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# Impact of TQM on Primary School Pupil-Centred Learning and Academic Achievement in Tanzania

**Nyanchogu Warento, Hyasintha Kessy, Maulid Maulid**

The Open University of Tanzania, Faculty of Education

The Open University of Tanzania, Faculty of Education

The Open University of Tanzania, Faculty of Education

**ABSTRACT**

Total Quality Management (TQM) enhances the customer focus level through continuous improvement and the engagement of all employees within the organisation. However, the impact of TQM leadership on pupil-centred learning and pupils' learning achievement in the Tanzanian context was clear. This explanatory survey study examined these impacts based on cross-sectional data collected through a structured questionnaire from 68 teachers and analysed by multiple linear regression with the aid of SPSS. The study found that TQM leadership has a significant positive impact on pupil-centredness, whereas the supporting context has no considerable effect on pupil-centredness. On the other hand, TQM leadership and the supporting context each have a significant impact on pupil learning outcomes. Hence, the study recommends that leaders, regulators, and policymakers of primary schools in Tanzania foster TQM leadership by strengthening the learning-supporting context, specifically a pupil-centred approach, infrastructure, employee collaboration, and support from the government, private sectors, and community leaders.

**Keywords:** Total quality management, pupil-centred outcome, pupil-learning supporting context.

## 1. INTRODUCTION

Total Quality Management (TQM) is increasingly becoming a vital framework for use in the education sector, enhancing the sustainable quality of teaching practices through continuous improvement and improving students' academic performance (Khasanah, Riyanto, and Setyowati, 2023; Sharma, Behera, and Srivastava, 2025).

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However, several studies indicate that the success of TQM practices in a specific context, such as a primary school setting, largely depends on the leadership's commitment to implementing these practices (Khalfallah et al., 2022; Mittal and Jung, 2024; Sharma et al., 2025). Hence, TQM leadership, in this study, refers to leadership that enhances TQM practices within the organisation. This study aims to investigate the impact of TQM leadership on pupil-centredness and learning outcomes in primary schools in Tanzania.

One of Tanzania's ESDP 2025/26–2029/30 goals, aligning with the country's Vision 2025 and the Education 2030 agenda of Sustainable Development Goals (SDGs), is improving sustainably the learning quality and universal associated outcomes for children by fostering learner-centred teaching practices in primary schools as agreed upon by education stakeholders (URT- MoEST, 2025). Despite the Tanzanian government's efforts to promote a pupil-centred approach in primary education through teachers' Continuous Professional Development (CPD), a teacher-centred approach still dominates, accompanied by an unstable increase in pupils' learning achievement (Ishemo, 2021; URT-MoEST, 2025). This situation prompts us to examine the role of TQM leadership elements at the strategic level in promoting pupil-centredness and improving pupils' learning outcomes in primary schools in Tanzania.

### 1.1 Literature review

Almansouri, Yahaya, Aziz, and Bakar (2023) examined the impact of TQM practices on the performance of government and private organisations in the UAE, using Structural equation modelling based on cross-sectional survey data from 248 employees. They found that all the TQM dimensions (customer focus, continuous improvement and total employee engagement) had a significant positive impact on organisational performance. Additionally, this study found that quality-oriented leadership, referred to as TQM leadership in the paper, is a crucial factor in achieving these positive impacts. However, neither study focused on the education sector, specifically in primary school education. In fact, Mittal and Jung (2024) found that the inability of educational leaders to determine which strategy to prioritise for intra- and inter-school alignment is the central problem with their strategy plan.

Regarding customer focus as one of the TQM factors, Mittal and Jung (2024) hold that its framework involves prioritising the implementation of employees' (school leaders', teachers', and staff's) activities and initiatives to meet customer needs in a way that maximises their value and the school's value. In fact, Mittal and Jung (2024) conducted a qualitative study on revitalising K-12 education in public institutions through a customer focus in the USA, using interviews with school leaders and a survey of 10,644 parents. They found that a customer-focused approach helps educational institutions satisfy their customers and achieve higher academic outcomes.

Since the teacher plays a crucial role in enhancing learning outcomes through a learner-centred approach, educational institutions are adopting a more learner-centred approach. A learner-centred approach aims at meeting each individual's preferences and capabilities, which in turn motivates learning and ultimately improves learning outcomes. In a learner-centred approach, students set goals they want to achieve, self-assess their work, and reflect on an issue they have learned. At the same time, teachers act as mentors rather than facilitators, offering guidance and counselling throughout the learning process (Mat and Jamaludin, 2024). Differentiated instruction in this setting may take several forms based on the learner's readiness, interest, and learning profile (Dada et al., 2023).

Mat and Jamaludin (2024) investigated the effectiveness of learner-centred teaching and learning applications in Primary Schools in Malaysia. They found that student-centred methods improve learning achievement, critical thinking, and motivation to learn through active learning inquiry, collaboration and participation. Additionally, Otto et al. (2024) employed a meta-analysis method to study the effectiveness of student-centred learning, confirming that it has a significant positive impact on learning achievement across various disciplines.

Sahu and Agarwal (2019) emphasise the need to consider and align TQM strategies with the given context to overcome barriers to successful TQM implementation. For example, Asim et al. (2019) found that primary schools with adequate physical facilities achieve higher-centred pupil-centred learning outcomes. Additionally, Mittal and Jung (2024) found that the contexts supporting the implementation of customer focus include school leadership commitment, government support, digital technology, and community engagement.

### 1.2 Problem statement

A review of various studies reveals that the implementation of the TQM philosophy enhances learner-centred practices and learning outcomes (Mat and Jamaludin, 2024; Mittal and Jung, 2024; Sharma et al., 2025). However, Kigozi and Ko Yuen (2019) conducted a systematic review of studies on the application of TQM practices in educational institutions. They found that TQM researchers focus more on higher education and secondary education, but have a limited focus on primary education. Besides this ongoing situation, there has been no adequate study examining the impact of TQM leadership on learner-centred practices and learning outcomes, as discussed in this paper.

### 1.3 Research objectives

The research objectives were to:

1. Determine the impact of TQM leadership on pupil-centred level in primary schools in a supportive context in Tanzania.
2. Examine the effect of TQM leadership in enhancing pupil-learning outcome level in the primary school in a supportive context in Tanzania.

### 1.4 Conceptual Framework

The TQM philosophy in the education sector has served as a framework for examining and enhancing the quality of teaching practices and outcomes (Sharma et al., 2025). For example, Khasanah, Riyanto, and Setyowati (2023) suggested that an exploration of the Juran Trilogy, which comprises quality planning, quality control, and quality improvement, can serve as a framework for TQM implementation. However, this model does not adequately accommodate the context in which TQM practices are implemented. This study employed the causal-effect conceptual framework in Figure 1, based on the critical realism model (Lyengemekeja, 2016), to better analyse the impact of TQM leadership on pupil-centric approach in primary school with a given supporting context.

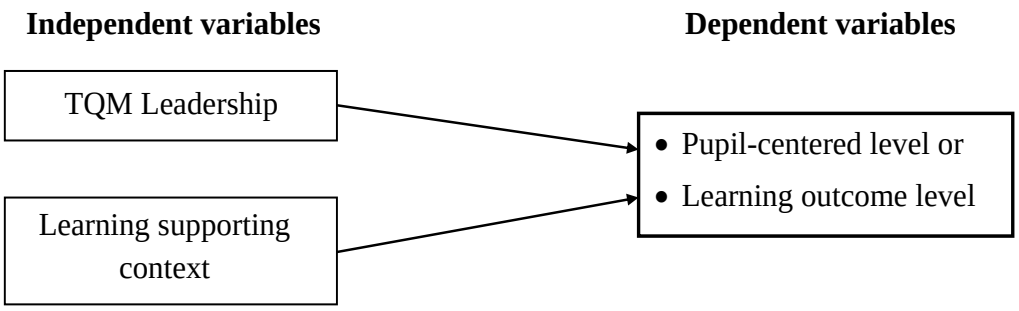


**Fig. 1. Conceptual Framework**

The dependent variables are pupil-centred teaching and pupils' learning outcomes, each in a separate regression model, while the independent variables are TQM leadership and learning-supporting context.

## 2. METHODOLOGY

This quantitative survey study was conducted in Missenyi District, Kagera Region, Tanzania, where various factors, including school ownership, teaching approaches, pupils' learning outcomes, and supporting contexts (The URT-MoEST, 2025), were considered in the regression analysis. It used an explanatory (causal-effect) research design (Schindler, 2022) since the study sought to examine the 'impacts' of TQM leadership and supporting context on pupil-centred level and on pupil learning outcome by employing regression analysis with the aid of the Statistical Package for Social Sciences (SPSS).

The targeted population in the study consisted of approximately 800 primary school teachers, excluding school leaders, as they experience the direct influence of TQM leadership from their leaders and are involved in implementing and evaluating learning effectiveness and outcomes. The sample size chosen was 68 teachers, which exceeds the minimum sample size of 50 members recommended by VanVoorhis and Morgan (2007) for regression analysis. The stratified sampling technique was employed, and members of each stratum were chosen randomly or conveniently, depending on the availability of teachers.

After obtaining authorisation from Missenyi District, the cross-sectional data were collected in 2025 from 68 teachers using a structured questionnaire with items and statistics as shown in Appendix I. The sex demographic shows that 54.4 per cent of teachers who responded were males, and 45.6 per cent were female. Additionally, 47.7 per cent of teachers were aged 18 to 34 years, while those above 34 years accounted for 53.0 per cent. In terms of education level, 79.4 per cent had acquired less than a first degree, while 20.6 per cent had at least a first degree. Those who attended public schools comprised 73.5 per cent, while 26.5 per cent were from private schools. The demographics helped determine if there were any respondents whose responses affected the results.

The validity and reliability of the tools used to measure the constructs in Appendix I were first assessed before they were employed in the regression analysis. The items for demographics, supporting context, and leadership learning outcome were taken and modified from the literature (Lyengemekeja, 2016; URT-MoEST, 2025). Then, the content validity was examined and confirmed by one expert in education and one expert in management, as recommended by Schindler (2022). In

addition, the construct measures were reliable, as evidenced by Cronbach's alpha values for each construct exceeding 0.7, as required by Schindler (2016).

## 3. RESULTS AND DISCUSSION

The regression analysis, in which the independent variables were TQM leadership and supporting context, is shown in Table 1 for the pupil-centred level as the dependent variable, and in Table 2 for the pupil-centred learning outcome as the dependent variable. Note that the items and statistics for each construct are shown in Appendix I.

**Table 1. Regression analysis results for pupil-centred level**

| The dependent variable is pupil centred level | Beta | Std. Error | Std Beta | t | Sig. | Collinearity | |
|---|---|---|---|---|---|---|---|
| | | | | | | Tolerance | VIF |
| Independent variables: | | | | | | | |
| (Constant) | 1.033 | .347 | | 2.978 | .004 | | 1.033 |
| 1. QM leadership level | .826 | .095 | .754 | 8.730 | .000 | .942 | .826 |
| 2. ontext support | -.049 | .048 | -.089 | -1.029 | .307 | .942 | -.049 |
| **Note:** R-Square = 0.544; Standard error of the Estimate = 0.531; F = 38.71, df = 67, Sig = .000 The determinant is significant (*) at 0.05 where p-value ≤ 0.05. | | | | | | | |

The value of the R-Square (the coefficient of determination) in Table 1 is 0.544, which implies that the variation in TQM leadership and supporting context explains 54.4% of the variation in pupil-centred level. Additionally, the regression model does not exhibit multicollinearity problems, as each independent variable has a VIF value of less than five. Moreover, the F-value of 38.71 at df = 67 and a significance level of p = .000 implies that the regression model provides a significant fit to explain the impact of TQM leadership and supporting context on pupil-centred levels.

The study findings from the plausible regression model in Table 1 reveal that TQM has a significant positive impact on pupil-centred level (β = 0.826, p-value = 0.004). In contrast, the supporting context has no considerable effect on pupil-centred level (β = -0.049, p-value = 0.307). In fact, the standardised beta also revealed that TQM leadership has a higher contribution to the pupil-centred level (β = .754) than the supporting context (β = -.089).

As Table 2 illustrates, the R-Square value of 0.512 implies that the variation in TQM leadership and supporting context explains 51.2% of the variation in pupil-centred level. Additionally, the regression model does not exhibit multicollinearity issues, as each independent variable has a VIF value of less than five. In addition, the F-value of 34.15 at df = 67 and a significance level of p = 0.000 indicates that the regression model provides a significant fit to explain the impact of TQM leadership and supporting context on pupil-centred levels.

**Table 2. Regression analysis results for pupil-learning outcome level**

| The dependent variable is the pupil-learning outcome level | Beta | Std. Error | Std Beta | t | Sig. | Collinearity | |
|---|---|---|---|---|---|---|---|
| | | | | | | Tolerance | VIF |
| Independent variables: | | | | | | | |
| (Constant) | 1.564 | .322 | | 4.861 | .000 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. QM leadership level | .437 | .088 | .445 | 4.986 | .000 | .942 | 1.061 |
| 2. upporting context | .230 | .044 | .464 | 5.199 | .000 | .942 | 1.061 |
| **Note:** R-Square = 0.512; Standard error of the Estimate = 0.492; F = 34.15, df = 67, Sig = .000; The determinant is significant (*) at 0.05 where p-value ≤ 0.05 | | | | | | | |

The results in Table 2 show that TQM has significant positive impact on pupil-learning outcome level (β = .437, p-value = .000). Also supporting context has positive significant effect on pupil-centred level (β = .230, p-value = .000). Alternatively, the standardised beta revealed that TQM leadership has lower contribution to pupil-learning level (β = .445) than supporting context (β = .464). This study describes TQM leadership as the type of leadership that enhances customer focus, promotes continuous improvement, and fosters total employee engagement within the organisation. However, the impact of TQM leadership on pupil-centred level and on pupil-learning outcome level. This study employed two separate regression models to examine the effects of TQM leadership on pupil-centred learning and pupil learning outcomes in primary schools in Tanzania, while considering the supporting context. The items for each construct in the regression model are listed in Appendix I. Upon initial analysis of the regression model, the study revealed that the pupil-centred level is significantly positively affected by TQM leadership, but not by the supporting context. These results show that a pupil-centred approach is a determinant of TQM leadership in primary schools in Tanzania. These findings align with those of Almansouri (2023), who found in the UAE that quality-oriented leadership has a positive impact on customer focus performance in various types of private and government organisations. Additionally, it aligns with Mittal and Jung (2024). This shows that TQM leadership can enhance pupil-centred learning regardless of the given context.

Regarding the second analysis of the regression model, the study found that pupil-learning outcome level is significantly contributed to by both TQM leadership and supporting context, whereby the supporting context makes a greater contribution than TQM leadership. Given that TQM contribute to pupil-centred level regardless of the given context and that pupil-centred practices contribute positively to pupil-learning outcome (Ishemo,2021; Mat and Jamaludin, 2024; Mittal and Jung, 2024; Otto et al., 2024), then TQM leadership has a positive impact on pupil-learning outcome level, which can be fostered significantly by supporting context.

The study findings suggest that a supportive context and a pupil-centred approach are both crucial factors for achieving successful pupil learning outcomes. Hence, the government and primary school regulators must develop policies and strategies that foster a supportive context and pupil-centred approaches in primary schools in Tanzania to enhance sustainable pupil learning outcomes.

## 4. CONCLUSION

Since no studies have been conducted on the impact of TQM leadership and supporting context on pupil-centred learning and pupil-leaning outcomes in Tanzania's primary schools, this explanatory study was carried out based on cross-sectional survey data collected using a structured questionnaire whose resultant data was subjected to multi-linear regression analysis with the aid of SPSS. The aim was to determine the impact of TQM leadership and associated supporting context.

Overall, the study found that TQM leadership has a significant positive impact on pupil-centred learning, with the supporting context having no considerable bearing on pupil-centred learning. On the other hand, the study found that both TQM leadership and a supportive context have a significant positive impact on pupil-centred learning outcomes. Implicitly, the TQM leadership can enhance pupil-centredness, despite the supporting context having an insignificant effect; however, it cannot significantly affect pupil-learning outcomes without the supportive context. The findings suggest that supporting context and a pupil-centred approach are both crucial factors for achieving successful pupil learning outcomes.

Evidently, this study distinguishes the impact of TQM leadership on pupil-centred levels and pupil-learning outcomes in primary schools in Tanzania. Moreover, it notes that identifying the supporting context is imperative in ensuring that TQM leadership enhances pupil learning outcomes. This context-improving pupil-centred approach requires infrastructure, employee collaboration, and support from government, the private sector, and community leadership. The study findings suggest that primary school regulators, managers, leaders, and policymakers consider employing strategies that foster a learning-supportive context, as identified in this study, to promote the contribution of TQM leadership in enhancing pupil learning outcomes through the effective implementation of a pupil-centred approach in Tanzania. Additionally, similar analyses can be conducted in various contexts, such as secondary schools, universities, and independent study programs, to identify the appropriate supporting factors.

## 5. DISCLAIMER (ARTIFICIAL INTELLIGENCE)

The author explicitly affirms that, during the entire writing and editing process of this manuscript, there has been no involvement of generative AI technologies, including well-known tools such as Large Language Models—like ChatGPT, Copilot, and others—as well as any text-to-image generators. This statement highlights the human effort and creativity that the author has invested in creating this work.

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## APPENDIX I: QUESTIONNAIRE ITEMS AND STATISTICS

**A: Demographics**

| Demographic | Type of respondents | Total respondents | Percent |
|---|---|---|---|
| Sex | Male | 37 | 54.4 |
| | Female | 31 | 45.6 |
| Age | 18-34 years | 32 | 47.0 |
| | 35 years and above | 36 | 53.0 |
| Education | Less than the first degree | 54 | 79.4 |

| | | | |
|---|---|---|---|
| | The first degree or more | 14 | 20.6 |
| School Ownership | Public | 50 | 73.5 |
| | Private | 18 | 26.5 |
| Total | Sample size | 68 | 100% |

**B: Quality of measurement tool for each construct**

The Likert scale used: 1 = Strongly Disagree (SD), 2 = Disagree (D), 3 = Undecided (UD), 4 = Agree (A) and 5 = Strongly Agree (SA). Note that STD =Standard deviation.

| **Pupil-centred level in your primary school** | **Mean** | **STD** |
|---|---|---|
| 1. School leaders and workers value each pupil. | 4.09 | .958 |
| 2. School workers solve each pupil's problem quickly. | 3.87 | 1.064 |
| 3. School leaders and teachers listen to each pupil carefully. | 4.00 | .962 |
| 4. Each pupil is attentive and happy with the method the teachers use. | 3.81 | 1.162 |
| 5. Teachers use teaching strategies which each pupil enjoys. | 3.91 | 1.075 |
| 6. Teachers collaborate with pupils in major decisions affecting pupils. | 4.01 | .938 |
| Means of school-based teachers' continuous improvement | 3.95 | 0.774 |
| Reliability measured by Cronbach's Alpha (α) = .846 | | |
| **Pupil-learning outcome level in your primary school** | **Mean** | **STD** |
| 1. Pupils are creative | 3.49 | 1.029 |
| 2. Pupils perform examinations well | 3.91 | 1.047 |
| 3. Pupils investigate things well. | 3.51 | 1.086 |
| 4. Pupils remember well what they learn. | 3.78 | .960 |
| 5. Pupils explain well what they learn. | 3.76 | .979 |
| 6. Pupils apply well what they learn. | 3.93 | .935 |
| 7. Pupils make good decisions | 3.71 | .931 |
| 8. Pupils are motivated to learn more. | 4.10 | .775 |
| Mean of pupils' pupil-learning outcome level | 3.77 | .695 |
| Reliability measured by Cronbach's Alpha (α) = .865 | | |
| **TQM Leadership** | | |
| 1. School leaders help each worker to improve their skills. | 3.28 | 1.220 |
| 2. All school leaders collaborate well with each school worker. | 4.07 | .935 |
| 3. School leaders ensure that each pupil's needs are met effectively. | 3.51 | 1.139 |
| 4. Department leaders allow collaboration with other department workers | 3.85 | .966 |
| 5. School workers are continuously trained to improve their work performance | 3.24 | 1.306 |
| 6. School leaders ensure each worker's performance is continually improved. | 3.75 | 1.151 |
| 7. School leaders and teachers value parents' efforts to improve education. | 4.10 | .933 |
| Mean of the TQM leadership level | 3.67 | .707 |
| Reliability measured by Cronbach's Alpha (α) = .762 | | |
| **Supporting context** | **Mean** | **STD** |
| 1. School workers from different departments collaborate well with each othe | 3.81 | 1.069 |
| 2. Promoted school workers are those who collaborate well with people | 3.13 | 1.233 |

| | | | |
|---|---|---|---|
| 3. | Parents collaborate well with schoolteachers to improve pupils' learning. | 3.62 | 1.172 |
| 4. | Surrounding community leaders help teachers to do their work well. | 3.57 | 1.176 |
| 5. | School infrastructure is good for improving the pupils' learning process | 3.88 | 1.252 |
| 6. | Government leaders help to improve the quality of primary education. | 3.96 | .921 |
| 7. | Private companies help to improve the quality of primary education. | 3.22 | 1.208 |
| Mean context support level of pupils' academic performance | | 2.62 | 1.400 |
| Reliability measured by Cronbach's Alpha (α) = .759 | | | |