers are proficient in evaluating student learning using tests, assignments, classroom exercises, and other assessment strategies. This result aligns with the quantitative finding from one Head of School who said that;

"Teachers have improved in giving exercises, tests, and classroom assessments because schools now emphasize continuous assessment and monitoring student progress." Interviewed on 12/02/2026

These results aligned with the study conducted by Dismas et al. (2023) in Tanzania, who demonstrated that competency-based educational reforms have improved teachers understanding and application of formative and continuous assessment practices by encouraging ongoing learner evaluation, feedback provision, classroom-based assessment, and competency-oriented monitoring of students learning progress. In contrast, the use of ICT in teaching had the lowest mean score ($M=3.37$, $SD=1.247$), indicating that teachers have lower levels of competency and greater variation in technology integration in instructional practices. This was confirmed during the interview, as several heads of School explained.

"Many teachers know that ICT is important, but schools do not have enough computers, internet services, or projectors. Some teachers also lack confidence in using digital teaching tools." Interviewed on 12/02/2026

The District Secondary Education Officer (DSEO) similarly emphasized infrastructural and institutional challenges by stating;

"The government encourages ICT integration, but implementation is still difficult in many schools because of inadequate facilities and limited funding for teacher training." Interviewed on 17/02/2026

This outcome is consistent with a study conducted in Tanzania by Mgaya (2024b), who found that a lack of ICT facilities, insufficient training opportunities, and limited institutional support systems sometimes make it difficult for teachers to implement technology-enhanced teaching. Similarly, a study done by Ngao (2024) reported that many

teachers continue to experience difficulties adapting to digital pedagogical approaches despite increasing policy emphasis on educational technology integration.

Table 6

The influence of knowledge-sharing practices on teaching competencies

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.566	.161		15.913	<.001		
	Peer-to-peer sharing	.128	.049	.206	2.636	.009	.542	1.844
	Mentorship and coaching practices	.131	.049	.236	2.695	.008	.435	2.297
	Documentation and sharing	.132	.043	.256	3.045	.003	.470	2.128
	Technology-based sharing	.022	.042	.044	.529	.598	.479	2.086
	Communities of Practice	.032	.042	.059	.761	.448	.552	1.811
	Workshop and seminars	.010	.040	.020	.256	.798	.524	1.908
	Sex (0=Male, 1=Female)	-.035	.122	-.022	-.290	.772	.931	1.074
	Age	-.090	.098	-.096	-.923	.357	.486	2.058
	Teaching experience	-.123	.100	-.134	-1.233	.219	.438	2.281
	Education level	.158	.113	.103	1.396	.164	.951	1.052
	Position/Responsibility	.347	.090	.283	3.869	<.001	.972	1.029
	School type (0=Public, 1=Private)	-.244	.167	-.118	-1.459	.147	.790	1.265

The multiple linear regressions was performed to examine the influence of knowledge sharing practices, as well as selected demographic characteristics, on teaching competencies among secondary school teachers. Regression output, as shown in Table 6 above, demonstrates that documentation and sharing emerge as the strongest predictors of teaching competencies in the model ($\beta=0.256$, $P=0.003$). This finding suggests that when teachers systematically document their instructional practices (codified knowledge), such as lesson plans and teaching guides or notes and share these artifacts with colleagues, teaching competencies improve more substantially compared to other forms of knowledge-sharing. These results align with recent empirical studies, which indicate that teachers' knowledge-sharing practices, including the documentation and sharing of instructional resources such as lesson plans, subject mastery, assessment techniques, and classroom experiences, are strongly linked with improved pedagogical effectiveness and professional growth (Langdal, 2023; Taylor & Charlebois, 2024; Zeng et al., 2025). Mentorship and coaching practices ($\beta=0.236$, $P=0.008$) and peer-to-peer sharing ($\beta=0.206$, $P=0.009$) also significantly predict teaching competencies. Conversely, three knowledge-sharing practices did not reach statistical significance ($P>0.05$), including technology-based sharing, Communities of Practice, and workshops and seminars. Technology-based sharing does not exhibit a statistically significant effect ($\beta=0.044$, $P=0.598$). Several recent studies contradict this finding and they reported that technology-enabled professional communities improve teacher's professional competencies and collaborative learning practices by facilitating collaboration, rapid knowledge-sharing, network expansion, and opportunities for ongoing learning (Cexam, 2024; Jin et al., 2023). Communities of Practice ($\beta=0.059$, $P=0.448$) and also workshop and seminars present an insignificant effect ($\beta=0.020$, $P=0.798$). This result is contrary with the study conducted in South Africa by Ndlovu et al. (2024) who found that seminars improve teachers pedagogical competencies, classroom management abilities, and professional confidence in schools. Similarly, a study conducted in Tanzania by Kafanabo (2024) indicated that seminars and workshops help teachers gain instructional knowledge and adapt to curriculum changes.

Regarding the control variables, sex had no statistically significant influence on teaching competencies ($P=0.772$), indicating that male and female teachers did not differ significantly in their teaching competencies outcome. Similarly, teaching experience ($P=0.219$) also shows no statistically significant influence on teaching competencies. However this is contrary with the findings of recent studies which have reported that teaching experience positively contributes to teaching competencies. For example, Al-najjar et al. (2024) found that experienced teachers had stronger reflective thinking and professional learning capacities developed through a long-term classroom practice. Age ($P=0.357$), education level ($P=0.164$), and school type ($P=0.147$) were also statistically insignificant ($P>0.05$). These findings suggest that demographic characteristics alone may not strongly determine teaching competencies once knowledge-sharing practices are considered. However, position or responsibility had a strong positive and statistically significant influence on teaching competencies ($B=0.347$, $P<0.001$). The standardized beta coefficient ($\beta=0.283$) indicates that teachers holding leadership or administrative duties report higher levels of teaching competencies. This could be because teachers in leadership positions often participate more actively in professional interactions, decision making processes, mentoring activities, and institutional learning opportunities. This finding aligns with the studies

which reported that leadership responsibilities significantly predicted teacher's professional development and instructional growth (Abrahamsen & Helstad, 2025; He et al., 2024). The studies concluded that leadership engagement creates greater exposure to collaborative learning, mentoring, instructional supervision, and reflective teaching practices, all of which strengthen professional competence. The collinearity data demonstrate that multicollinearity was not a significant problem in the model. All tolerance values were above 0.1, and all Variance Inflation Factor (VIF) values ranged between 1.029 and 2.297, significantly below the commonly accepted threshold of 10. This implies that the independent variables were sufficiently distinct from one another and that the regression estimates are statistically reliable.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusion

This study set out to explore how knowledge-sharing practices contribute to teaching competencies among selected secondary school teachers in Morogoro municipality. The findings indicate that teachers demonstrated relatively high levels of competence in most teaching skill categories, with mean scores ranging from 4.34 to 4.69; however, there are significant variations between technology-related competencies and traditional pedagogical skills. Moreover, the findings revealed that Communities of Practice comprised the most common knowledge-sharing practice among the selected secondary school teachers, recording a mean score of 3.92. In addition, nearly 70% of respondents reported regular participation in such collaborative professional activities. Regression results indicate that peer-to-peer sharing, mentorship and coaching, and documentation and sharing are statistically significant predictors of teaching competencies, with documentation practices showing the strongest effect. In the context of Tanzania's Education and Training Policy and ongoing efforts toward competency-based curricula, this study underscores that knowledge-sharing serves as a vital mechanism for teachers' competencies.

5.2 Recommendations

The study recommends that secondary schools and education authorities in Morogoro municipality should strengthen both the structure and governance of knowledge-sharing practices to improve teaching competencies. Specifically, schools should move beyond reliance on informal knowledge-sharing mechanisms by institutionalizing explicit knowledge management systems such as documented lesson repositories, structured peer observation reports, and accessible digital platforms for resource sharing. This will enable the conversion of tacit knowledge into reusable organizational assets, reducing knowledge loss and improving continuity. Moreover, the Morogoro municipal education office, in collaboration with the Ministry of Education, Science and Technology, should organize continuous professional development workshops where teachers from different secondary schools meet monthly to demonstrate lessons, share assessment strategies, and solve common teaching challenges. Furthermore, the Morogoro municipal council and school heads should encourage a culture of sharing rather than information hoarding by recognizing and rewarding teachers or mentors who actively engage in knowledge-sharing activities. In addition, to modernizing knowledge-sharing, the municipality should provide better internet access and devices to secondary schools, allowing teachers to participate in wider professional learning communities.

Declaration of Interest

The authors declare that they do not have any known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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