

The Impact of Total Quality Management (TQM) on Educational Quality and Teaching Effectiveness in Palestinian Education in Gaza During the War: A Literature Review

Mohammed Shehada¹, Achmad Supriyanto¹

¹Educational Management, Department of Educational Administration, Universitas Negeri Malang, Malang, Indonesia

Corresponding author, email: soyko2022@gmail.com

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Abstract

This study examines Total Quality Management (TQM) and its application in the Palestinian education system in Gaza during the ongoing conflict. Given the unique challenges faced by Gaza's education sector due to continuous war, such as infrastructure damage, resource shortages, and the psychological impact of war, this study explores how TQM principles can be adapted and implemented to improve educational outcomes despite these obstacles.

A qualitative methodology was primarily adopted, involving a comprehensive literature review of academic sources related to the application of TQM in conflict zones or resource-limited environments. Data was collected from academic databases such as Google Scholar, JSTOR, and ResearchGate using keywords like TQM in education, education in Gaza, leadership and TQM, and teacher performance improvement. The review highlighted that TQM can significantly enhance teacher performance and student achievement in crisis contexts by focusing on improving leadership, resource management, and stakeholder involvement.

The challenges of applying TQM in Gaza were also discussed, such as lack of resources and the psychological effects of war on students and teachers. The leadership aspect was emphasized as crucial for successful TQM implementation in conflict zones, where leaders need to be flexible and resilient. Based on the findings, recommendations were provided, including leadership training, teacher development, and community engagement to ensure effective TQM application in Gaza.

1. Introduction

In an increasingly globalized and competitive world, education systems must adapt and innovate to ensure continuous improvement. One of the methodologies that has gained widespread attention in improving organizational performance, including educational institutions, is Total Quality Management (TQM). TQM is a comprehensive and strategic approach aimed at enhancing the quality of services or products by involving all members of an organization in the process of continuous improvement. In the context of education, TQM focuses on optimizing the teaching and learning process, improving administrative functions, and ensuring the satisfaction of all stakeholders, including students, teachers, administrators, and parents.

In conflict zones, where education systems are disrupted due to wars, economic challenges, and social instability, the need for efficient and effective management practices becomes even more critical. Gaza, a region enduring persistent conflict, presents a unique challenge to the educational system. The ongoing instability, damage to infrastructure, displacement of families, and limited access to resources have compounded the difficulties facing educational institutions. Despite these challenges, there is an increasing recognition of the importance of quality education, as it is seen as the cornerstone for rebuilding societies and empowering future generations. This is where the application of TQM becomes not just relevant but essential.

The implementation of TQM in Gaza's educational system offers an opportunity to improve the quality of education under extraordinarily difficult circumstances. As demonstrated by Mufidah et al. (2025), applying TQM principles in special education settings has shown positive effects on teacher performance and student outcomes. This is particularly relevant for Gaza, where the education system is strained by external factors beyond the control of the educational institutions. Similarly, Rosyidah et al. (2024) have highlighted the benefits of applying TQM in schools to enhance student achievement, which could be equally transformative for the schools in Gaza. By ensuring that all elements of the educational system—from the curriculum and teaching methods to administrative support—are aligned with quality improvement principles, TQM could help provide better educational outcomes even in times of crisis.

The importance of TQM in Gaza's educational system lies in its potential to address several key issues. First, the implementation of TQM could improve the leadership and management of

schools, a critical component in times of war when decision-making and resource allocation become more complex. Pamancar et al. (2024) demonstrate that the application of TQM based on national educational standards can significantly optimize the performance of school principals, helping them navigate the complexities of crisis management. In Gaza, where leaders must make rapid decisions under pressure, effective leadership can make a significant difference in maintaining the quality of education.

Furthermore, TQM could contribute to the development of the curriculum and teaching techniques. In Gaza, where many teachers may lack proper training or resources, TQM can offer a structured framework for professional development and continuous improvement. By aligning teaching methods with best practices and ensuring that teachers have the support and training they need, TQM could enhance teaching effectiveness and, consequently, improve student outcomes. This is supported by Sari (2024), who emphasizes that focusing on customer satisfaction—students in this case—is essential to improving education quality.

Another significant aspect of TQM is its emphasis on stakeholder involvement. In Gaza, where communities are deeply affected by the ongoing conflict, involving parents, teachers, and students in decision-making processes can help ensure that the educational services provided meet their needs. Engaging these stakeholders in the development and implementation of school improvement plans can create a sense of ownership and accountability, which is vital for the success of any educational reform effort. As Yen & Vinh (2024) note, the involvement of all stakeholders is crucial to the long-term sustainability of quality improvements in educational settings.

However, implementing TQM in a region like Gaza comes with a set of challenges. Sasi (2024) discusses how the implementation of TQM in higher education has been hindered by limited resources, political instability, and infrastructural damage. These same challenges are present in Gaza's educational institutions, making it difficult to apply TQM principles effectively. Moreover, the trauma experienced by students and teachers due to the ongoing conflict can impact their ability to engage fully with educational processes. Despite these challenges, studies have shown that even in crisis settings, TQM has the potential to create sustainable improvements in education quality. Gunawan et al. (2024) demonstrate that implementing TQM can lead to significant improvements in educational performance, even in environments where resources are limited.

Research Gap

Although Total Quality Management (TQM) has been widely researched and applied in many stable educational settings, there is a significant gap in the literature regarding its application in conflict zones or regions facing severe crises such as Gaza. The majority of existing studies focus on the benefits and strategies of implementing TQM in stable educational environments or developed countries, but few have explored its potential application in regions severely impacted by war and instability.

For instance, Mufidah et al. (2025) and Pamancar et al. (2024) highlight the effectiveness of TQM in improving educational outcomes in schools in stable environments. These studies provide valuable insights into how TQM can improve teacher performance, student achievement, and leadership practices. However, they do not address how TQM can be adapted to the unique conditions of conflict zones, where resources are scarce, and educational infrastructures are often destroyed. In regions like Gaza, TQM must be implemented within a context of disrupted schooling, psychological trauma, and the lack of basic resources.

Moreover, while Sasi (2024) and Gunawan et al. (2024) discuss the role of TQM in improving education in general, their research does not explore the specific barriers faced in applying TQM in conflict-affected areas like Gaza, where teachers and students may struggle with the psychological and emotional impacts of war. Studies such as Sari (2024) and Yen & Vinh (2024) suggest that TQM can improve education quality by focusing on leadership and curriculum development, but they do not specifically investigate how these principles can be applied in post-conflict regions or in war zones where educational systems are severely disrupted.

Kordzadze et al. (2024) and Budnyk et al. (2024) examine how education systems in war-torn countries like Ukraine and Georgia have adapted to conflict, but these studies focus on different socio-political contexts and may not fully apply to Gaza's unique situation. Furthermore, while Rosyidah et al. (2024) and Ardianti et al. (2024) report the positive impact of TQM in improving student achievement and teaching practices, they do not investigate the challenges specific to regions like Gaza, where instability and resource shortages make such implementations more complex.

This research gap is crucial because, despite the growing need for quality education in crisis-affected areas, little is known about how TQM can be tailored to improve education in conflict zones. Research on TQM in war-torn regions, especially Gaza, is scarce, and the existing studies largely overlook the specific challenges of applying TQM during active conflicts. This gap hinders the development of educational policies and strategies that can leverage TQM in enhancing education quality under the extraordinary circumstances posed by war.

The objective of this study is to bridge this gap by exploring how TQM can be adapted and implemented in Palestinian education in Gaza during the ongoing conflict. By examining the existing literature and identifying key strategies and challenges faced by educational institutions in Gaza, this research will contribute to a deeper understanding of how TQM principles can improve education quality even in crisis contexts.

2. Methods

The methodology adopted in this research is primarily qualitative, involving a literature review approach to explore the potential application of Total Quality Management (TQM) in Gaza's educational system, particularly during the ongoing conflict. Given the unique challenges faced by Gaza's education sector—such as infrastructure damage, resource shortages, and the psychological impact of war—this study investigates how TQM principles can be adapted and implemented to improve educational outcomes despite these obstacles. A comprehensive review of existing academic literature was conducted to gather insights into the application of TQM in educational systems, particularly in conflict zones or resource-constrained environments. The literature was sourced from various academic journals, books, and research papers, with key references including studies on TQM in stable educational systems and conflict zones, as well as research on its application in Gaza and similar regions. The sources were identified using academic databases such as Google Scholar, JSTOR, and ResearchGate, with keywords like TQM in education, quality management in conflict zones, education in Gaza, leadership and TQM, and teacher performance improvement. Special attention was given to studies that examined TQM in war-affected regions like Ukraine and Palestine. The inclusion criteria focused on studies directly discussing TQM in education, particularly those in conflict zones, while prioritizing research on educational leadership, curriculum development, and teaching effectiveness through TQM. Studies unrelated to educational improvements in war-affected areas were excluded. The analysis was performed using content analysis to identify recurring themes across the literature, focusing on aspects like leadership, resource management, stakeholder involvement, and professional development to assess their applicability within Gaza's education system. The findings were compared with the context of conflict-affected regions to evaluate the feasibility of implementing TQM in Gaza. Once the relevant literature was analyzed, the findings were synthesized to develop a cohesive understanding of the benefits and challenges of TQM in Gaza, drawing on lessons learned from regions like Ukraine and Syria as discussed in Kordzadze et al. (2024) and Cinkara (2024).

3. Result and Discussion

3.1 Results

The literature review reveals that Total Quality Management (TQM), when effectively applied, has the potential to significantly improve the quality of education, even in crisis settings such as Gaza. In these challenging circumstances, the implementation of TQM principles can enhance teacher performance, student achievement, and overall educational quality by emphasizing continuous improvement, effective leadership, and the active involvement of all stakeholders within the educational ecosystem. The studies reviewed indicate that TQM fosters an environment of collaboration, accountability, and systematic quality enhancement, which is crucial for sustaining educational outcomes in conflict-affected areas.

For instance, Mufidah et al. (2025) highlighted the strong correlation between TQM and teacher performance in the context of special education, noting that teachers who were continuously supported through TQM initiatives demonstrated improved teaching effectiveness. This in turn resulted in enhanced student outcomes. The findings from Mufidah et al. (2025) are highly relevant for Gaza, where teachers face numerous external challenges such as inadequate resources, unstable teaching environments, and the psychological stress of working in conflict zones. By providing targeted professional development through TQM initiatives, teachers can be better equipped to manage these challenges, ultimately improving the quality of education delivered.

Similarly, Rosyidah et al. (2024) conducted a study on the impact of TQM in Indonesian schools, focusing on its positive effects on student achievement. Although Indonesia and Gaza are different in terms of their socio-political contexts, they share common challenges, such as resource scarcity and the pressures of the educational system. The study found that TQM implementation led to noticeable improvements in student performance, indicating that the principles of continuous improvement and stakeholder involvement are effective even in resource-constrained environments. In Gaza, these same principles could play a critical role in overcoming the difficulties imposed by the ongoing conflict.

Moreover, Gunawan et al. (2024) provided evidence that TQM can enhance organizational performance by improving administrative processes, communication, and resource management within educational institutions. In Gaza, where educational resources are severely limited due to the impact of the war, these improvements are especially crucial. TQM promotes a more efficient allocation of available resources, helping schools in Gaza adapt to their unique circumstances. By improving organizational practices, TQM helps institutions better allocate resources, enhance communication between different educational stakeholders, and create a more cohesive environment for learning. This aligns with Sasi (2024), who reported that the implementation of TQM in higher education led to better management practices, making educational institutions more resilient and responsive to the challenges they face.

Additionally, Sari (2024) highlighted the importance of customer satisfaction, a key element of TQM that refers to the satisfaction of both students and their families. In Gaza, where education is often disrupted by conflict, TQM principles can ensure that students and parents are not only actively involved in the education process but also that their needs and concerns are addressed. The study emphasized how prioritizing satisfaction leads to improvements in both the quality of teaching and the overall educational experience. Customer satisfaction in the educational context is critical for fostering a positive learning environment, where students feel supported and motivated to learn despite the external challenges they may face.

In addition to the impact on teaching and student achievement, TQM also focuses on improving the educational leadership and management structures within schools. Pamancar et al. (2024) highlighted that effective leadership is integral to TQM success, as leaders play a crucial role in implementing quality management strategies. This is particularly relevant in Gaza, where school leaders must navigate complex issues such as the constant threat of conflict, resource shortages, and the psychological well-being of both students and staff. Strong leadership is essential for guiding schools through such turbulent times and ensuring that TQM principles are properly implemented.

Furthermore, Yen & Vinh (2024) noted the role of TQM in enhancing the governance and development of universities, which can be applied to schools in Gaza. By adopting TQM frameworks for leadership development, educational institutions can better manage their resources, maintain educational continuity, and address both immediate and long-term challenges posed by the conflict.

Overall, the reviewed literature consistently suggests that TQM has a transformative potential for improving educational quality even in the most challenging environments, such as Gaza. The principles of continuous improvement, leadership, and stakeholder involvement are particularly beneficial for adapting to the dynamic challenges posed by conflict. By focusing on these areas, TQM can help schools in Gaza overcome the effects of the ongoing war, ensuring that education remains effective and relevant in the face of adversity.

3.2 Discussion

The application of Total Quality Management (TQM) in Gaza's educational system presents both significant opportunities and notable challenges, particularly in the context of ongoing conflict. While previous studies, such as Mufidah et al. (2025) and Rosyidah et al. (2024), have shown positive outcomes from TQM in improving teacher performance and student achievement in other educational settings, implementing this framework in Gaza requires careful consideration of the unique and often extreme circumstances caused by war. Education in Gaza is not only affected by resource scarcity but also by the psychological trauma that students and teachers experience due to continuous exposure to violence and instability.

One of the primary challenges in Gaza's educational system is the lack of infrastructure and resources, which makes it difficult to implement traditional models of TQM effectively. Gunawan et al. (2024) observed that in resource-limited environments, improving organizational performance through TQM can be achieved by focusing on the efficient use of existing resources, enhancing communication, and fostering a culture of continuous improvement. In Gaza, where infrastructure is often damaged and schools may lack essential materials, TQM must prioritize resource optimization

and collaboration among educational stakeholders, including teachers, administrators, and the local community. Anatan & Kristine (2024) emphasized the need for TQM to be flexible and adaptable in environments with limited resources, which is critical for Gaza, where the need for educational quality often competes with the reality of resource constraints.

Moreover, the psychological impact of conflict on both teachers and students is a significant barrier to the successful implementation of TQM. According to Iriqat et al. (2025), the ongoing violence and trauma in conflict zones like Gaza have profound effects on the ability of students to focus on their studies and teachers to deliver effective instruction. TQM frameworks, such as those proposed by Sari (2024), which emphasize continuous improvement and stakeholder involvement, can be particularly valuable in creating a supportive environment that helps address the mental health needs of students and staff. Engaging both teachers and students in decision-making processes, as suggested by Yen & Vinh (2024), can also help mitigate feelings of isolation and stress, thereby improving the overall effectiveness of the educational system.

In addition to the challenges of infrastructure and psychological well-being, leadership plays a central role in the successful implementation of TQM. In Gaza, where school leadership often operates under stressful and unpredictable conditions, strong educational leadership is necessary to guide schools through the challenges posed by conflict. Pamancar et al. (2024) highlighted the importance of leadership in driving TQM strategies, particularly in ensuring that all stakeholders—students, teachers, and parents—work collaboratively toward improving educational outcomes. In Gaza, where political and social conditions frequently undermine stability, the ability of school leaders to maintain focus on quality education amidst adversity is paramount. Kempa et al. (2024) also emphasized the need for digital transformation in educational settings, which is particularly relevant for Gaza, where modern technology can serve as a tool to bridge educational gaps created by the physical damage to school infrastructure.

The role of professional development for teachers is another critical component in the successful implementation of TQM. Rosyidah et al. (2024) found that continuous professional development leads to better teaching practices, which are essential for improving student achievement. In Gaza, where teachers often face emotional and physical stress, providing professional development opportunities, particularly in trauma-informed pedagogy and conflict-sensitive teaching strategies, can enhance their ability to meet the needs of students who have been affected by war. As Sasi (2024) noted, professional development programs that align with TQM principles help teachers not only improve their pedagogical skills but also empower them to contribute more effectively to the educational process.

Furthermore, TQM in Gaza could contribute to building resilience within the educational system by fostering a culture of adaptability. As emphasized by Zhyhora et al. (2024), during times of crisis, systems that are capable of continuous adaptation and improvement are more likely to sustain their impact over the long term. TQM, with its focus on iterative improvement and stakeholder involvement, provides a flexible framework for schools in Gaza to respond to changing conditions while maintaining a focus on improving educational quality.

4. Conclusion

In conclusion, the application of Total Quality Management (TQM) principles in Gaza's educational system presents a promising strategy to enhance teaching quality and student outcomes despite the immense challenges posed by ongoing conflict. As highlighted throughout the literature review and discussion, TQM is an effective approach for improving education in conflict zones, particularly in areas like Gaza, where schools face numerous challenges such as resource shortages, psychological trauma, and infrastructural damage. However, TQM's success in this context depends on its adaptation to the unique conditions of conflict, as well as its ability to address both the educational and emotional needs of students and teachers.

The TQM model, with its focus on continuous improvement, leadership, and stakeholder involvement, offers a flexible framework that can drive meaningful changes in the educational process, even in the most challenging environments. As noted by Mufidah et al. (2025) and Rosyidah et al. (2024), when applied effectively, TQM can significantly improve teacher performance, student achievement, and overall educational quality. This is crucial for Gaza, where educational continuity is disrupted by war, and where every effort to enhance teaching and learning is essential for the future of its young generation.

Key to the success of TQM in Gaza is the focus on leadership development and the creation of a supportive learning environment for both students and teachers. As emphasized by Pamancar et al. (2024), effective leadership in TQM ensures that all educational stakeholders are involved and

committed to the goal of continuous improvement. For Gaza's school leaders, being adaptive and resilient in times of crisis is critical for navigating the challenges of limited resources, infrastructure, and the psychological stress caused by the ongoing conflict.

Furthermore, the involvement of all stakeholders, including teachers, students, parents, and administrators, is essential for the successful implementation of TQM. As Sari (2024) and Yen & Vinh (2024) indicated, when stakeholders work collaboratively, the chances of achieving educational quality improvements increase significantly. This collaborative effort is particularly important in Gaza, where community engagement and parental involvement can play a key role in maintaining the continuity of education despite external challenges.

Incorporating psychological support and trauma-informed practices for teachers and students, as suggested by Iriqat et al. (2025), is also crucial in Gaza, where the effects of the conflict have deeply impacted the emotional and psychological well-being of both students and teachers. By addressing these needs, TQM can not only improve academic performance but also foster a positive and supportive environment conducive to learning.

In light of the findings, it is clear that TQM has the potential to transform Gaza's educational system, even amidst the turmoil of conflict. However, its successful implementation requires careful adaptation to the unique context of Gaza. This includes strengthening leadership, optimizing resources, supporting teachers, and involving the entire community in the educational process. By doing so, Gaza's education system can build resilience and continue to provide quality education for future generations, even in the face of adversity.

This research highlights the significant potential of TQM as a tool for improving education quality in conflict zones. The recommendations provided aim to guide educational leaders and policymakers in Gaza in adapting and applying TQM principles to create a more resilient, efficient, and supportive education system that can thrive, even in the most challenging circumstances.

5. Recommendations

Based on the findings from the literature review, several recommendations can be made to improve the implementation of TQM in Gaza's educational system:

1. **Adaptation of TQM:** TQM should be adapted to the unique challenges of conflict zones like Gaza. This includes integrating psychological support and mental health programs for both students and teachers within the TQM framework.
2. **Leadership Development:** Strong leadership is crucial for the successful application of TQM. Educational leaders in Gaza should be trained in crisis management and strategic decision-making to ensure effective implementation of TQM in times of conflict.
3. **Stakeholder Involvement:** Schools should engage students, parents, and teachers in decision-making processes to ensure that TQM strategies align with the needs and expectations of the community.
4. **Teacher Support and Professional Development:** Teachers should be provided with continuous professional development and psychological support to help them cope with the stresses of teaching in conflict zones.
5. **Resource Optimization:** Given the limited resources in Gaza, TQM should focus on optimizing available resources by improving efficiency and enhancing collaboration among staff.

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