



(RESEARCH ARTICLE)



Envisaged obstacles and management options of implementation of total quality management, and teachers pedagogical quality output in secondary schools in Bayelsa state

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World Journal of Advanced Research and Reviews, 2024, 21(02), 169–186

Publication history: Received on 19 December 2023; revised on 29 January 2024; accepted on 01 February 2024

Article DOI: <https://doi.org/10.30574/wjarr.2024.21.2.0281>

Abstract

The research focuses on obstacles and management options of implementation of total quality management skills and teachers' pedagogical quality output in public secondary schools in Bayelsa State. The study utilizes an ex-post facto research design, employing a co-relational descriptive survey method. The population comprises 4175 consisting of 3997 teachers and 178 principals. The sample size includes 210, consisting of 90 principals i.e. 50% and 120 i.e. 3% teachers. The random sampling technique was applied. The research instrument is a self-constructed questionnaire developed based on the integrated quality management constructs originally formulated by Saraph, Benson, and Schroeder (1989). Additionally, it drew upon information from relevant literatures. The questionnaire is "Envisaged Obstacles and Management Options in the Implementation of Principals' Total Quality Management Skills and Teachers' Pedagogical Output Questionnaire" (EOMOIPTQMTPOQ). The face validity of the instrument was assessed through expert judgement, while the reliability used both the split half method and the Cronbach alpha statistics to a randomly selected group of 60 secondary school principals and teachers respectively in Edo State. The analysis indicated 0.70 for the envisaged obstacles in the implementation and 0.97 for suggested management options. The researcher utilized descriptive statistics, specifically mean scores and standard deviation, to address research questions 1 and 3. A mean score (\bar{X}) rating of 2.50 or higher was considered as the benchmark for acceptance. For research questions 2 and 4, the researchers used correlation coefficients to determine the existence of relationships among the variables. Additionally, the Pearson Product Moment Correlation Statistics were applied to assess the significance in the formulated hypotheses 1, 2, 3, and 4, at a significance level of 0.05. The study concludes based on the findings that there were obstacles to the implementations of total quality management skills hence it affects teachers' pedagogical output but the management options would ensure that the obstacles were remove as there was a significant relationship between principals' total quality management skills and teachers' pedagogical output in public secondary schools in Bayelsa State. Based on the findings, the following recommendations among others are proposed: Principals and teachers in secondary schools should shift their perspective and adapt Total Quality Management (TQM) skills, recognizing that they are beneficial not only for businesses but also for educational institutions, as this can have a positive impact on teachers' pedagogical performance.

Keywords: Quality-management; Continuous-improvement; Customer-focus; Team-driven; Pedagogical-output

1. Introduction

To achieve the broad and specific objectives, of the National Policy of Education in Nigeria, effective management of the education system is essential. Therefore, education planners, managers, and administrators worldwide are increasingly turning to Total Quality Management (TQM), initially developed to enhance product quality. TQM has evolved into a comprehensive philosophy centered on organizational transformation, cultural change, uplifting employee morale, and

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establishing an empowering work environment. TQM's significance in the education sector is as pronounced as it is in other fields, enabling institutions to remain effective, adapt to continuous changes, and excel in a competitive environment. TQM emphasizes the integration and coordination of all activities within a work process to continuously enhance quality. Quality, in this context, transcends final products to encompass diverse aspects, including data, information, decisions, objectives, strategies, persons, materials, machinery, and system outputs.

Total Quality Management (TQM) is relevant to all types of organizations, including educational institutions, therefore adopting TQM principles and ideologies to enhance their effectiveness in meeting current goals and expectations, involves the application of quality management principles within the organization, promoting continuous improvement by all members of the organization, and operating on principles that necessitate the ongoing cooperation of all stakeholders to efficiently satisfy the needs, objectives, and expectations of clients/customers and the community. This is achieved by maximizing the potential of all employees through a continuous drive for improvement (Dalt, Boaden, & Lascelles, 2004).

TQM underscores the need for a departure from traditional, bureaucratic quality management practices that stifle innovation. It envisions a companywide quality culture that empowers employees to make decisions impacting their roles. Consequently, employees are encouraged to engage in tasks such as information processing, problem-solving, and decision-making. These human resources functions related to administrative tasks, when effectively implemented, lead to administrative commitment, increased efficiency, and consequently, improvements in teachers' pedagogical output.

According to Oakland (2005), the focus on continuous improvement fosters the formation of a robust team, comprising members selected for their comprehensive knowledge of the process and their ability to drive improvements as the underlying principle is that mistakes can be avoided, and defects can be prevented through continuous improvement.

TQM adopts a management style that places people at the core of its principles and practices, extending its focus beyond organizational boundaries to prioritize the interests of its clientele. It is a quality-centric, customer-focused, evidence-based, team-driven, and seminar-led management approach, aimed at satisfying the organization's clientele while achieving organizational goals.

As emphasized by Umoru (2006:84), TQM encompasses four major components: total commitment to quality, to students' satisfaction, to continuous quality improvement, and of both the program and teachers to each other. This philosophy of quality improvement applies to the education sector, as educating people is considered akin to the business of producing goods and services, both of which involve the quality management.

While some organizations and administrators fully embrace the TQM approach, others seem to adopt it half-heartedly, incorporating select principles and practices. This discrepancy may explain the failure of many organizations and administrators to meet their expected goals through TQM implementation. It is essential to continually underscore the benefits that organizations and administrators can derive from TQM implementation, particularly in developing economies like Nigeria, where the adoption of these principles and practices may seem distant for organizations. Concerning school management and administration, governments need to introspectively assess their operational procedures and strategically adapt the concept to address the challenges posed by the use of outdated quality management skills, which differ from Total Quality Management Skills.

According to Silas (2007:109), "Total Quality Management helps enhance product quality while reducing waste, rework, and the need for buffer stock by establishing a stable production process. It lowers the cost of managing schools and production time. Furthermore, other Total Quality Management practices, such as training, information system management, and supplier relationships, have a positive impact on operational and academic performance, particularly in terms of pedagogical effectiveness."

Pedagogy pertains to the methods and practices of teaching, encompassing educational goals and the strategies used to achieve them. To Anho (2022) Teachers fulfill the pedagogical role by carrying out various school duties and functions related to teaching which includes; preparing and utilizing class management, selecting suitable teaching methods, delivering lessons, employing teaching resources, and evaluating instruction. In light of the above, as explained by Casteller (2002) cited in Oghenevwogaga (2017), teachers perform the pedagogical role of instruction, which encompasses all the expected school duties and functions assigned to the teaching profession. These functions facilitate students' learning and involve various aspects such as preparing and utilizing class management, employing appropriate teaching methods, delivering lessons, utilizing teaching resources, and evaluating instruction.

To fulfill a teacher's expected pedagogical roles effectively, formal training in pedagogical principles and academic competence is indispensable. This requirement is underscored by the Federal Government of Nigeria (FGN) in its 2013 document, Section 8 (B), pages 39-40. It mandates that all educators in educational institutions must undergo professional training, with teacher education programs designed to prepare them for the proficient execution of their responsibilities. Moreover, subsection 72 on page 40 highlights the significance of continually exposing teachers to innovations in their profession, emphasizing that "teacher education shall continue to take cognizance of changes in methodology and in the curriculum." The quality of a teacher's pedagogical performance is closely tied to their commitment to the teaching task.

In their analysis of teachers' pedagogical output, Anho et al. (2020) describe it as comprising all the efforts made by teachers to attain the intended educational results for students. This incorporates the degree to which teachers participate in various school activities directed towards the achievement of the institution's aims and objectives. Such activities encompass: Establishing well-defined, measurable, and realistic behavioral lesson objectives; improving the preparation and timely utilization of teaching materials; effectively delivering lessons; carrying out proper assessment and grading of student work and assignments; sustaining an orderly classroom environment; nurturing a favorable classroom atmosphere and enforcing discipline;

According to Anho et al., (2020); "actively engaging in extracurricular activities; cultivating positive relationships with students, peers, and school administration; successfully accomplishing curriculum objectives within prescribed timeframes; employing effective questioning methods; promoting and valuing feedback from students; providing individualized attention to students as necessary; employing current and appropriate teaching approaches; ensuring the achievement of curriculum objectives with high quality; and implementing appropriate evaluation procedures at the start, middle, and end of each lesson".

To evaluate teachers' pedagogical output, it is necessary to scrutinize their characteristics and behaviors both within the school environment and in the classroom. As proposed by Azer (2015), effective teachers possess a unique set of qualities that greatly impact their performance and overall pedagogical output. These qualities include:

- Dedication to their work: They are committed to meeting the educational needs of their students and are highly focused on this goal.
- Passion for teaching: Their enthusiasm for their profession is evident, and they are genuinely passionate about teaching.
- Alignment with institutional values: They uphold the values and principles of the educational institution they are a part of.
- Motivational approach: They inspire and motivate students to strive for their academic and personal goals.
- Providing constructive feedback: They offer valuable feedback to students and consistently monitor their progress.
- Creating a conducive learning environment: They establish an atmosphere of trust, encourage learning from mistakes, and redefine failure as a valuable learning experience.
- Engaging with students: They actively communicate, participate, and encourage students to ask questions and engage in critical thinking.
- Facilitating student growth: They provide behavior-based feedback to support students' development.
- Promoting critical thinking: They encourage independent and analytical thinking among students.
- Guiding information processing: They help students organize, analyze, and evaluate information effectively.
- Effective communication and presentation skills: They can convey complex concepts in a clear and memorable manner.
- Leadership in educational development: They take the lead in curriculum development, course design, and educational publications.
- Commitment to self-development: They are dedicated to continuous self-improvement within the field of education.
- Creativity in teaching: They employ innovative teaching strategies and are committed to their professional development in the field of education.

2. Review of Related Literature

2.1. Theoretical Framework

This study is grounded in theory Y proposed by Douglas McGregor in 1960. With distinct sets of assumptions about the nature of individuals, particularly workers, and suggest that an administrator's approach to managing subordinates is influenced by their alignment with the theory.

Theory Y presents a fundamentally different outlook on human behaviour. It contends that work can be as natural and satisfying as play and that individuals (including workers) will self-direct and self-regulate their actions toward achieving organizational goals if they are committed to those objectives. Theory Y also suggests that commitment to goals is linked to the rewards associated with their attainment, and that most individuals, when placed in appropriate conditions, can not only accept but actively seek out responsibility. Furthermore, it posits that people possess a considerable degree of creativity and problem-solving abilities, which are widely distributed in the population. This implies that the intellectual potential of the average person is often underutilized in modern industrial settings, in the explanations of Peretomode (2012 and 2014) and Egwunyenga (2005)

Theory Y is characterized by optimism, dynamism, and flexibility, emphasizing the alignment of individual needs with organizational demands. It encourages dialogue, mutual understanding, and eschews coercion. As a result, workers tend to be cooperative and deeply engaged in organizational activities under theory Y.

In the context of this study focusing on Total Quality Management (TQM) among principals and teachers' pedagogical output in public secondary schools in Bayelsa, this theory has several relevant implications:

- **Administrative Framework:** Principals who embrace theory Y will incorporate the core ideas of this theory into their school's policies, decision-making processes, and overall administrative approach. This is highly pertinent to the implementation of Total Quality Management.
- **Theory Y and School Effectiveness:** Theory Y is valuable for achieving school effectiveness, as it promotes a conducive atmosphere, open dialogue, and mutual understanding between principals and teachers. Total Quality Management emphasizes effective communication, mutual understanding, and positive interpersonal relationships.
- **Theory Y can be employed to gain the cooperation of teachers through satisfaction, commitment, and autonomy** – all of which align with the principles of Total Quality Management.
- **Motivation and Productivity:** Theory Y emphasizes motivating workers (teachers) through satisfaction, increasing productivity and achieving school goals. This is in line with Total Quality Management's emphasis on satisfying the organization's clientele, fostering team-driven efforts, and seeking total commitment for continuous quality improvement.
- **Decentralization and Participation:** Theory Y advocates decentralizing responsibilities and involving all staff, including lower-level workers, in decision-making. This encourages a healthy work environment, stimulates and motivates staff, and fosters commitment to achieving school objectives, all aligning with Total Quality Management's tenets.
- **Total Involvement for Improved Productivity:** Theory Y's emphasis on involving all workers contributes to improved productivity, echoing the concept of total involvement in Total Quality Management, which aims to enhance both the operational quality of workers and students' academic performance.

In summary, the theory Y proposed by McGregor have significant relevance to the study of Total Quality Management among school principals and teachers' pedagogical quality output as it provides insights into different administrative approaches and their implications for achieving organizational excellence in the context of public secondary schools.

2.2. Problems of Implementation of Total Quality Management Skills (TQMs) and Teachers' Pedagogical Quality Output

There are various issues related with the execution of Total Quality Management (TQM) and Teachers Pedagogical Output in schools. Owlia and Aspinwall (1997), proposes that direction is a trickier guideline of TQM when applied to universities in view of unique nature of numerous scholastics freedom as the adequacy of administration is antagonistically impacted by independence among lecturers and because of nonattendance of group/team working. Leading body of Lead representatives and chiefs in secondary schools are not giving the important authority that would advance TQM practice which are fundamental for schools' consistent improvement. In any case, Nejorovi (2021) propose that a few head educators and directors furnish the necessary authority with a significant number of school

administrations enabling their workers however that most of schools are not dedicated to key quality preparation, however they really do advance human asset improvement drives. School board is supposed to give authority that advances TQM rehearses to accomplish set targets (Wani and Mehraj, 2014).

TQM execution in the advanced education, optional and essential training can be summed up from explores, works and compositions of the accompanying; Owha and Aspimwall (1997), Asher (2000), Watchman (2006), Deming (2008), Wani and Mebray (2014), Saraive and Reis (2016) Abiyemi (2017), Kwekwe (2019), Baltic (2020) and Nejorovi (2021).

2.3. Negative Perceptions of TQM Terminology

The negative connotation often associated with the terminology of TQM. Some educators view TQM as an administrative philosophy that seems "out of place," particularly due to the use of terms such as "customer" and "value."

2.3.1. Rotation of Top Management

The frequent rotation of top management can serve as a barrier to TQM implementation. This is not only because a new administration requires time to adapt to the institution but also because the new administration might not share the same enthusiasm for TQM as the previous one did. Such circumstances can lead to questions among the institution's members about whether the current administration will stay long enough to complete the TQM implementation, or if their time and efforts are being invested in something that will be disregarded later.

2.3.2. Inadequate Reward and Recognition Systems

The reward and recognition systems in place within higher education institutions often emphasize career progression and incentives related to research rather than teaching. In contrast, promotion and rewards in secondary and primary schools are typically managed by the Ministry of Education.

2.3.3. Structural Challenges in Educational Institutions

Structural issues in educational institutions, at both the secondary and primary levels, hinder the progress of TQM implementation. High levels of bureaucracy and resistance to systemic changes pose significant challenges.

2.3.4. Time Constraints for Top Management

Time constraints faced by top management, including vice-chancellors, rectors, vice principals, and headmasters, can limit their ability to effectively monitor, supervise, and inspect TQM initiatives.

2.3.5. Resource Constraints: Time, Training, and Funding

Inadequate time, training, and funding resources can hinder the successful implementation of TQM.

2.3.6. Lack of a Well-Defined and Accepted Institutional Mission

The absence of a widely perceived and broadly accepted institutional mission can complicate TQM implementation efforts.

2.3.7. Delegation of Authority

Some administrators may exhibit reluctance to delegate authority effectively.

2.3.8. Resistance to Collaboration and Change

Resistance to working in teams and an aversion to change can pose significant obstacles to TQM implementation.

2.3.9. Concerns Among Teachers About Career Impact

Teachers may express concerns that the proposed changes could adversely affect their future career prospects.

In a related manner, Oakland (2005) recognized factors that obstruct the execution of Total Quality Management. These incorporate; the possibility that its execution can be tedious, administrative, formalistic, unbending and indifferent. Ugboro and Obeng (2000), in their exploration, figured out that the pitiful execution of Total Quality Management program is a significant justification for its disappointment in many associations. As indicated by them, associations are simply able to carry out only those parts of Total Quality Management which is upheld by existing authoritative culture. Their discoveries uncovered that representatives didn't feel to be important for the dynamic interaction and their

capacity to make commitments to quality improvement were confined because of the restricted power allowed them to do their exercises. Smith, (2004) made sense of that quality administration programs have fizzled in light of the fact that they were 'projects of the month'. As per him, executing quality all through an association isn't the consequence of a formalized program yet requires a social change in the manner exercises are led. Andrie (2004), referred to in Abiyemi (2017) claims that the reception of contradictory quality methodology by associations brings about the disappointment of Total Quality Management execution. He further focused on that the assignment of value initiative by school head could prompt the advancement of Total Quality Management organizations that are insufficient like other useful divisions.

Baltic (2021) and Nejorovi (2021), Total Quality Management noticed that the disappointment of Complete Quality Administration program can be ascribed to the unseemly execution strategy embraced by the overseers and not in view of the standards of Total Quality Management itself. They accepted Total Quality Management assuming it is sufficiently anticipated and overseen methodically to the advantages and executed by goal and objectives.

Issues related with the execution of Total Quality Management (TQM) in the instructive subsector are various. This is on the grounds that many schools and universities appear to be fulfilled or disappointed with how much works being played out, the educators' result and understudies' presentation and accomplishment.

From crafted by Experts (2015), Unegbo (2017), Shedrack (2019), Baltic (2021) and Nejorovi (2021), the accompanying can be summed up as snags or issues of the execution of Total Quality Management in associations by and large and in schools especially.

2.4. Absence of The board Responsibility

Absolute quality administration is client focused yet the board impelled. Accordingly for any program and action of carrying out TQM to succeed, there should be significant administrative responsibility. In a concentrate by Unegbo (2017) involving schools in the 188 optional schools in Bayelsa State, Nigeria as the populace. The fundamental instrument was the poll tag: View of Administrators on the Use of Absolute Quality Administration in Auxiliary Schools (PATQM).

The discoveries demonstrated directors' obligation to the standards of TQM was the most noteworthy deterrent. Ayeni and Sadiku (2020) noticed that directors are greatly busy with other authoritative obligations which make them concentrate on coordination of educators' educational exercises and cooperation.

2.5. Using time effectively

The capacity of school board to stick to proper assignment and utilization of time in schools contribute enormously to the accomplishment of instructive targets. Total Quality Management (TQM) requires nonstop participation of all and commitment of time, yet what is recognizable in schools as per Shedrack (2019) is that most administration (chiefs) don't apportion the required time in that frame of mind of TQM. TQM requires complete obligation to time, nonstop and ideal assessment/appraisal, ceaseless opportune rethinking and observing, and consistent improvement when expected in this manner, each director and chief specifically is supposed to deal with the accessible time wisely to as to achieve the necessities of TQM. As per Nejorovi (2021), most directors don't focus on their experience as expected by the chiefs of TQM, thusly, this influences educators' utilization of time in their instructing.

2.6. Utilization of Assets

Total Quality Management (TQM) is an extensive way of thinking of living and working in an association for ceaseless improvement in the fulfillment of objectives utilizing normal assets. It is the utilization of quantitative techniques and assets to work on every one of the cycles inside an association. The school head as a chief and manager, is supposed to furnish educators with work force, funds and materials required. Consequently Shedrack (2019) clears up the requirement for make arrangement for assets to be accessible in the right amount and quality in schools.

Composing on the administration of assets as authoritative issues of chiefs, Shedrack (2019) made sense of that directors are to guarantee sufficient arrangement of informative materials, recognizing of needs in the school regarding work force, money, and offices/hardware, thusly, absence of support and allotment of the accessible assets make issues to the achievement of absolute quality administration in the training area. Ajayi (2021), in an investigation of connection among educating and learning assets accessible and execution in Nigeria schools utilizing 250 reactions viewed that as the vast majority of the hardware, devices and studio work with were either separated, harmed and broken down which can be credited to unfortunate administration hypothesis the school heads.

2.7. Inappropriate Preparation

Arranging is utilized by organization to look forward, anticipant occasions, plan for possibilities, form headings, map out exercises and give deliberate arrangements to accomplishing objectives. Plan assists with diminishing individual and hierarchical pressure by giving guidance, and filling in as guide.

Edojabu (2020) noticed that ill-advised arranging comprise the board and managerial impediments to the execution and fulfillment of TQM as it prompts unfortunate distribution and usage of assets, it straightforwardly consideration from fundamental and significant exercises to none fundamental and in-significant ones ill-advised arranging makes and comprise issues for people and association not to be include in that frame of mind of the execution plan. Ill-advised arranging might disregard consumer loyalty which is the ideal centered of TQM.

Proficient preparation, instruction and advancement comprise of all-normal growth opportunity. TQM includes the plan into the course of creation an arrangement of nonstop improvement. It alluded to the consistent refinement and improvement of items, administrations and authoritative framework to yield further develop worth of client. In schools, it implies persistent improvement of the course of educators preparing and retraining for better help conveyance.

Preparing outfits individuals with the important abilities and specialized of value improvement. In this manner, absence of preparing in its different structures - course, conversation at work, in-administration, issues recognizable proof and tackling strategy, address, studio, modern experience, concentrate on leave, and apprenticeship comprise extraordinary issues to the execution of TQM, subsequently Ogwuche (2012) noticed that to deny staff preparing/improvement would add up to permitting them botch extraordinary chance of development for the organization.

2.8. Contradictory authoritative design

In schools the administrators arrange the offices, division and people to be viable and capability between conditionally and intra-conditionally. Be that as it may, the distinctions among and between resources, division, units and people makes execution issues which the utilization of multifunctional terms and association rebuilding could address for more and better reactions to understudies' necessities.

2.9. Absence of admittance to information

TQM relies upon the cycles and techniques of deliberately monitory various parts of administrations, cycles or offices to distinguish, right and guarantee constant standard are implied. This is completed with interaction of reports and correspondences with powerful dispersal of specialized data. TQM utilizes a constant improvement plan with the end goal of bring out to best for the partners as well concerning the organization. In this manner, there should be satisfactory consistent admittance to information for mix of the basic administration methods existing improvement endeavors and specialized apparatuses. Thus, admittance to information and speedy recovery is important for viable cycles and execution of TQM.

2.10. Deficient utilization of collaboration

Group is a fundamental precept of complete quality administration which permits one representative to repay with their solidarity, information and abilities for different representatives, this empower laborers to see function as a coordinate endeavor that expected joint effort, trust and collaboration which make congruity should increments yield. Cooperation helps the responsibility of laborers to the school merchandise and targets. Hence for quality execution of TQM, the supervisory crew, school heads, instructors, guardians, understudies and different partners ought to view themselves as having a similar reason to accomplish for which the school was laid out. Baltic (2020), Edojabo (2020) and Nejorovi (2021) underline the requirement for collaboration as it comprehends having a place, foster helpful and aggregate soul of executing the projects of the association as at when they are supposed to.

2.11. Absence of legitimate correspondence and the utilization of input component

Association need to comprehend the changing necessities and assumptions for their clients utilizing successful correspondence and input component that give information to independent direction are essential. Laborers, guardians and understudies ought to learn suitable utilization of correspondence and input on their exhibitions. Great correspondence takes into consideration free progressions of data, response, counter response and incredible input. Thus, to eliminate the issue of good correspondence and utilization of criticism component in the execution of TQM, there is ought to be sufficient, great correspondence and criticism system among units and the board of schools.

Vagueness in client/clients distinguishing proof additionally makes obstacles in complete quality administration execution. Among the fundamental gatherings inside schooling organizations there isn't a lot of settlement on which the clients are. While most overseers will generally see understudies as clients of the personnel and in study halls, numerous workforce staff disdain this analogy as being excessively business. Without a distinct client and a client center, quality endeavors might be effortlessly diffused,

Svensson and Klefsio (2006), thought that many individuals don't appear to have contemplated what is viewed as quality in the climate in which they work, and, surprisingly, less have a common view inside the association. Time after time, associations will generally begin working with self-evaluation without adequately considering the reason why and how to achieve the venture. The work is performed without setting up every one of the people who are to take part in the task and without examining the basic beliefs that comprise the work.

2.12. Management conservatism/traditionalism

Numerous overseers have well established custom of getting things done and could never need to change or permit advancement. Baltic (2020) in his examination on issues and prospects on the utilization of all out quality administration abilities in schooling recorded a courses of issues of execution to incorporate; well established custom of certain chairmen not having any desire to change, unseemly using time productively, absence of preparing in the operations of complete quality administration abilities, directors' hesitance to work in groups, deficient cooperative preparation, non-designation of obligation, prize and acknowledgment framework which stresses individual compensation rather than group and absence of spotlight on true fulfillment.

3. Management Options to Enhance the Implementation of Total Quality Management skills and Teachers' Pedagogical Output

Regardless of all potential snags in carrying out TQM in establishments the potential advantages legitimize the work and the time extended (Ivancevich, 1992). The reports about the advantages accomplished with the execution of the TQM standards in the advanced education are as of now very huge. Horine (1993), call attention to a few enhancements that the TQM execution can bring to advanced education. In particular, yet this can be applied to different degrees of training, for example, the auxiliary and grade school levels.

- Summarize Benefits of Implementing Total Quality Management (TQM) Principles in Education
- Assisting education in addressing specific needs more effectively.
- Enhancing quality and excellence in various areas.
- Establishing systems to promote high-quality performance.
- Identifying and eliminating unproductive elements within the education system.
- Developing performance measures for assessment.
- Fostering a collaborative teamwork approach to problem-solving.
- According to the research conducted by Horine (1993), Seymour (1991), and Cornesky (1994), the implementation of Total Quality Management (TQM) principles in education offers the following advantages:
- Encouraging the sharing of values and fostering unity to better align with the institutional mission.
- Facilitating simultaneous and synergetic planning.
- Improving the work environment and enhancing motivation among institution members.
- Increasing productivity and the level of engagement among all institution members.
- Enhancing the institution's overall image.
- Ensuring satisfaction for various educational stakeholders.
- Removing internal barriers within the institution.
- Enhancing communication among different components of the institution.
- Reducing redundancy in processes.
- Facilitating a cultural shift within the institution.

Unuigbo (2017) and Sherack (2019) discoveries proposed complete responsibility of the board and staff to nonstop and opportune assessment, constant checking, great using time effectively, great correspondence and the utilization of input system are the executives choices that can resolve the issues of execution of absolute quality administration abilities and educators' instructive result.

From the explores of Baltic (2020), Edojobo (2020), Ogwuchi (2012) and Negorovi (2021) on issues and prospects of the utilization of all out quality administration in schooling recommended satisfactory preparation and retraining of

staff, empowering directors and staff to fill in collectively, sufficient cooperative preparation, assignment of obligation, shared navigation and utilizing reward framework which should de-accentuate people and favor more on gatherings. This way TQM can be the solution to the different quality requests as well as a component of seriousness for instructive establishments for what it's worth in the ventures. Seymour (1991), distinguished different advantages at authoritative level of the TQM in educating. For instance, the increment of worry from staff on clients; the increment of productivity; the increment of regard for choices taken in light of information; and the increment of the labor force strengthening.

Disregarding the momentous and appealing expense adequacy and upgrades got in managerial capabilities, the best capability of TQM is by all accounts associated with the educators' teaching method angles. A few creators contend that the all-out quality administration execution brings about a huge improvement of the instruction (Edwards, 1991; Tribus, 1993). This improvement comes about because of expanding researcher achievement; huge variation of showing techniques; more effective utilization of showing staff and understudies time because of higher efficiency; - bigger fulfillment of instructors and understudies with their work; and a bigger inclusion of the understudy's folks.

The powerful execution of TQM will increment consumer loyalty with the assistance contributions (Omachonu and Rose, 2004). Quality upgrades client reliability through fulfillment; this thus can produce rehashed business and lead to the fascination of new clients through certain verbal. Verbal correspondence will help in cost decrease, this Omachonu and Rose (2004), noted will give upper hand to the organization (foundation/school).

TQM is an administration reasoning which underscores the devolution of power to the bleeding edge staff. It guarantees the cooperation of everybody in the dynamic cycle through exercises, for example, quality cycles and collaboration. The inquiry is, does this devolution of power prompts workers' fulfillment or not? Inspiration Speculations demonstrate that two significant types of inspiration exist - the characteristic and the outward inspiration. While some will contend that the best type of inspiration is money related motivator, others contend for self-satisfaction and acknowledgment. The intention behind the natural award is to furnish the worker with some independence which engages him to take choices that influences his work, in this manner making him answerable and responsible. This is said to expand the worker's degree of occupation fulfillment (Dimitrades, 2000).

The execution of TQM guarantees that each laborer in the association goes about his responsibilities with quality the initial time, subsequently working on the productivity of activity and keeping away from some expense related with squander. This thusly will offer more worth to clients regarding cost and administration quality, therefore making them fulfilled.

Nonstop improvement which is an element of TQM is said to lessen the item process duration, in this way further developing efficiency (Huana and Lin, 2002). Numerous other TQM practices like preparation, data framework the board, relationship with providers, and so on decidedly affect functional execution. The effective administration and treatment of these practices will further develop productivity and presumably influence the creation by rescaling the benefit of the firm/framework.

TQM supports the absolute quality methodology in making consumer loyalty. The methodology makes a coordinated strategy for breaking down activity by zeroing during the time spent creation on consumer loyalty. Consequently, it expects that quality be incorporated into the cycles in order to be effective in the general effort (Andrie, 2004). Essentially, Kaynak (2003), proposed that the viability of TQM association ought to be estimated by the level of reconciliation with their provider bases since provider quality administration is a basic part of TQM. Functional viability is then an element of how well the different units of an association complete their capabilities with quality. In this way, the review will attempt to get to assuming that the TQM is answerable for the supposed in powerful work activity of administrators and teachers in public secondary schools in Bayelsa, Nigeria.

4. Methodology

The study utilizes an ex-post facto research design, employing a co-relational and descriptive survey method. The study's population comprises a total of 4175 consisting of 3997 teachers and 178 principals in Bayelsa State. The sample size for this study includes 210 participants, consisting of 90 secondary school principals and 120 teachers. The random sampling technique was applied, with 50% of the population of principals selected and 3% of the population of teachers.

The research instrument is a self-constructed questionnaire based on the integrated quality management constructs originally formulated by Saraph, Benson, and Schroeder (1989). Additionally, it drew upon information from relevant literatures in this field, specifically created for this study. The questionnaire was aptly named the "Envisaged Obstacles

and Management Options in the Implementation of Principals' Total Quality Management Skills and Teachers' Pedagogical Output Questionnaire" (EOMOIPTQMTPOQ).

To gather responses, the questionnaire employed a Likert 4-point rating scale. This scale included the following response options: "Strongly Agree" (SA) with a value of 4 points, "Agree" (A) with 3 points, "Disagree" (D) with 2 points, and "Strongly Disagree" (SD) with 1 point. The summation was calculated to mean and standard deviation. The questionnaire was structured into two main sections. Section A aimed to collect background information from the respondents such as the respondent's state, senatorial district, local government area, school name, and their status or position (whether they were principals or teachers). Section B of the questionnaire was designed to assess the obstacles and management options to the implementation of Principals' Total Quality Management Skills and Teachers' Pedagogical Output in public secondary schools in Bayelsa State.

The face validity of the instrument was assessed through expert judgement, while the reliability was assessed using both the split half method and the Cronbach alpha statistics to a randomly selected group of 60 secondary schools principals and teachers respectively in Edo State. The analysis indicated 0.70 for the envisaged obstacle in the implementation 0.97 for suggested management options. The research instrument was distributed to the identified participants (principals and teachers in Bayelsa State) within two months. The process was facilitated by six well-informed resource individuals who provided guidance to the respondents.

The researcher utilized descriptive statistics, specifically mean scores and standard deviation, to address the research questions 1 and 3. A mean score (\bar{X}) rating of 2.50 or higher was considered as the benchmark for acceptance, while ratings below 2.50 (i.e., 2.49 and below) were considered as rejection criteria. For the examination of research questions 2 and 4, the researcher used correlation coefficients to determine the existence of relationships among the variables. Additionally, the Pearson Product Moment Correlation Statistics were applied to assess the significance of these relationships in the formulated hypotheses 1, 2, 3, and 4, at a significance level of 0.05. The results are presented and analyzed in tabular form.

4.1. Research Question 1: What are the envisaged obstacles in the implementation of principals' use of Total Quality Management Skills and Teachers' Pedagogical Output in public secondary schools in Bayelsa State?

Table 1 Summary of mean scores and standard deviation analysis of the envisaged obstacles in the implementation of principals' use of Total Quality Management Skills and Teachers' Pedagogical Output in public secondary schools in Bayelsa State

S/N	Items/Statements	Bayelsa State N = 180		
		Mean	SD	Decision
1	Poor time management	3.16	0.78	+
2	Inadequate, collaborative/strategic planning	2.89	0.90	+
3	Non acceptance of changes as inevitable for improvement	3.19	0.79	+
4	Not encouraging teachers on the need to make use of new and innovative method and skills in teaching at all levels	3.16	0.86	+
5	Not assisting and guiding staff to adopt new paradigms of total quality management (TQM)	2.69	0.91	+
6	Not using collaborative or shared decision making	2.89	0.80	+
7	Lack of continuous improvement of the system for development	3.04	0.87	+
8	Poor accountability in leadership	2.69	0.91	+
9	Poor practice of interpersonal relationship	2.55	0.97	+
10	Low provision of well qualified, experienced and committed secondary school principals and teachers	3.19	0.79	+
11	Irregular monitoring of teachers' and students' work	3.04	0.87	+

12	Irregular performance evaluation and appraisal of staff	2.69	0.91	+
13	Negative school/classroom climate	2.55	0.97	+
14	Poor communication skills	2.90	0.92	+
15	Principals not being visible and accessible to all staff	3.04	0.87	+
16	Non Encouragement of professional growth of staff through training, re-training and development programs.	2.85	0.95	+
17	Low provision of instructional materials, equipment and facilities.	2.90	0.92	+
18	Poor utilization of instructional materials, equipment and facilities.	3.04	0.87	+
19	Poor maintenance of instructional materials, equipment and facilities.	2.85	0.95	+
20	Irregular/low provision of needed funds	2.88	0.91	+
	Average Mean Score	2.90	0.87	+

Key: + = positive/accepted, - = negative/not accepted

Source: Field Work, 2023.

Table 1 shows the Summary of mean scores and standard deviation analysis of the envisaged obstacles in the implementation of principals' use of Total Quality Management Skills and Teachers' Pedagogical Output in public secondary schools in Bayelsa State with all their mean scores above the bench mark of 2.50 and the average grand mean score of 2.90 for Bayelsa, which means all the respondents agreed that all the items constitute the envisaged obstacles in the implementation of principals' use of Total Quality Management Skills and Teachers' Pedagogical Output in public secondary schools for Bayelsa State.

Decision: It is therefore concluded that all the items/statements constitutes envisaged obstacles in the implementation of principals' used of Total Quality Management Skills and Teachers' Pedagogical Output in public secondary schools in Bayelsa State. These include; poor time management; inadequate, inappropriate collaborative/strategic planning; non acceptance of changes as inevitable for improvement; not encouraging teachers on the need to make use of new and innovative method and skills in teaching at all levels; not assisting and guiding staff to adopt new paradigms of total quality management (TQM); not using collaborative and shared decision making; lack of continuous improvement of the system for development; poor accountability in leadership; poor practice of interpersonal relationship; and low provision of well qualified, and experienced and committed secondary school principals and teachers among others.

4.2. Research Question 2: What is the relationship between the envisaged obstacles in the implementation of principals' use of Total Quality Management Skills and Teachers' Pedagogical Output in public secondary schools in Bayelsa State?

Table 2 Summary of correlation coefficient of determination between the envisaged obstacles in the implementation of principals' use of Total Quality Management Skills and Teachers' Pedagogical Output in public secondary schools in Bayelsa State

State	Variables	N	Mean	SD	r	r ²	R%	Remarks
	Envisaged obstacles in implementation of TQM		2.60	0.83				
Bayelsa	Teachers' Pedagogical Output	180	2.60	0.80	0.80	0.64	64	Positive Relationship

Table 2 shows the summary of examination of connection coefficient of assurance between the imagined impediments in the execution of administrators' utilized of total quality management skills and teachers pedagogical quality outputs in public secondary schools in Bayelsa State.

The table shows Bayelsa N = 180 with mean scores of 2.60, envisaged obstacles in the implementation of principals' use of Total Quality Management Skills and SD of 0.83 while the mean scores for Teachers' Pedagogical quality Output in public secondary schools in Bayelsa State is 2.60 with SD of 0.80. The r-determined esteem is 0.80 and r² = 0.64 and r% = 64 which means that there is a positive connection between the conceived snags in principals' use of Total Quality Management Skills and Teachers' Pedagogical quality Output in public secondary schools in Bayelsa State. The r²%

worth of 0.64% demonstrates that conceived impediments in the execution of principals' use of total quality management skills contribute 64% to teachers' pedagogical quality output in public secondary schools in Bayelsa State.

4.3. Research Question 3: What are the suggested management options to enhance principals' use of Total Quality Management skills and Teachers' Pedagogical Quality Output in public secondary schools in Bayelsa State?

Table 3 Summary of mean scores and standard deviation analysis of the suggested management options to enhance principals' use of Total Quality Management skills and Teachers' Pedagogical Quality Output in public secondary schools in Bayelsa State

S/N	Items/Statements	Bayelsa State N = 180		
		Mean	SD	Decision
1	Good time management	3.19	0.79	+
2	Appropriate planning	3.16	0.86	+
3	To encourage all to accept changes as inevitable for improvement	2.69	0.91	+
4	Encouraging teachers on the need to make use of new and innovative method and select in teaching at all levels	2.89	0.80	+
5	Assist and guide staff to adopt new paradigms of total quality management (TQM)	3.04	0.87	+
6	Collaborative and shared decision making	2.69	0.91	+
7	Continuous improvement of the system for development	2.55	0.97	+
8	To create practice and encourage accountability in leadership	2.90	0.92	+
9	Establishment, and practice of good interpersonal relationship	3.04	0.87	+
10	Provision of well qualified, experienced and committed secondary school principals and teachers	2.85	0.95	+
11	Provision of well qualified, experienced and committed secondary school principals and teachers	2.90	0.92	+
12	Constant monitoring of teachers and students' work	3.04	0.87	+
13	Regular performance evaluation and appraisal of staff	2.85	0.95	+
14	Proper management and implementation of curriculum	2.88	0.91	+
15	Creating a positive school/classroom climate	3.16	0.78	+
16	The use of good communication skills	3.40	0.68	+
17	Principals being visible and accessible to all staff	3.04	0.87	+
18	Encouraging professional growth of staff through training, re-training and development programs.	2.69	0.91	+
19	Provision of instructional materials, equipment and facilities.	2.55	0.97	+
20	Maintenance of instructional materials, equipment and facilities.	2.89	0.90	+
	Average Grand Mean	2.92	0.88	+

Key: + = positive/accepted, - = negative/not accepted; Source: Field Work, 2023.

Table 3 shows the summary of mean scores and standard deviation examination of suggested management options to enhance principals' use of Total Quality Management skills and Teachers' Pedagogical Quality Output in public secondary schools in Bayelsa State.

The table demonstrates that the different things/explanations and the typical excellent mean from Bayelsa state have all their mean scores over the acknowledgment seat sign of 2.50 which implies every one of the respondents concurred

that every one of the things comprise the proposed management options to enhance principals' use of Total Quality Management skills and Teachers' Pedagogical Quality Output in public secondary schools in Bayelsa State.

Choice: It is accordingly presumed that every one of the things/proclamations comprises proposed management options to enhance principals' use of Total Quality Management skills and Teachers' Pedagogical Quality Output in public secondary schools in Bayelsa State. These incorporate; great using time effectively; suitable preparation; to urge all to acknowledge changes as unavoidable for development; empowering educators on the need to utilize new and imaginative strategy and select in instructing at all levels; help and guide staff to take on new standards of all out quality administration (TQM); cooperative and shared navigation; consistent improvement of the framework for advancement; to make practice and support responsibility in authority; foundation, and practice of good relational relationship; and arrangement of very capable, experienced and serious optional school directors and instructors among others.

Research Question 4: What is the relationship between the suggested management options to enhance principals' use of Total Quality Management skills and Teachers' Pedagogical Quality Output in public secondary schools in Bayelsa State?

Table 4 Summary of correlation coefficient of determination between the suggested management options to enhance principals' use of Total Quality Management skills and Teachers' Pedagogical Quality Output in public secondary schools in Bayelsa State

State	Variables	N	Mean	SD	r	r ²	r%	Remarks
	Suggested management options to enhance Principals TQM skills		2.95	0.52				
Bayelsa	Teachers Pedagogical Output	180	3.03	0.67	0.62	0.38	38	Positive relationship

Table 4 provides summary of analysis of the coefficient of determination, examining the relationship between suggested management options to enhance principals' use of Total Quality Management skills and Teachers' Pedagogical Quality Output in public secondary schools in Bayelsa State.

In Bayelsa State (N = 180), the mean score for suggested management options to enhance principals' use of Total Quality Management skills is 2.95, with a standard deviation (SD) of 0.52. In contrast, the mean score for teachers' pedagogical output is 3.03, with an SD of 0.67. The calculated r (correlation coefficient) value is 0.62, and the r² (coefficient of determination) value is 0.38, indicating a positive relationship between the suggested management options to enhance principals' use of Total Quality Management skills and teachers' pedagogical output in secondary schools in Bayelsa State.

4.4. Hypothesis 1: There is no significant relationship between the envisaged obstacles in the implementation of principals' use of Total Quality Management Skills and Teachers' Pedagogical Quality Output in public secondary schools in Bayelsa and Delta States

Table 5 Summary of Pearson Product Moment Correlation Coefficient analysis between the envisaged obstacles in the implementation of principals' use of Total Quality Management Skills and Teachers' Pedagogical Quality Output in public secondary schools in Bayelsa and Delta States

Variable	N	\bar{X}	SD	Df	r-cal	r-crit	Level of sig.	Remark
Envisaged obstacle of Principals used of TQM		2.70	0.75					Significant relationship
Teachers pedagogical output	180	2.60	0.81	179	0.46	0.187	0.05	

Significant at 0.05 alpha level

Table 5 indicates the summary of Pearson Product Moment Correlation Coefficient analysis between the envisaged obstacles in the implementation of principals' use of Total Quality Management Skills and Teachers' Pedagogical Quality Output in public secondary schools in Bayelsa State with N = 180, mean of envisaged obstacles in the implementation

of principals' use of total quality management skill = 2.70, SD = 0.75, while the mean of the envisaged obstacles in the implementation of teachers' pedagogical quality output = 2.60 with SD of 0.81. The degree of freedom is 179, the calculated coefficient 'r' value = 0.46 while the critical 'r' value = 0.087 $P > 0.05$ level.

Decision: Since the calculated coefficient 'r' value of 0.46 is greater than the critical 'r' value of 0.087 at 0.05 envisaged obstacles in the implementation of significance, it means that there is a significant relationship between the envisaged obstacles in the implementation of principals' use of total quality management skills and teachers' pedagogical quality output in public secondary schools in Bayelsa State. Consequently the null hypothesis is rejected.

4.4.1. Hypothesis 2: There is no significant relationship between the suggested management options to enhance principals' use of Total Quality Management skills and Teachers' Pedagogical Quality Output in public secondary schools in Bayelsa State

Table 6 Summary of Pearson Product Moment Correlation coefficient analysis between the suggested management options to enhance principals' use of Total Quality Management skills and Teachers' Pedagogical Quality Output in public secondary schools in Bayelsa State

Variable	N	\bar{X}	SD	Df	r-cal	r-crit	Level of sig.	Remark
Suggested management options to TQM		2.34	0.43					
Teachers' pedagogical output	180	2.59	0.35	179	0.68	0.087	0.05	Significant relationship

Significant at 0.05 alpha level

Table 6 shows the summary of examination of Pearson Item Second Connection coefficient between suggested management options to enhance principals' use of Total Quality Management skills and Teachers' Pedagogical Quality Output in public secondary schools in Bayelsa State with $N = 180$, mean score of 2.34, $SD = 0.43$ for suggested management options to enhance principals' use of Total Quality Management skills while Teachers' Pedagogical Quality Output mean score = 2.59, with $SD = 0.35$ with the level of degree of freedom of 179, the 'r' determined coefficient esteem = 0.68 and the 'r' basic worth of 0.087, $P > 0.005$.

Choice: The 'r' determined coefficient worth of 0.68 is more prominent than the 'r' basic worth of 0.087 at 0.05 degree of importance. This shows that there is a significant relationship between suggested management options to enhance principals' use of Total Quality Management skills and Teachers' Pedagogical Quality Output in public secondary schools in Bayelsa State. Accordingly, the speculation that connote there is no significant relationship is dismissed.

5. Discussion of Findings

The Envisaged obstacles in the implementation of principals' use of Total Quality Management Skills and Teachers' Pedagogical Quality Output in public secondary schools in Bayelsa State.

The first finding examined in response to research question 1 and presented in table 1, indicates that there are anticipated obstacles in the implementation of Principals' utilization of Total Quality Management (TQM) Skills and their impact on Teachers' Pedagogical Quality Output in Public Secondary Schools within Bayelsa State. To further investigate the significance of the relationship, hypothesis 1 was rigorously tested. The second finding as illustrated in table 5, demonstrate that there is no significant difference between the responses from Bayelsa State concerning the anticipated obstacles in implementing Principals' use of Total Quality Management Skills and Teachers' Pedagogical Quality Output in Public Secondary Schools in Bayelsa state.

The finding is consistent with the numerous observations made by Oakland (2005), who posited that many managers and administrators perceive TQM principles as time-consuming, bureaucratic, formalistic, rigid, and impersonal, which deters them from adopting or endorsing these practices. This implies that administrators and managers in Bayelsa State, like their counterparts in other regions of Nigeria and beyond, share similar perceptions of TQM.

This research finding aligns with the conclusions of Unegbo (2017), who argued that problems arise in the implementation of total quality management in secondary schools because many principals are not committed to the

principles of TQM. This lack of commitment often stems from entrenched traditions in secondary school administration that many principals are inclined to follow.

This research finding is also in harmony with Unegbo's (2017) conclusions, which indicate that the implementation of Total Quality Management in secondary schools faces challenges due to a lack of commitment among principals, largely driven by long-standing traditions in secondary school administration. Many principals tend to adhere to established practices.

The findings also confirm Kwekwa's (2019) assertion that issues such as inadequate promotion of human resources development and inappropriate implementation methods employed by administrators pose challenges to the implementation of Total Quality Management in schools. He further emphasizes the significance of time constraints in monitoring, supervising, and inspecting subordinates as an obstacle to implementing TQM in schools.

The findings from this research further corroborate the observations of various researchers, including Owhe and Aspinwall (1997), Oakland (2005), Unegbo (2017), Shadrack (2019), Kwekwa (2019), Edojabu (2020), Baltic (2020), and Nejorovi (2021), who have highlighted issues such as time management, inadequate continuous and timely evaluation and assessment, poor planning, re-planning, and monitoring, as well as insufficient provision, allocation, and maintenance of resources. They also emphasize the neglect of customer satisfaction, encompassing students, teachers, and parents, which are central tenets of TQM and present challenges in the implementation process.

The finding is consistent with Jabulani's (2020) research, which investigated the challenges of implementing Total Quality Management skills in mission secondary schools and its impact on teachers' effectiveness in Anambra State, Nigeria. The study concluded that there was a significant and positive relationship between the challenges of implementing Total Quality Management skills and teachers' teaching effectiveness in missionary secondary schools in Anambra State.

Suggested management options to enhance principals' use of Total Quality Management skills and Teachers' Pedagogical Quality Output in public secondary schools in Bayelsa State

The third finding, derived from the analysis of research question 3 as displayed in table 3, outlines proposed management strategies to improve the application of Total Quality Management (TQM) skills by principals and enhance Teachers' Pedagogical Quality Output in public secondary schools in Bayelsa State. The results, as depicted in table 3, indicate a collective endorsement of these suggested management options to enhance the use of TQM skills by principals and improve Teachers' Pedagogical Output in public secondary schools in both Bayelsa State.

The fourth finding, as analyzed in response to research question 4 and displayed in table 4, highlights a relationship between the suggested management options for improving the application of Total Quality Management (TQM) skills by principals and enhancing Teachers' Pedagogical Output in public secondary schools in Bayelsa State. The finding indicates that there was positive relationship between the two variables.

This finding resonates with the research conducted by Edojobu (2020), Baltic (2021), and Negorovi (2021), which collectively underscore the existence of a meaningful connection between the suggested management options aimed at enhancing the implementation of TQM skills by principals and the subsequent improvement in teachers' pedagogical performance. These findings reiterate the importance of well-thought-out management strategies to uplift the quality of education.

The research focuses on obstacles and management options of implementation of total quality management skills and teachers pedagogical performance in secondary schools in Bayelsa State. The study employs an ex-post facto research design and utilizes a co-relational, descriptive survey method.

This finding is in alignment with the research findings of Edojobu (2020), Baltic (2021), and Negorovi (2021), all of which support the notion that effective management strategies, encompassing meticulous planning, precise allocation, utilization, and maintenance of resources, are vital for enhancing principals' use of management skills and, subsequently, teachers' pedagogical output.

Moreover, the findings corroborate the suggested management options that can foster the application of Total Quality Management skills and enhance teachers' pedagogical quality output. These options include demonstrating commitment to the implementation of TQM, promoting a teamwork approach to problem-solving, fostering shared values, facilitating synergistic and simultaneous planning, improving the work environment, removing barriers in the

workplace, enhancing customer satisfaction, and reducing redundancy, among others. These strategies are recognized as critical for improving the overall quality of education.

6. Conclusion

The research focuses on obstacles and management options of implementation of total quality management skills and teachers pedagogical performance in secondary schools in Bayelsa State. The study employs an ex-post facto research design and utilizes a co-relational, descriptive survey method. The study identified envisaged obstacles that may hinder the successful implementation of principals' use of Total Quality Management (TQM) skills and Teachers' Pedagogical Output in public secondary schools in Bayelsa State. The research also identified several management options to enhance principals' use of Total Quality Management (TQM) skills and improve Teachers' Pedagogical Output in public secondary schools in Bayelsa State.

The study concludes based on the findings that there is a significant relationship between principals' total quality management skills and teachers' pedagogical output in public secondary schools in Bayelsa State. Consequently, if principals implement total quality management skills there will be high-quality teachers' pedagogical output and if neglected, there will be low-quality pedagogical output of teachers.

Recommendations

Based on the research findings, the following recommendations are proposed:

Principals and teachers in secondary schools should shift their perspective on Total Quality Management (TQM) skills, recognizing that they are beneficial not only for businesses but also for educational institutions, and should actively adopt and enhance their Total Quality Management skills, including communication, human/interpersonal relations, technical competence, and leadership abilities, as this can have a positive impact on teachers' pedagogical performance.

Encourage collaborative planning, teamwork, participative decision-making, and delegation of responsibilities to teachers. Implement feedback mechanisms, integrate and coordinate all activities within the school to enhance teachers' pedagogical output, and for effective pedagogical performance, teachers should receive consistent supervision, guidance, assistance, and stimulation.

The education sector should place significant emphasis on students and parents as its primary customers. Prioritize customer satisfaction, maintain a customer-focused approach, rely on data, promote teamwork, and focus on overall development to achieve quality output while Governments should evaluate and modernize their operational procedures internally to address challenges stemming from outdated quality management practices and shift towards Total Quality Management.

School administrators should receive training on effective time management, aligning their practices with TQM principles and should provide guidance and mentorship to teachers to help them adopt the new quality assurance paradigms found in TQM.

There should be increase in general funding for the education sector, to encourage principals to explore internally generated revenue as an alternative to cope with inadequate government funding, and revise the reward system in educational institutions to emphasize team-based rewards over individual recognition.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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