



THE EFFECT OF TOTAL QUALITY MANAGEMENT SKILLS ON EDUCATIONAL INSTITUTIONS ACCORDING TO THE VIEWS OF UNIVERSITY STUDENTSⁱ

Ebru Burcu Çimili Gök¹,

Serdar Özçetin²ⁱⁱ

¹Ministry of National Education,
Antalya, Turkey

²Akdeniz University,
Faculty of Sport Sciences,
Department of Physical Education and Sports,
Antalya, Turkey

Abstract:

Total Quality Management is to move the organization to a high-quality level in cooperation with the personnel and managers working in the institution, to develop products or services with the perception of continuous improvement, to reach highly competitive power and to ensure that the institution reaches its goals. The aim of this study is to reveal university students' views on the benefits and applicability of total quality management practices in educational institutions. In the study, it was aimed to present an in-depth view with the case study design, which is one of the qualitative research methods. The working group of the research consists of 15 students studying at Akdeniz University, Faculty of Sport Sciences in the 2019-2020 academic year. A purposeful sampling method was used to reach the volunteers who were thought to be helpful in exploring and explaining the facts and events by conveying their thoughts in detail. A semi-structured interview form was prepared in order to deeply examine and understand university students' views on the benefits of total quality management practices and their applicability in educational institutions and to reveal their experiences and feelings. Individual interviews were completed within three weeks and each took an average of 15-20 minutes. Data obtained from individual interviews were deciphered and transferred to NVIVO 12.0 Qualitative Data Analysis package program, and data analysis was completed. Some important results of the research; Participating students stated that total quality management practices in educational organizations are mostly unsuccessful. The most mentioned reason for this is the replacement of the planned applications before the results are obtained. According to the participants, the PDCA Cycle and the Kaizen

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ⁱⁱ Correspondence: email serdarozcetin@akdeniz.edu.tr

method were mentioned as the most appropriate total quality method for educational institutions.

Keywords: total quality management; administration; education management; quality in education

1. Introduction

In today's rapidly changing world, the strategic importance of institutional quality management is growing. It is critical that our schools, workplaces, and individuals embrace quality in order for it to become the essence of society. Total quality management is one of the approaches proposed and implemented to improve the quality both inside and outside the institution and to ensure the institution's continued existence (Özdemir, 2005). Most organizations have developed the perception that effective quality management provides a competitive advantage and job market advantages. Total quality management, as defined by Besterfield, Michna, Besterfield & Sacre (1995), is both a philosophy and a set of guiding principles that underpin an institution's continuous improvement.

Total Quality Management creates products or services with the goal of continuous improvement by bringing the organization to a high-quality level in collaboration with the personnel and managers who work in the institution, achieving highly competitive power, and ensuring that the institution meets its objectives.

To summarize, TQM is more than a system for predicting quality and efficiency. It is a philosophy based on a change in all aspects of an institution and its activities, in human behavior, in the methods and techniques used in processes, in the working environment, in the product or service, in the corporate culture as a whole, towards continuous improvement and customer satisfaction (Akal, 1995).

In the 1930s and 1940s, W Edwards Deming introduced total quality management in the United States. Quality circles, quality improvement, quality control, and just-in-time production practices were developed in Japan in the 1950s as a result of Deming and Juran's contributions (Sayan and Aytan, 2020).

William Edwards Deming was a founder of total quality management and taught the Japanese how to implement it. The importance of total quality management is demonstrated by Deming's statement at a conference, "*If you listen to me, you can catch up with the world in five years; if you keep listening, the world will try to catch up with you.*" Deming's 14 total quality management principles are still applicable today (Çakar, 2018).

The following are the basic principles of TQM: External expert involvement; the significance of mission, vision, and guiding principles; top management leadership and commitment; organizational structure change; quality learning; customer orientation; teamwork and employee empowerment; communicate directly; changing organizational culture; quality education; internal analysis of the organization and continuous process improvement. However, the three most important ones should be highlighted: Customer

orientation, understanding of continuous improvement, and process analysis (Balci, 2005). The basic principles of total quality management are “*customer focus, top management leadership, education and training, process and measurement, and continuous improvement*” (Abdelmotleb, 2008).

1.2 Customer Orientation

Customer orientation, and thus customer satisfaction, is the main objective of total quality management in order to acquire a competitive advantage (Aslan, 1999; Akyüz, 2015). Understanding customer demands and presenting services and goods that meet those needs are critical components of total quality management (Gencel, 2001).

1.3 Top Management Leadership

The role of management in the implementation of total quality management is just as vital as that of the employees. The fact that managers participate actively in quality processes helps the acceptability and execution of total quality management (Akyüz, 2015). Total quality management should assist managers, establish clear and visible quality values and high standards, and match them with the way the organization functions (Tummala and Tang, 1994; Bengisu, 2007). As a result, all employees can thoroughly understand the difficulties and perform by making decisions based on their individual strengths (Abdelmotleb, 2008).

1.4 Education and Training

Education is the most important factor in improving quality (Oakland, 1998; Kanji & Asher, 1996). He claims that there is widespread agreement that education and training are essential (Huq, 1996). People with a higher level of education can contribute more effectively because they have more creative potential. Furthermore, the best intellectuals are more adaptable to change (Zairi, 1994). Employee training in total quality management should cover all employees in the organization, from the top to the bottom. Employees' awareness grows as they receive training, but their job performance improves as they gain knowledge and skills, and they make fewer mistakes (Keskin, 2010). People can improve their performance and job quality, as well as the processes for which they are responsible, through continuing education (Kruger, 2001). Although education appears to be an expensive process, poor quality processes with limited information may end up costing the company more in the long run. According to Brashier et al. (1996), in order for the TQM program to be successful, each employee should receive training, which is one of the most significant investments in TQM.

1.5 Continuous Improvement

Companies should aim to develop their performance, efficiency, and effectiveness in the use of all business resources, as well as continuously improve all processes (Tummala and Tang, 1995). Continuous development contributes to the development of products that meet the needs and expectations of customers. To survive in an increasingly competitive

environment, businesses must constantly monitor their immediate and general environment and adapt to changes in order to achieve their objectives. Kaizen, or continuous improvement, is used in business to make improvements with the participation of employees, middle-level managers, and senior managers (Tufan, Mizrak, & Çelik, 2007). Continuous improvement is a dynamic process. This process generally requires managers and employees who are constantly renewing themselves and open to change. This procedure is divided into four stages. In Deming's PUKO cycle, these are "*Planning, Implementation, Control, and Take Action*" (Aktan & Saran, 2007).

1.6 Process and Measurement

With the notion of "*doing the right things, right the first time everytime*" total quality management implements measures before the process begins (McNealy, 1993). Instead of seeking answers after making a mistake, organizations should take the necessary precautions to ensure error-free output. Management should focus on enhancing all internal processes to achieve this (Abdelmotleb, 2008). Mistakes that may occur later can be avoided to a considerable extent with proper planning (Akyüz, 2015).

1.7 Implementation of Total Quality in Education

After the 1990s, TQM was widely adopted in the educational sector. Total quality principles, which produce successful achievements in businesses, are gradually being used in educational institutions. Nowadays, many schools in our nation, as well as those in the United States, Europe, and Japan, use total quality management approaches in their educational processes (Özdemir, 2005).

TQM in education interacts with the environment, follows the needs of the environment, balances the factors affecting the school, is open to change, provides harmony between teachers, students, and staff in the school, establishes good relations, is democratic, understanding, has a broad perspective that is not a status quo and uses the resources available. Şimşek (2000) defines it as a management philosophy that employs logic. Today, the goal of implementing TQM philosophy in schools is to support them rather than judge them, not only teach but also guide and provide tactics; not as a person isolated within the walls of a classroom who only cares about his students; but to assist all educators who prefer communication with all members of society such as parents, administrators, other teachers, and business owners (Köksal, 1998).

In the field of education, total quality management entails addressing the needs and expectations of all internal and external customers, including students, instructors, school personnel, parents, society, and social organizations. Internal customers should be happy with the school's education and activities, and external customers should be pleased with how students and graduates learn to behave in the desired ways (Kwan, 1996).

Progress is made in many ways when the basic principles of the total quality approach are implemented in education and training processes, including school management processes, student success, level of learning, and parental satisfaction, as

well as the quality, motivation, and satisfaction of all school staff, particularly teachers (Özdemir, 2005).

Wiedmer and Harris (1997) stated the following benefits of implementing TQM in schools. *“School staff, society, and the finance sector may all work together to achieve common goals through collaborative teamwork. Students’ learning can be optimized by taking individual variances into account. Personal development for all training partners is possible. These partners might be encouraged to bring about individual transformation and development in the educational system. There are strategies such as improving communication among all stakeholders in schools or institutions.”*

The aim of this study is to uncover the benefits of total quality management practices from the perspective of university students, as well as their applicability in educational institutions. Answers to the following questions were sought for this purpose:

- How can total quality management capabilities benefit institutions?
- How can institutions be harmed if total quality management capabilities are not available?
- Which TQM strategy is most effective in educational institutions?

2. Material and Methods

2.1 Research Design

The qualitative research approach was applied in this research. The goal of qualitative research is to comprehend, explain, study, explore, and clarify a group of participants' situations, feelings, perceptions, attitudes, values, beliefs, and experiences in face-to-face interaction relating to social or human problems in their own context (Creswell, 2016; Merriam, 2018). The purpose of the study is to give an in-depth picture of the status study pattern using qualitative research methodologies. Case studies aim to comprehend an event in-depth, taking into consideration its complexities and context in its natural setting. It should also have a comprehensive focus aimed at preserving and comprehending the event's integrity and unity. This focus is also defined by research questions (Punch, 2014, p.147). The chosen holistic single state design was implemented in this study when the subject of research was a single analysis unit (an institution, a program, etc.). (Yin, 2017).

2.2 Study Group

The research group consists of 15 students enrolled in the Akdeniz University Faculty of Sports Sciences for the 2019-2020 academic year. The strategy of purposeful sampling was employed to contact volunteers who were considered to be effective in identifying and explaining the facts and occurrences by presenting their ideas in depth. Interviews were conducted with the students who accepted to meet on the stated dates and times.

2.3 Data Collection

A semi-structured questionnaire created by the researcher was utilized as a data-gathering method in the study. A semi-structured interview form was created in order to study and comprehend university students' perspectives on the benefits of total quality management methods and their application in educational institutions, as well as to expose their experiences and feelings. Interviews using a semi-structured questionnaire are a suitable technique for collecting reliable and comparable data, as well as access to in-depth information (Büyüköztürk et al., 2018; Cohen and Manion, 1994). Individual interviews lasted an average of 15-20 minutes and were completed in three weeks. Prior to the interviews, the participating students were informed about the subject to be discussed, it was stated that an audio recording of the meeting would be obtained and their approval was obtained.

2.4 Data Analysis

The data analysis was performed by uploading it to the NVIVO 12.0 Qualitative Data Analysis package application after decoding the data collected from the interviews. Computer programs make qualitative data analysis easier for academics (Ekiz, 2013). Converting and editing dialogues into text, coding, and capturing and reporting short notes on codes are only a few examples (Patton, 2018; Miles and Huberman, 2016). Although computer tools make data analysis easier, the researcher remains at the core of the study (Patton, 2018) The researchers assess the data once it has been encoded as themes and sub-themes.

The codes have been validated through the use of direct citations. The material is structured and arranged in a logical framework in accordance with the topic framework. When analyzing the findings, direct citations were used to back up the data.

The data were analyzed using descriptive analysis. The primary goal of visual analysis is to come to a conclusion by studying the facts in the context of the cause-and-effect connection. The descriptive analysis examines the data in four digits. The first phase is to create frames from data; the second step is to analyze the data; the third step is to identify the results; and the fourth step is to interpret the findings (Yıldırım and Şimşek, 2018).

It is indicated in qualitative research that the agreement between expert and researcher ratings is 90% or above and meets the necessary degree of reliability (Saban, 2008). This study's reliability was calculated with "Credibility = Consensus / Consensus + Difference of Opinion x 100." (Miles & Huberman, 1994). The science study's reliability was given a 90% rating.

3. Results

In this section, the findings and comments obtained in terms of the purpose and sub-objectives of the research are given. In Table 1, opinions about the contribution of students' total quality management (TQM) skills to institutions are given.

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Table 1: Views on the Contribution of Total Quality Management Skills to Institutions

Codes	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	f
Quality control	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	15
Debugging	√		√	√	√	√	√			√	√	√	√		√	11
Self-control	√	√			√	√		√	√		√		√	√		9
Providing a scientific approach	√			√			√			√		√	√			6
Economic	√	√					√	√			√		√			5
Planned education	√			√	√			√	√							5

As can be seen in Table 1, the "quality control" theme received the most participation from the students. The theme of "debugging" is followed by 11 students' opinions, and the theme of "self-control" is followed by 9 students' views. Total quality management practices will benefit institutions with the "providing a scientific approach" theme, according to six students' opinions, the "providing economy" theme, according to five students' opinions, and the "planned education" theme, according to five students' opinions. The following are some student perspectives on these topics:

"A no-error approach is the fundamental basis of total quality management. It creates the possibility of debugging errors. It ensures quality. There is a chance for self-control." (S11)

"Some believe that because TQM is focused on quality, it forces people to the sidelines. But I believe it is humane because it is people-oriented. People in the institution can be connected with spiritual feelings through TQM practices." (S1)

"TQM empowers for planning. When TQM is properly implemented, a plan for every situation is ready. It eliminates any negative situation before it occurs." (S5)

"TQM management is more cost-effective for the institution. Because the cost of going back to the beginning is high when you do something and don't get good results. However, it is less expensive to make improvements with in-process inspections." (S8)

In Table 2, opinions about the harm of students' lack of total quality management (tQM) skills to institutions are given.

Table 2: Opinions on the Harm of TQM Skills for Institutions

Codes	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	f
Administrative difficulty	√	√	√	√	√		√		√	√	√		√		√	11
Lack of self-control		√	√		√	√	√			√	√		√	√		9
Inability to predict the future	√		√		√		√			√	√		√			7
Unhealthy communication	√		√				√			√	√					5
Failure to develop R&D activities	√			√						√		√				4

The majority of students, as can be shown in Table 2, were mostly involved in the topic of "administrative difficulty". Following this theme are nine pupils under the theme "lack of self-control" and seven pupils under the subject "Inability to predict the future." In view of five students under the theme of "unhealthy communication" and "failure to develop R & D activities" with 4 students, it has been said that the lack of total quality of management abilities will have a detrimental effect for the institutions. Some student opinions on the following topics:

"Since TQM techniques facilitate the management, it is difficult for managers to execute TQM processes." (9)

"Measurement-control improvement will occur thanks to the TQM. These are the foundations of research and development. R&D cannot be developed if TQM is not applied." (S4)

"Planing is made feasible thanks to TQM. If not, the future is hard to foresee. You can't get ready" (S13)

"TQM is well managed in schools such as teacher quality, school administration and school expenses. Internal auditing is improving. It is impossible to self-control without TQM." (S2)

In Table 3, the opinions of the students about the most effective total quality management for educational institutions are given.

Table 3: Opinions on the Most Effective TQM for Educational Institutions

Codes	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	f
Demingcycle	√	√	√	√	√		√		√	√	√		√		√	11
Kaizen	√		√				√		√	√	√	√			√	8

As shown in Table 3, the majority of students agreed with the subject of "PUK (Deming cycle)" with the highest rate of 11 opinions as a result of interviews on the most successful total quality management technique for educational institutions. This subject is followed by the "KAIZEN" theme, which includes the opinions of eight pupils. The following are some student perspectives on these topics:

"When it comes to quality management, error-free production is the first thing that comes to mind. Isn't it, however, absurd to regard educational institutions as normal businesses and expect error-free output? Students, or humans, are what we refer to as the output of schools. Of course, even if error-free output is not the goal, it may be easier to achieve total quality goals in education. Continuous improvement using the Kaizen method, for example, can be used in education." (S3)

"I believe Kaizen is appropriate for schooling. In schools, improvement is required. Instead of major changes, the current system can be enhanced. Evaluating education and training activities in the process and taking appropriate precautions, preventing waste of time and resources, organization, order, job security, rewarding and encouraging increased efficiency in schools The roots of the issues should be identified, and group work should be prioritized in order to brainstorm." (S7)

"The PUKO cycle, in my opinion, ranks top on the list of the most effective ways. Subheadings include plan, implement, check, and take precautions. Because the simpler a structure is, the easier it is to implement, you may not have a major TQM information argument. Because the system is made up of circulation processes, it gives an effective substructure for the less known to the more known principle." (S1)

"Educational assessment and evaluation are critical. What we can't measure we can't correct or improve. TQM is a measuring tool. We don't only mean grading written examinations, school units, teachers, and principals when we say assessment. Measurements should be taken and reviewed to see if everyone is executing their jobs correctly and if the equipment is adequate. The Deming Cycle, in my opinion, is the best TQM approach for this." (S10)

4. Conclusion, Discussion and Recommendations

According to the results of the research, the participating students believe that the "quality control" phase in TQM applications will benefit the institutions as well as make significant contributions in terms of "debugging" and "self-control." Because quality control provides feedback to determine and enhance the level of service provided in educational institutions, or in any other institution. This issue implies an approach that enables the learner to properly learn, which is mostly student-centered. The behaviors acquired by the learner at each step will be evaluated by him and the group to which he/she is associated with instant control and the necessary full learning could be delivered. In other words, each stage's control will be evaluated by the group and will aim to ensure 0 percent faulty production or full learning. Therefore "100% quality" in product creation is similar to "complete learning" in education. According to the opinions of the participants, it was concluded that total quality management practices will contribute to education in terms of "providing a scientific approach". According to TQM, once something is produced, it is not very important for the institution to get certain defects and to extract faults. The important thing is to produce something without errors when producing it (Peker, 1993). The most important thing is to make something without errors so there is zero perception of error (Yüksel, 1998). Because the wrong product in educational institutions is human and its outputs may be achieved in the long run, when you adopt an education strategy with zero error perception, TQM will contribute to the institutions and the country's future. (Muter & Kayalidere, 2003). The research showed that TQM techniques will benefit institutions by "offering economics" and "planned education." The approach to error prevention in overall quality management is broadly concerned with proper planning. (Peker, 1993) Errors can be avoided and economics can be secured with proper planning. According to the findings of the study, if total quality management is not implemented, it will result in problems such as administrative difficulty, a lack of self-control, an inability to predict the future, unhealthy communication, and an inability to carry out research and development activities. These results can also be observed in cases where TQM applications are not applied in a healthy way.

In Varol (1993, p.30) and Peker's (1993, p.59) studies it is also stated that when institutions can not apply the total quality management practices sufficiently, the damages it will cause in institutions will be as follows: *"Implementing it as a program without the active participation of top management, viewing quality improvement as a routine issue that the company management occasionally promotes as a slogan and then fails to follow, a lack of a quality policy and responsibility, management and especially employees being unconcerned about quality and competition, inadequate awareness of the significance of continuous improvement, employee failure to comprehend, and opposition to overall quality management techniques"*. According to the information gathered from the participants, the PUKO cycle and Kaizen method are the most appropriate total quality method applications that may be used in educational institutions. According to those studies,

"increased productivity attained through the proper use of resources, labor, machinery-hardware, energy, and time will lead to a decrease in costs." Consequently, quality management ensures waste prevention, shortening processing time, and lowering costs; following that, quality, motivation, and productivity increase with continuous improvement and development studies are similar to the conclusion that this study may have viability and benefits in educational institutions. (Alkan, 2001:185, Altinok & Saçlı, 2009:71)

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Conflict of Interest Statement

The authors declare that they have no conflict of interest related to the study or preparation of the manuscript.

About the Authors

Dr. Ebru Burcu Çimili Gök is working as a mathematics teacher in an official school affiliated with the Ministry of National Education.

Dr. Serdar Özçetin is an Assistant Professor Doctor at Akdeniz University, Faculty of Sports Sciences, Antalya, Turkey.

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