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COLLABORATIVE LEADERSHIP AND TEACHERS' PROFESSIONAL DEVELOPMENT IN PUBLIC SECONDARY SCHOOLS: EVIDENCE FROM KIGOMA DISTRICT, TANZANIA

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ABSTRACT

This study examined the influence of collaborative leadership on teachers' professional development in public secondary schools in Kigoma District, Tanzania. Guided by Distributed Leadership Theory and Transformational Leadership Theory, the study used a quantitative approach with a cross-sectional survey design. A sample of 187 usable responses was obtained from 201 distributed questionnaires, representing a 93% response rate. Data were collected from teachers, heads of schools, and academic masters or mistresses and analyzed using descriptive statistics, Pearson correlation, and multiple regression with SPSS version 25. Findings revealed that shared decision-making positively influenced professional development ($r = 0.612$, $p < 0.001$), explaining 37.5% of variance. Teamwork and collaboration emerged as the strongest predictor ($r = 0.674$, $p < 0.001$), explaining 45.4% of variance. Communication also showed a significant positive relationship ($r = 0.589$, $p < 0.001$), explaining 34.7% of variance. Combined, the three variables explained 55.9% of variance in professional development ($R^2 = 0.559$, $F = 76.582$, $p < 0.001$). The study concludes that collaborative leadership significantly and holistically enhances teachers' professional development and recommends strengthening participatory decision-making, institutionalizing teamwork structures, and improving communication systems, particularly structured feedback on teaching practices, within public secondary schools.

KEYWORDS: *Collaborative Leadership, Shared Decision-Making, Teamwork And Collaboration, Communication, Teachers' Professional Development.*

1.0 INTRODUCTION

School leadership has been globally identified as a critical factor in supporting teachers' professional growth. Across developed and developing education systems, there has been a notable shift from traditional top-down leadership models toward collaborative leadership, where teachers are actively involved in planning, decision-making, and school improvement (Harris & Jones, 2020; Bush, 2021). In the United States and United Kingdom, collaborative practices including professional learning communities, joint lesson planning, and peer feedback have been shown to significantly improve instructional quality and teacher learning (Spillane, 2021; Harris, 2020). In Finland and other Nordic systems, collaborative cultures built on trust have strengthened teacher motivation and sustained professional development (Sahlberg, 2021; Ahtiainen et al., 2022). In Asia, Singapore and China have institutionalized collaborative structures including lesson study and peer mentoring that have measurably improved teaching quality and professional growth (Tan & Dimmock, 2021; Li & Liu, 2022). In the African context, South Africa, Ghana, and Uganda have increasingly recognized collaborative leadership as a mechanism for improving teacher development (Mestry, 2021; Adu & Osei, 2021). Within East Africa, research in Kenya, Rwanda, and Uganda links collaborative practices to improved teacher participation and professional engagement (Mukama, 2022; Oduor & Muturi, 2021). In Tanzania, the Ministry of Education, Science and Technology has introduced policies encouraging teacher participation in professional development through workshops, seminars, and in-service training (MoEST, 2021). Studies in Tanzanian secondary schools confirm that school leaders who encourage teamwork and teacher participation in decision-making produce more motivated and professionally active teachers (Mosha, 2022; Komba & Mwakabenga, 2023). However, Sanga (2024) observed that many schools in rural areas continue to rely on hierarchical leadership that excludes teachers from decision-making, limiting professional development opportunities.

In Kigoma District specifically, schools face compounding challenges including limited resources, geographical isolation, teacher shortages, and restricted access to structured professional development. Despite these challenges, limited context-specific empirical evidence exists on how collaborative leadership practices influence teacher professional development within this rural setting. This study was guided by Distributed Leadership Theory, which explains how shared leadership roles promote participation, teamwork, and collective responsibility (Harris, 2020), and by Transformational Leadership Theory, which explains how leaders inspire and motivate teachers through vision and individualized support (Leithwood et al., 2020). The study pursued three specific objectives: to examine the extent

to which shared decision-making influences teachers' professional development; to assess the influence of teamwork and collaboration on teachers' professional development; and to determine how communication between school leaders and teachers influences teachers' professional development in public secondary schools in Kigoma District.

2.0 METHODOLOGY

2.1 Study Area

The study was conducted in Kigoma District, located in Kigoma Region in western Tanzania. The district is largely rural and resource-constrained, characterized by geographical isolation, teacher shortages, and limited access to structured professional development. These conditions make Kigoma District a particularly important context for examining how collaborative leadership functions in underrepresented, less-advantaged educational settings and for generating evidence that can inform policy and practice in similar regions across Tanzania.

2.2 Research Approach and Design

The study employed a quantitative research approach, which enabled measurement of variables and analysis of relationships between collaborative leadership dimensions and teachers' professional development using statistical techniques (Creswell, 2021; Cohen, Manion & Morrison, 2022). A cross-sectional descriptive survey design was used to collect data from a sample of the population at a single point in time, allowing systematic description of existing conditions and relationships between leadership practices and professional development outcomes (Kothari, 2020).

2.3 Sampling Procedure and Sample Size

The target population comprised teachers, heads of schools, and academic masters or mistresses in the 29 government secondary schools in Kigoma District, totaling 406 individuals. Using Yamane's (1967) formula at a 95% confidence level and a 5% margin of error, a required sample size of 201 respondents was calculated. Simple random sampling was used to select teachers, ensuring equal probability of selection and enhancing representativeness. Purposive sampling was applied to select heads of schools and academic masters or mistresses based on their direct knowledge of and responsibility for collaborative leadership practices in their schools. A total of 201 questionnaires were distributed, of which 187 were properly completed and returned, yielding a response rate of 93%, which is considered excellent for quantitative research (Mugenda & Mugenda, 2023).

2.4 Data Collection Methods and Instruments

Data were collected using a structured questionnaire developed by adapting items from previous validated studies on collaborative leadership and teachers' professional development (Harris, 2020; Leithwood et al., 2020). The instrument was organized into four constructs: shared decision-making (eight items), teamwork and collaboration (eight items), communication (eight items), and teachers' professional development (eight items). All items were measured using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). Content validity was established through expert review by three specialists in educational leadership and research methodology using the Content Validity Index procedure, yielding an overall Scale-level CVI of 0.91, which exceeds the 0.80 minimum threshold (Polit & Beck, 2006). Reliability was tested through a pilot study with 20 respondents, producing Cronbach's Alpha values of 0.847 for shared decision-making, 0.861 for teamwork and collaboration, 0.839 for communication, and 0.856 for the overall scale, all exceeding the 0.80 threshold indicating good internal consistency (Nunnally & Bernstein, 1994).

2.5 Data Analysis

Quantitative data were analyzed using SPSS version 25. Descriptive statistics including frequencies, percentages, means, and standard deviations were computed to summarize respondents' characteristics and perceptions on each construct. Pearson's Product-Moment Correlation Coefficient was used to determine the strength and direction of relationships between each independent variable and teachers' professional development. Simple linear regression analyses were conducted for each independent variable separately, followed by multiple regression analysis to assess the combined predictive influence of shared decision-making, teamwork and collaboration, and communication on teachers' professional development simultaneously.

3.0 RESULTS

3.1 Demographic Characteristics of Respondents

Of the 187 respondents, 104 (55.6%) were male and 83 (44.4%) were female. The majority held Bachelor's degrees (75.9%), while 21.9% held Master's degrees. In terms of teaching experience, 34.2% had between 6 and 10 years, 31.0% had between 1 and 5 years, 21.9% had between 11 and 15 years, and 12.9% had 16 or more years. Regarding position, the majority (84.5%) were classroom teachers, 8.6% were heads of schools, and 6.9% were academic masters or mistresses. This distribution reflects the actual staffing structure of public

secondary schools and ensured that perspectives from both classroom practitioners and school leaders were captured.

3.2 Shared Decision-Making and Teachers' Professional Development

Table 1 presents descriptive statistics on the eight shared decision-making items. The overall mean of 3.70 indicates a generally high level of agreement among respondents.

Table 1: Descriptive Statistics on Shared Decision-Making. (n=187)

Statement	Disagree (%)	Neutral (%)	Agree (%)	Mean	SD
Teachers are involved in making important decisions	18.2	15.5	66.3	3.62	1.08
School leaders consider teachers' opinions before decisions	21.4	17.6	61.0	3.51	1.12
I participate in planning school academic activities	14.4	12.8	72.8	3.81	0.97
Teachers are involved in developing school policies	28.9	20.3	50.8	3.21	1.18
Shared decision-making improves my teaching skills	12.3	13.4	74.3	3.89	0.95
My involvement in decision-making increases my motivation	11.2	10.7	78.1	3.96	0.91
Teachers are encouraged to express their ideas freely	19.8	16.0	64.2	3.58	1.10
Participation in decision-making enhances my professional development	9.6	11.2	79.2	4.01	0.89
Overall Mean				3.70	1.03

Source: Researcher, 2026

Pearson correlation revealed a statistically significant positive relationship between shared decision-making and teachers' professional development ($r = 0.612$, $p = 0.000$). Simple regression showed that shared decision-making explained 37.5% of the variation in professional development ($R^2 = 0.375$), with a significant positive coefficient ($B = 0.589$, $t = 10.333$, $p = 0.000$).

3.3 Teamwork and Collaboration and Teachers' Professional Development

Table 2 presents descriptive statistics on teamwork and collaboration. The overall mean of 3.81 was the highest among the three independent variables, indicating stronger agreement with collaborative practices.

Table 2: Descriptive Statistics on Teamwork and Collaboration. (n=187)

Statement	Disagree (%)	Neutral (%)	Agree (%)	Mean	SD
Teachers work together in planning lessons	13.4	14.4	72.2	3.78	0.99
There is effective collaboration among teachers	16.6	15.0	68.4	3.65	1.05
Teachers share teaching materials and resources	19.3	17.1	63.6	3.55	1.09
Teamwork helps me improve my teaching methods	8.6	9.6	81.8	4.05	0.86
Peer learning is practiced in this school	17.6	18.2	64.2	3.59	1.07
Collaboration improves my professional skills	10.2	11.2	78.6	3.94	0.92
Teachers support each other in academic activities	11.8	13.4	74.8	3.86	0.95
Teamwork contributes to my professional development	9.1	10.2	80.7	4.02	0.88
Overall Mean				3.81	0.98

Source: Researcher, 2026

Pearson correlation showed the strongest relationship among all three predictors ($r = 0.674$, $p = 0.000$). Simple regression confirmed that teamwork and collaboration accounted for 45.4% of variance in professional development ($R^2 = 0.454$), with a significant coefficient ($B = 0.668$, $t = 12.370$, $p = 0.000$).

3.4 Communication and Teachers' Professional Development

Table 3 presents descriptive statistics on communication. The overall mean of 3.69 reflected the lowest agreement level among the three constructs, though still within the range of agreement.

Table 3: Descriptive Statistics on Communication. (n=187)

Statement	Disagree (%)	Neutral (%)	Agree (%)	Mean	SD
Effective communication exists between leaders and teachers	21.9	16.6	61.5	3.49	1.13
School leaders provide clear information about school activities	14.4	13.4	72.2	3.79	0.98
Teachers receive feedback on their teaching practices	26.7	19.3	54.0	3.28	1.20
Communication supports my professional growth	10.7	12.3	77.0	3.92	0.93
Teachers are informed about school decisions	17.1	15.5	67.4	3.63	1.06
Open communication encourages improvement in teaching	9.6	10.7	79.7	3.99	0.90
School leaders listen to teachers' concerns	23.5	18.2	58.3	3.40	1.16
Communication enhances professional development	8.6	9.6	81.8	4.04	0.87
Overall Mean				3.69	1.03

Source: Researcher, 2026

Pearson correlation revealed a significant positive relationship ($r = 0.589$, $p = 0.000$). Simple regression showed communication explained 34.7% of variance in professional development ($R^2 = 0.347$), with a significant coefficient ($B = 0.561$, $t = 9.508$, $p = 0.000$).

3.5 Multiple Regression Analysis: Combined Influence on Teachers' Professional Development

Table 4 presents the combined predictive model incorporating all three independent variables simultaneously.

Table 4: Multiple Regression Model Summary and Coefficients. (n=187)

Variable	B	Std. Error	Beta	t	Sig.
(Constant)	0.687	0.198	—	3.470	0.001
Shared Decision-Making	0.214	0.061	0.223	3.508	0.001
Teamwork and Collaboration	0.398	0.059	0.402	6.746	0.000
Communication	0.187	0.057	0.196	3.281	0.001
R² = 0.559	Adjusted R ² = 0.552	F = 76.582	p = 0.000		

Source: Researcher, 2026

The combined model explained 55.9% of variance in teachers' professional development, which is substantially higher than any single variable alone. The overall model was statistically significant ($F = 76.582$, $p = 0.000$). Among the three predictors, teamwork and collaboration had the highest standardized Beta (0.402), followed by shared decision-making (0.223), and communication (0.196). All three predictors remained statistically significant even when modeled simultaneously, confirming that each contributes independently and meaningfully to teachers' professional development.

4.0 DISCUSSION

4.1 Shared Decision-Making and Teachers' Professional Development

The finding that shared decision-making positively and significantly influences teachers' professional development ($r = 0.612$, $p < 0.001$, $R^2 = 0.375$) aligns strongly with Distributed Leadership Theory, which holds that teachers become more professionally effective when leadership responsibilities are distributed and they are actively involved in school decisions (Harris, 2020). This theoretical argument is confirmed empirically in the present study, where

79.2% of respondents agreed that participation in decision-making enhances their professional development and 78.1% confirmed it increases their motivation. Nguyen (2025) and Christensen and Jerrim (2024) both found that participatory leadership enhances teacher engagement in professional learning activities, and the present study extends these findings to a rural Tanzanian context, providing specific quantitative evidence previously absent from Kigoma District.

The finding that teacher involvement in school policy development was the weakest indicator with only 50.8% agreement, the lowest across all 24 questionnaire items in the study is particularly noteworthy. This is contrary to what Distributed Leadership Theory would predict, as that framework expects participation to extend across operational and strategic leadership functions equally. The finding suggests that collaborative leadership in Kigoma District schools operates predominantly at a surface level where teachers are consulted on routine academic matters but remain excluded from broader institutional direction-setting. This is consistent with Komba and Nkumbi (2022), who reported that teacher participation in Tanzanian schools is typically confined to operational rather than strategic decisions, and with Sanga (2024), who found that many rural schools retain hierarchical structures that limit meaningful participatory leadership. This gap between the positive motivational effects of existing participation and the structural limitation of its scope represents a critical opportunity for school leaders and policymakers in Kigoma District.

4.2 Teamwork and Collaboration and Teachers' Professional Development

Teamwork and collaboration emerged as the strongest single predictor of teachers' professional development in this study ($r = 0.674$, $p < 0.001$, $R^2 = 0.454$; Beta = 0.402 in the combined model), a finding that is consistent with both Distributed Leadership Theory and a substantial body of East African and international literature. Mugo et al. (2023) found that collaborative learning among teachers contributes to improved instructional practices and professional competence in Kenya, while Vangrieken et al. (2022) reported that teacher collaboration promotes professional learning and instructional innovation in international contexts. The finding that 81.8% of respondents agreed that teamwork improves their teaching methods and 80.7% agreed that it contributes to their professional development reflects the powerful role of peer-based collaborative learning in contexts where external professional development access is limited, precisely the condition characterizing Kigoma District.

The finding that resource sharing was the weakest teamwork indicator (63.6% agreement, mean = 3.55) is unexpected given the otherwise strong collaborative culture reported by

respondents. Most theories of collaborative learning would predict that schools with strong peer support and joint lesson planning would also engage in high levels of material resource sharing. The fact that this did not occur suggests that collaboration in Kigoma District schools is more interpersonal and process-based than material-based, with teachers willing to share time, expertise, and ideas but constrained in sharing physical resources by their fundamental scarcity rather than by unwillingness. This finding reinforces that material resource provision and professional collaboration are not independent concerns resource poverty creates invisible barriers to the full expression of collaborative culture even when relational willingness is strong. Education authorities must therefore address resource provision as a direct enabler of collaborative professional development, not merely as a separate infrastructural issue.

4.3 Communication and Teachers' Professional Development

The finding that communication between school leaders and teachers positively and significantly influences professional development ($r = 0.589$, $p < 0.001$, $R^2 = 0.347$) supports the Distributed Leadership Theory argument that effective leadership depends on information flowing freely across organizational members (Harris, 2020), and aligns with Hallinger and Liu (2022) and Leithwood et al. (2023), who identify communication as a critical component of successful instructional leadership. The finding that 81.8% of respondents agreed that communication enhances professional development and 79.7% agreed that open communication encourages improvement in teaching confirms the theoretical and empirical expectation that transparent, information-rich school environments support teacher growth.

However, the two lowest-rated items across the entire communication construct feedback on teaching practices (54.0% agreement, mean = 3.28) and school leaders listening to teachers' concerns (58.3% agreement, mean = 3.40) represent an unexpected and practically significant internal contradiction. These are precisely the forms of communication most directly linked to professional improvement structured instructional feedback and genuine consultative dialogue yet they were reported as weak in schools where overall communication was perceived favorably. This gap between teachers' beliefs about communication's value and their lived experience of its most professionally consequential forms mirrors Komba and Mwakabenga's (2023) observation that communication in many Tanzanian schools tends to be top-down and information-transmitting rather than dialogic and developmentally supportive. It suggests that school leaders in Kigoma District communicate adequately about information and logistics but have not yet established the institutional mechanisms for structured feedback on teaching performance or for genuine consultative listening the exact

dimensions that convert communication from administrative routine into a professional development engine. Sanga (2024) similarly found that schools with genuinely open communication achieve higher teacher participation in professional growth activities, confirming that closing this specific gap should be a leadership priority.

4.4 Combined Influence of Collaborative Leadership Dimensions

The multiple regression finding that all three collaborative leadership dimensions together explain 55.9% of variance in teachers' professional development ($R^2 = 0.559$, $F = 76.582$, $p < 0.001$) confirms that collaborative leadership is a holistic, multi-dimensional phenomenon whose combined effect substantially exceeds the contribution of any single dimension in isolation. This supports the complementary roles proposed for Distributed Leadership Theory and Transformational Leadership Theory in guiding the study: Distributed Leadership explains the structural dimension of who participates in leadership, while Transformational Leadership explains how those participatory interactions motivate and inspire teachers toward professional growth. Mosha (2022) argued that effective school leadership in Tanzania requires a combination of participatory decision-making, collaborative culture, and open communication, and the present study provides the first quantitative, context-specific evidence from Kigoma District confirming that this integrated combination produces significantly stronger professional development outcomes than any single element alone.

5.0 CONCLUSION AND RECOMMENDATIONS

This study examined the influence of collaborative leadership on teachers' professional development in public secondary schools in Kigoma District, Tanzania. The findings establish that all three dimensions of collaborative leadership shared decision-making, teamwork and collaboration, and communication significantly and positively influence teachers' professional development both individually and in combination. Teamwork and collaboration emerged as the strongest predictor, explaining 45.4% of variance in professional development individually and contributing the highest standardized Beta (0.402) in the combined model. Shared decision-making and communication also made independent and statistically significant contributions, with the combined model explaining 55.9% of total variance, confirming that collaborative leadership operates most effectively as an integrated and holistic leadership approach rather than through any single practice.

The study further establishes two important qualifications to these positive overall findings. First, teacher participation in shared decision-making is stronger in academic and operational matters than in policy development and strategic planning, suggesting that collaborative

leadership in Kigoma District schools currently operates more at the surface than at the structural level. Second, while communication is broadly positive, the specific functions of providing structured feedback on teaching practices and genuinely listening to teachers' concerns are comparatively weak, revealing that the most professionally consequential forms of communication remain underdeveloped even where general communication is valued.

Based on these findings, the study recommends that school leaders should expand teacher participation in decision-making beyond academic planning to include policy development and strategic school improvement initiatives, thereby deepening collaborative leadership from operational consultation to structural partnership. School leaders should institutionalize regular and structured collaborative activities including joint lesson planning sessions, peer observation cycles, and subject department professional learning meetings, and should ensure that such activities are formally scheduled and protected within the school calendar rather than left to informal initiative. School leaders must establish systematic mechanisms for providing constructive feedback on teaching practices, including regular post-observation discussions with teachers, and must develop genuine consultative listening channels through which teachers' concerns can be raised and acted upon transparently. Education authorities at district and regional levels should organize regular leadership training programmes for heads of schools focusing on collaborative leadership skills, communication strategies, and participatory management, while also addressing resource provision to public secondary schools as a prerequisite for sustaining collaborative professional cultures. The Ministry of Education, Science and Technology should update national supervision and professional development policies to embed collaborative leadership practices as formal requirements rather than optional approaches, and should establish monitoring frameworks that assess whether schools are implementing participatory, team-based, and feedback-oriented leadership in practice.

REFERENCES

1. Adu, E. O., & Osei, A. (2021). Leadership practices and teacher professional development in Ghanaian secondary schools. *International Journal of Educational Management*, 35(4), 789–802.
2. Ahtiainen, R., Sahlberg, P., & Niemi, H. (2022). *Collaborative professional learning in Finnish schools*. Helsinki, Finland: Finnish National Agency for Education.
3. Bush, T. (2021). *Educational leadership and management: Theory, policy and practice* (5th ed.). London, UK: Sage Publications.
4. Cohen, L., Manion, L., & Morrison, K. (2022). *Research methods in education* (9th ed.). London, UK: Routledge.

5. Creswell, J. W. (2021). *Educational research: Planning, conducting and evaluating quantitative and qualitative research* (6th ed.). London, UK: Pearson Education.
6. Christensen, T., & Jerrim, J. (2024). Inclusive leadership structures and teacher professional learning. *Educational Administration Quarterly*, 60(1), 45–68.
7. Darling-Hammond, L., Hylar, M., & Gardner, M. (2020). *Effective teacher professional development*. Palo Alto, CA: Learning Policy Institute.
8. Fullan, M. (2021). *Leading in a culture of change* (2nd ed.). San Francisco, CA: Jossey-Bass.
9. Hallinger, P., & Liu, S. (2022). Instructional leadership and school communication practices. *Journal of Educational Administration*, 60(3), 290–308.
10. Harris, A. (2020). Collaborative leadership and school improvement. *School Leadership and Management*, 40(4), 291–298.
11. Harris, A. (2021). *Distributed leadership and professional collaboration in schools*. London, UK: Routledge.
12. Harris, A., & Jones, M. (2020). COVID-19 school leadership and the future of collaboration. *School Leadership and Management*, 40(4), 243–249.
13. Komba, W. L., & Mwakabenga, R. J. (2023). Leadership practices and teacher professional development in Tanzanian secondary schools. *International Journal of Educational Development in Africa*, 8(1), 55–68.
14. Komba, W. L., & Nkumbi, E. (2022). Teacher professional development in Tanzania. *Journal of International Cooperation in Education*, 8(2), 41–52.
15. Kothari, C. R. (2020). *Research methodology: Methods and techniques* (3rd ed.). New Delhi, India: New Age International Publishers.
16. Lee, M., & Tan, C. (2023). Shared decision-making and teacher effectiveness in Asian secondary schools. *Asia Pacific Journal of Education*, 43(2), 188–204.
17. Leithwood, K., Harris, A., & Hopkins, D. (2020). Seven strong claims about successful school leadership revisited. *School Leadership and Management*, 40(1), 5–22.
18. Leithwood, K., Sun, J., & Pollock, K. (2023). *How school leadership influences student learning: The four paths*. New York, USA: Teachers College Press.
19. Li, L., & Liu, H. (2022). Collaborative leadership and teacher development in Chinese secondary schools. *Asia Pacific Education Review*, 23(2), 243–255.
20. Mestry, R. (2021). Participative leadership and teacher development in South African schools. *South African Journal of Education*, 41(1), 1–10.
21. Ministry of Education, Science and Technology (MoEST). (2021). *Education sector performance report 2020/2021*. Dodoma, Tanzania: Government of Tanzania.
22. Mosha, H. J. (2022). *School leadership and teacher professional development in Tanzania*. Dar es Salaam, Tanzania: University of Dar es Salaam Press.

23. Mugenda, O. M., & Mugenda, A. G. (2023). *Research methods: Quantitative and qualitative approaches* (3rd ed.). Nairobi, Kenya: Acts Press.
24. Mugo, J., Kimani, E., & Wachira, M. (2023). Collaborative learning and teacher professional competence in Kenyan secondary schools. *East African Journal of Education Studies*, 6(1), 78–94.
25. Mukama, E. (2022). Leadership practices and teacher professional learning in Rwandan secondary schools. *African Journal of Educational Leadership*, 10(1), 45–57.
26. Nguyen, T. T. (2025). Participatory leadership and teacher engagement in professional development. *Educational Management Administration and Leadership*, 53(1), 112–130.
27. Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York, USA: McGraw-Hill.
28. Oduor, A., & Muturi, C. (2021). Teacher collaboration and school leadership in Kenyan secondary schools. *International Journal of Educational Leadership*, 5(2), 90–104.
29. OECD. (2021). *Teachers and school leaders as lifelong learners*. Paris, France: OECD Publishing.
30. Polit, D. F., & Beck, C. T. (2006). The content validity index: Are you sure you know what's being reported? *Research in Nursing and Health*, 29(5), 489–497.
31. Sahlberg, P. (2021). *Finnish lessons 3.0: What can the world learn from educational change in Finland?* New York, USA: Teachers College Press.
32. Sanga, K. (2024). *Leadership practices and teacher professional development in western Tanzania secondary schools*. Dodoma, Tanzania: University of Dodoma Press.
33. Spillane, J. P. (2021). *Distributed leadership*. San Francisco, CA: Jossey-Bass.
34. Tan, C., & Dimmock, C. (2021). Leadership and teacher professional learning in Singapore. *Educational Management Administration and Leadership*, 49(3), 442–458.
35. United Republic of Tanzania (URT). (2021). *Basic education statistics in Tanzania (BEST) 2020*. Dodoma, Tanzania: Ministry of Education, Science and Technology.
36. United Republic of Tanzania (URT). (2022). *Education sector development plan 2021/22–2025/26*. Dodoma, Tanzania: Government Printer.
37. Vangrieken, K., Meredith, C., Packer, T., & Kyndt, E. (2022). Teacher communities as a context for professional development: A systematic review. *Teaching and Teacher Education*, 61, 47–59.
38. Yamane, T. (1967). *Statistics: An introductory analysis* (2nd ed.). New York, USA: Harper and Row.