



Total Quality Management (TQM): Implementation in Primary Education System of Bangladesh

K. Hasan, Md. S. Islam, A. T. Shams, H. Gupta *

Department of Industrial Engineering and Management, Faculty of Mechanical Engineering, Khulna University of Engineering and Technology, Khulna, Bangladesh.

ABSTRACT

The role of primary education is to ensure the broad-based development of pupils. This means ensuring that all pupils are able to develop their cognitive, social, emotional, cultural, and physical skills to the best of their abilities and preparing them for their further school career. It is known that education in Bangladesh is highly subsidized. The government has given the highest importance to the education sector to ensure education for all. A large percentage of a country's national budget is set to promote education and make it more accessible. But the education system of Bangladesh faces several problems. Low performances in primary levels and dropout are matters of concern because the low performances can result of poverty, widening disparities in education opportunities and facilities, poor school attendance, less contact time in school, lack of skilled school teachers, and lack of coordination between parents and the teachers. For that reasons, this research is conducted to implement the Total Quality Management (TQM) to improve the condition and the quality of the primary education system. Total Quality Management is a tool for ensuring proper quality in the entire organization. The main objective of the research is to eliminate problems such as the lack of quality of teachers and to improve the relation between teachers, students, and parents. Another aim of this research is to improve the quality of the environment of the class room in order to motivate the students to go to school; so, the dropout can be reduced.

Keywords: Total quality management, Education system, Primary school, 5S, quality assurance, Kaizen.

Article history: Received: 07 April 2018

Revised: 15 July 2018

Accepted: 08 September 2018

1. Introduction

Organizations are the structures which have been created to achieve the defined objectives. To attain their objectives, organizations need to interact with many environmental factors.

* Corresponding author

E-mail address: himadrisengupta.himu@gmail.com

DOI: 10.22105/riej.2018.128170.1041

Technological advancements have brought about the removal of barriers all over the world and it has become necessary for organizations to improve performance to compete with the rest of the world.

Organizations that succeed in improving the value proposition for customers usually become the supplier of choice. Total Quality Management (TQM) is an essential tool for organizations to improve and to keep up with the changes. Quality in an organization need to know who customers are and what needs they have [1].

The Total Quality Management (TQM) is a management process and a set of discipline that are coordinated to ensure that the organization consistently meets and exceeds the customer requirements. The Total Quality Management (TQM) engages all classes, departments, and levels of the organization. Senior management organizes all of its strategy and operations around customer needs and develops a culture with high employee participation. Quality assurance is more complex with the structures and ethos of educational institutes than many of the more mechanistic and structural processes [2].

The total quality management is comprised of some concepts; first one is Total which expresses the integration or the participation of all the people who take part together in the process or production service [3]. The 'Total' of total quality management is underlining the continuous improvement of the enterprise including everybody and everything in an organization [4]. Second one is Quality and in the context of total quality management, the quality can be defined as 'meeting the wishes and expectations of customers in an ideal economic margin and in a most exact manner' or as 'a dynamic state that is meeting or exceeding customer requirements, needs, expectations, and desires' [5]. In total quality management, the quality improvement process should begin and end with the customers [6]. And the last one is management, and as a more comprehensive concept, 'management' contains the other two components. It may not be possible to have the desired quality without good management and leadership [7]. As in the total concept, the concept of management includes everybody, because everybody is the manager of their responsibilities, e.g. their roles, positions, and status in their organization.

Quality in educational systems is based on Deming's, Juran's, and Ishikawa's conception of quality as being determined by the customer. The goal of educational systems is to provide students with the relevant competence and learning situations that they need for bringing meaning to their lives and to create a better society. According to Tofte, the quality of education means providing teaching and challenging educational situations for students' needs, interests and expectations, working for continuous improvement in all processes to make students satisfied, and working to maintain and/or add value to life.

As an updated management approach, the total quality management can be implemented successfully in educational organizations that are mainly focused on raising the potentials of students to the highest level [8]. The total quality management principles have broad applications in educational organizations and have produced desirable outcomes. With all of these

implementations, the development of school has become a continual process that has created an environment characterized by unity, change, and trust [9]. There is a considerable proximity between the principles of total quality management and the principles of effective schools [10]. The practice of total quality management at schools has provided us a perspective to look at the handicaps facing effective schools and a tool to remove the obstacles in the way of effective schools. In this aspect, the principles of total quality management are appropriate for educational settings. As a human focused approach, the total quality management can make important contributions to the increase of quality of education and the improvement of educational organizations. As both the inputs and outputs of the educational organizations are human beings, and human beings are the main actors at all levels and in all processes of these organizations without the satisfaction of human beings (both as customers and providers), it is very hard to ensure the effectiveness of educational organizations. As the primary education is the starting point of the education process, the primary schools are important for the quality process and the effectiveness of the education system. At the primary school level, the values are instilled that ensure socio-cultural identity and continuity; the foundations of human development are laid that will affect an individuals' whole life. Basic attitudes and behaviors are taught that will effect on a healthy social life. So, the primary schools have a fundamental effect on the life quality of individuals and societies. Because of all these causes, consecutive and continuous nature of the education process, the primary schools deeply affect the upper level schools through their products. Therefore, the quality factors at this basic level should matter to us first if we want to attain a best-quality education system. The most widely accepted criterion of quality in education is probably 'fitness for purpose'. Quality is defined first by identifying the people who use or benefit from the products and services being offered. These customers are then asked of their requirements and their expectations. But who are then the customers of education? Educational customers may be classified as either internal or external. Internal customers include students and teachers. External customers are parents, higher-level institutions, church constituencies, employers, the government, and the community/society at large. Each of these has certain requirements and expectations, which must be taken into account by the educational institution [11].

2. Problem Statement

Bangladesh is a developing country now. The development of Bangladesh is rapidly increased in last decade. Unfortunately, in the education sector basically in primary education sector, the development is not highly generated. Today, the education in Bangladesh is being faced a dynamic society and environment. Globalization has resulted a rapidly changing world where the nations have to adopt new coping mechanisms to survive and success. In education if we keep following the traditional way that is doing the same thing over and over again, we are bound to get the same old results again and again. Management theorist, Peter Vaill [12], points out that even though our culture is evolving in turbulent new ways with new relationships among

organizations, the ‘old ways of talking about these new forms hang on and cloud our thinking’. [12] So, if the primary school’s educational systems are improved, they must do far more than work harder at what they are already doing. Schools may continue to improve their facilities but if they are not preparing their students for the next century, these piecemeal improvements become meaningless. So, it is important to start new management system to meet the new challenges of education. As the total quality management approach represents a new way of thinking, it represents a willingness to rethink fundamental ways of performing the task.

Some rural primary school were visited to observe the problem associated with those schools. Some sample data were taken from primary school such as about classroom by discussing with teachers, students, and a little number of parents. The major problems associated with education system were noted. From most of the rural school we visited the major problems were low teaching quality, student drop out from school, and lack of coordination between teachers, students, and parents.

3. Research Methodology

A flowchart (Figure 1) is a type of diagram that represents a workflow, showing the steps as boxes of various kinds and their order by connecting with arrows. Flowcharts are used in analyzing, designing, and documenting or managing an activity in various fields.

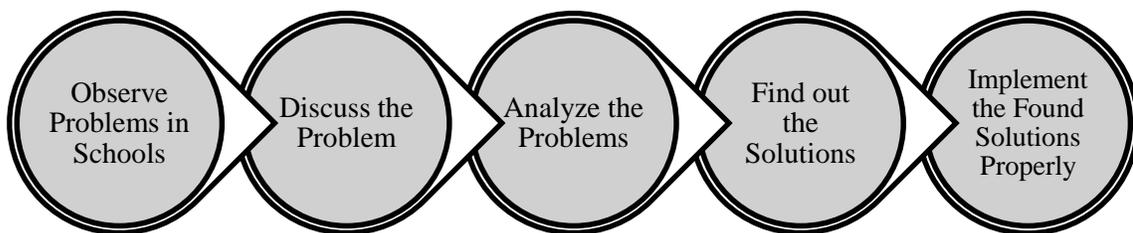


Figure 1. Flow Chart of Methodology.

3.1 Problem Observation in Primary Schools

In framing the research questions and the theoretical framework, a number of relevant aspects of school quality were identified. A sample of 12 schools was selected from local area of Khulna. In these schools, the focus group discussions with parents, teachers and students were conducted. Depth interviews with educational administrators at school levels were carried out. This research study is qualitative in nature. The problem associated with classroom facility observed and the quality of education were observed. The major problems were identified during classroom observation. After gathering information, sampling, and classroom observation a several problem and question arise and those problems are the barriers of present primary education system.

Those questions are

- How teaching quality be improved by using total quality management?
- How to reduce drop out from primary school?
- How teachers-parents relation be established?
- How classroom facilities be improved?

3.2 Problem Analysis and Solution Finding

From previous study, the major problem in primary education system was collected, and the analysis to solve those problem by using total quality management was listed.

3.2.1 Improve teaching quality by total quality management (TQM)

Good teaching as instruction that leads to effective learning, which in turn means thorough and lasting acquisition of the knowledge, skills, and values; the instructor or the institution has set out to impart. Several strategies to improve teaching quality based on total quality management are as follows.

Use active learning in class

Most students cannot stay focused throughout a lecture. After about 10 minutes their attention begins to drift, first for brief moments and then for longer intervals, and by the end of the lecture they are taking in very little and retaining less. Students' attention can be maintained throughout a class session by periodically giving them something to do. Many different activities can serve this purpose [13], in which case the most common is the small-group exercise. Active learning exercises may address a variety of objectives. Some examples are as follow:

- **Recalling prior material:** The students may be given one minute to list as many points as they can recall about the previous lecture or about a specific topic covered in an assigned reading.
- **Responding to questions:** Any question an instructor would normally ask in class can be directed to groups. In most classes—especially large ones—very few students are willing to volunteer answers to questions, even if they know the answers. When the questions are directed to small groups, most students will attempt to come up with answers and the instructor will get as many responses as he or she wants.
- **Problem solving:** A large problem can always be broken into a series of steps, such as paraphrasing the problem statement, sketching a schematic or flow chart, predicting a solution, writing the relevant equations, solving them or outlining a solution procedure, and checking and/or interpreting the solution. When working through a problem in class, the instructor may complete some steps and ask the student groups to attempt others. The enough time should be are given to groups generally to think about what have been asked them to do and formulate a response but not necessarily enough to reach closure.

Use cooperative learning

Cooperative Learning is instruction that involves students working in teams to accomplish an assigned task and produce a final product under conditions that include the following elements [14]:

- **Positive interdependence:** Team members are obliged to rely on one another to achieve the goal. If any team members fail to do their part, everyone on the team suffers consequences.
- **Face-to-face promoted interaction:** Although some of the group work may be done individually, some must be done interactively, with team members providing mutual feedback and guidance, challenging one another, and working toward consensus.

During improvement of teaching quality, the teachers himself do not bring course grades in this situation. If the grades are brought, the students will take away their willingness because of getting lower grade. So, teachers be fair enough to improve the teaching quality.

3.2.2 Reduce drop out from primary school

The problems associated with drop out are fear among students, poor health, poverty and lack of motivation. According to total quality management, the possible solutions are listed as follows:

- **To create school environment attractive from classroom to administration.**
- **Drive out fear:** In total quality management, one of the Deming philosophy is the driving out fear from organization. Fear creates an insurmountable barrier to improvement of any system. In schools, students are often afraid to point out the problems, because their fear may be blamed. So, in this point, the school administration from all level of management communicates properly to drive out fear to prevent dropping out from school.
- **Self-evaluation:** According to Deming, no human being should ever evaluate another human being. Total quality management emphasizes self-evaluation. The student be able to always focus on his or her own skills, strengths, individual learning styles, and different types of intelligences. Student should avoid following others evaluation. If self-evaluation be established, dropping out may be prevented.
- **Establish teachers-parents relation:** Positive parent-school communications benefit the parents. The manner in which the schools communicate and interact with parents, affects the extent and quality of parents' home involvement with their children's learning. The substantial evidence exists showing that parent involvement benefits students including raising their academic achievement. There are other advantages for children when parents become involved — namely, the increased motivation for learning, the improved behavior, more regular attendance, and a more positive attitude about homework and school in general. Research shows that parental involvement can free teachers to focus more on the task of teaching children. Also, by having more contact with parents, teachers learn more about students' needs and home environment, which is the

information they can apply toward better meeting those needs. Parents who are involved tend to have a more positive view of teachers, which results in the improved teacher morale.

- **Good two-way communication:** Good two-way communication between families and schools is necessary for your students' success. Not surprisingly, the research shows that the more parents and teachers share relevant information with each other about a student; the better equipped will help that student to achieve academically. Opportunities for two-way communication include parent conferences, parent-teacher organizations or school community councils, monthly folders of student work sent home for parent review and comment, and phone calls. In primary school, for poor parents the “Good two-way communication” can be encouraged by rewarding them yearly in a well manner.

3.3.3 Classroom quality improvement

Classroom can be improved by the implementation of 5S. The practice of 5S starts with the teacher, not the students. It is more than just cleaning up; it is about maintaining an organized and efficient work-space without clutter and waste of time for searching and preparations. 5S meets additional challenges in a school setting because the school is a public place with many users (Figure 2). Without proper and intuitive 5S systems, the schools can quickly become a haven for waste.



Figure 2. 5S System in a Classroom [15].

Step 1. Sort the classroom

Before sort, there be many chairs, tables and desks than students. The boards are cluttered and the desk material don't use daily. With sort we removed the additional tables and seats (Figure 3) so that the administration could only seat the exact number of students. Unnecessary paperwork and old artwork be stored away.

Step 2. Set classroom in order

By removing additional chairs and tables we are able to arrange set in order, the tables, and allocate spaces for different types of learning. This step gives each student a sense of ownership and space; thus creates independence.

Step 3. Shine the classroom

The boards be properly cleaned and the entire space becomes ship shape.

Step 4. Standardize the classroom

We standardized the label and the laid out class information, calendar, schedule, upcoming menus, and reminders. We used different colors to differentiate between topics which were the great applications of visual management. This made it clear how to maintain the great work that is done in the sort, set in order, and shine phases of 5S.



Figure 3. Sort of a Classroom [15].

Step 5. Sustain the classroom improvements

The regular updates and weekly checks will sustain the sharp and well-maintained classroom. It makes classroom a wonderful place of learning and sends many powerful messages to students and parents from an expectation of excellence to a focus on personal pride in the student's own work habits



Figure 4. Standardize the Classroom [15].

4. Results and Discussions

After finishing the research, we can notice that our present primary education system is not rapidly developing with the dynamic globalization. The total quality management is able to overcome the problems associated with primary school. It is identified that the total quality management along with 5S can be able to overcome the present problem in the primary education system. To overcome the primary education problem, some recommendations are as follows.

4.1 Implementing Total Quality Management

After observation and analysis on primary education system, the total quality management is more effective than present system because the total quality management assesses the current culture, customer satisfaction, and quality management system. The total quality management check daily the process management and the standardization takes place. Total quality management identified the organization strategies too.

4.2 Implementing 5S

5S can be applied to the classroom to bring good look atmosphere to the students to prevent the dropping out and to increase quality. It helps to eliminate waste and maintains a work environment that is efficient, safe, and clean.

4.3 Role of Teachers

A teacher is responsible to select and appoint right individuals to students and take care the entire administration. It is the teacher's responsibility to assign resources for total quality management, allocate time for various training programs, and appreciate students who come up with various improvement ideas and encourage them. The principle of the primary school is to communicate the benefits of total quality management to students, parents, and teachers.

4.4 Motivation

In primary school students are keys to quality. Student's actions and reactions are quality related. The total quality management is a holistic concept to motivate people associated with primary education system. To motivate people, the necessary links must be build up between structure and management process.

4.5 Incentive

Due to poverty, some students are likely to drop out from school in the mid of the year. However, these students and their parents be awarded with small bonus that be given in the end of the year or in different occasion. Students are encouraged by attendance bonus reward in the end of the year.

5. Conclusion

The research found that the present primary education system is not rapidly developing with the dynamic globalization. That is why total quality management can be able to overcome the present problems associated with primary education system of Bangladesh. Some recommendations were given in this research to improve the quality of primary level education in schools of Bangladesh. The roles of teachers were highly appreciated. Teacher's responsibility to assign resources for total quality management allocated time for various training programs, appreciated students who come up with various improvement ideas, and encouraged them. The total quality management was a holistic concept to motivate people associated with primary education system. To motivate people, necessary links must be build up between structure and management process and all of those were represented in this research paper.

References

- [1] Juran, J. M. (1993). *Quality planning and analysis; from product development through use*. New York McGraw-Hill199634.
- [2] McCulloch, M. (1993). *Total quality management: its relevance for higher education*. *Quality assurance in education*, 1(2), 5-11.

- [3] Sisman, M., & Turan, S. (2002). Total quality management in education (TQM in Education). PegemA, ankara.
- [4] Sallis, E. (2014). Total quality management in education. Routledge.
- [5] Töremen, F., Karakuş, M., & Yasan, T. (2009). Total quality management practices in Turkish primary schools. *Quality assurance in education*, 17(1), 30-44.
- [6] Senge, P. M. (1991). The fifth discipline, the art and practice of the learning organization. *Performance+ Instruction*, 30(5), 37-37.
- [7] Şişman, M., & Turan, S. (2002). The function of the advisory boards of the education zone in education and school management. *Education research journal*, 2 (6), 136-146.
- [8] Croker, R. E. (1996). *Defining instructional quality by employing the total quality management (TQM) method: A research project*. Retrieved from <https://files.eric.ed.gov/fulltext/ED403434.pdf>
- [9] Terry, P. M. (1996). *Using Total Quality Management Principles to Implement School-Based Management*. Retrieved from <https://files.eric.ed.gov/fulltext/ED412590.pdf>
- [10] Lezotte, L.W. (1992), *Creating the Total Quality Effective School, Effective Schools Products Ltd, Okemos, MI*. Retrieved from <https://files.eric.ed.gov/fulltext/ED359611.pdf>
- [11] Maguad, B. A. (1999, June). *A total quality approach to Adventist education*. Retrieved from http://christintheclassroom.org/vol_24/24cc_157-176.pdf
- [12] Vaill, P. B. (1989). *Managing as a performing art: New ideas for a world of chaotic change*. Jossey-Bass.
- [13] Felder, R. M., & Brent, R. (1999). How to improve teaching quality. *Quality management journal*, 6(2), 9-21.
- [14] Johnson, D. W., & Todd, D. E. (1998). Harvesting effects on long-term changes in nutrient pools of mixed oak forest. *Soil science society of America journal*, 62(6), 1725-1735.
- [15] Better operations. (2017). Retrieved from <http://better-operations.com/2015/10/08/lean-primary-school/>