The Personality Traits and the Skills for the Implementation of Total Quality Management (TQM) in Schools: The Views of Directors in Greek Secondary Schools

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Abstract
The purpose of this research is to present the views of the Directors in secondary schools regarding the personality traits and skills they must have to introduce and implement Total Quality Management (TQM) in their schools. Our empirical research is quantitative and the data was collected via questionnaire. The research sample is 106 public secondary schools of the district of Attiki (N = 106). The data was analyzed with SPSS 20.0 statistical package. The survey was conducted from May 20 to June 30, 2015. The results reveal the personality traits and skills of the school directors that are required to introduce and implement Total Quality Management (TQM) in their schools. The variations in the opinions are related statistically to the sex, years of service in public education and in management position, the academic background, the seminars and training in educational administration and the type and size of the school.
Keywords: Total Quality Management, Leadership, School Unit, Secondary Education, Personality Traits

Introduction
The school being is an open organization that interacts with its environment. Thus, it needs the appropriate organization and management system that utilizes the available resources available at any given time (Saitis, 2007). The director of the school, according to its traditional role, is the dominant leader dedicated to the supervision of existing authorities and stakeholders and handling administrative and official affairs. However, in the era of information, technology and globalization, the demands of teachers, students and the the society are increased and the director is asked to take multiple roles, and respond effectively (Hoy & Miskel, 2008).
This presupposes the existence of a manager who knows the principles of the administrative science, who understands the factors that systematically affect the environment and who has the appropriate leadership behavior. Directors, therefore, need to have management and

leadership skills and this will be achieved through the continuous self-improvement and training of directors, which will lead to the continuous improvement of the quality of the entire school unit (Zogopoulos, 2012). Moreover, as emphasized by Pasiardis (2014), "the effective directors are lifelong learners and are constantly trying to add more knowledge and skills…" (pp.85).

The total quality management (TQM) is a different approach in thinking and managing, which finds implementation in the education systems and schools, contributing significantly to improve their effectiveness by improving the quality of procedures, in order to satisfy the needs and expectations of the stakeholders (Brinia, 2008; Sallis, 2002). Achieving quality constitutes a continuous and uninterrupted process which requires the effective and active participation and commitment of all those who are somehow involved in the educational process (Cox et al., 2003). The purpose of this study is to record and present the views of the directors in greek secondary schools for personality traits and skills which they must have to introduce and implement total quality management (TQM) in their schools. The research questions are:

1. What are the views of the Directors regarding the personality traits and skills they must have to introduce and implement Total Quality Management (TQM) in their schools?
2. Do the responses of Directors differentiate in relation to sex, years of service in public education and in a managerial position, type and size of the school, the academic background and attendance in seminars about education management issues?

Theoretical Part

The leader who adopts the philosophy of Total Quality Management is responsible for creating the environment of continuous improvement and modernization of the system, in cooperation with the other members of the organization (Zavlanos, 2003). In particular, the Directors of the schools are required to:

- Believe and practice the philosophy of TQM., according to which they should create a relationship of trust between all stakeholders within the school in order to empower staff and solve problems that impede the continuous improvement,
- Distinguish all external factors that may adversely affect the smooth operation of the school and consider all members of the school community as partners,
- Perceive the school as a system and understand that each process takes place within a network of other procedures. The knowledge of TQM helps the Directors to understand the operation of the system, the causes that lead to failure and how to solve problems,
- Organize seminars for new teachers, who are not familiar with the philosophy of TQM,
- Reward and give feedback to enhance the staff in order to apply the technique of "brainstorming" for the production of ideas and the "benchmark" for the determination of performance standards,
- Have effective listening skills, know teaching methodology, formulate goals in collaboration with staff and use the evaluation in accordance with the principles of TQM,
- Form planning teams and participate to encourage and support the ideas of the members and ensure that all the necessary material and financial resources that are required to enable the group to work are available,

- Make statistical checks to verify the progress of the system and to teach teachers how to discern common causes of specific changes to the system,
- Understand that the teachers and students learn in different ways, they have different personalities and they believe in different values,
- Take responsibility, to use the power of the position and be the main factor in changes,
- Emphasize the implementation of processes and the continuous improvement (Zavlanos, 2003).

The leaders in quality organizations have vision which clearly expresses what the school organization strives to fulfill. The school's vision can be realized only when the leaders (Ofsted Publications Centre, 2003):

a) notify all members of the organization,
b) make the members to embrace it,
c) meet the needs of customers (internal and external including teachers)
d) take into account the cultural and social characteristics of the area of school organization and
e) treat the employees fairly, with cooperation and social responsibility.

Besides vision, (which is a characteristic of the leader also in previous management models) for quality organizations the leader believes in values. These values guide the behavior and progress towards the vision. They are common to all and manage the attitude and policies for all employees. The leader must believe in the value of quality (Stivaktakis, 2006). In order for the school organization to have high quality product, the leaders must believe that quality is the primary objective for every employee. Schools usually focus on achieving specific goals (such as having a large number of students with high marks at the end of the school year), mainly short-term goals and quality is omitted as a subject of interest and attention, until it turns into a real problem (Kapsalis, 2005; Ngware et al., 2006). The leader also promotes the value of cooperation, the value of products and the value of people who will help in the creation of a learning culture where there is a climate of cooperation and mutual respect, and where the vision of school organization can be achieved (Leech & Fulton, 2008).

Main characteristics of the leaders, apart from the vision and values, are being a role-model for others, empowering staff, acting as a mentor, inspiring and motivating human resources, encouraging creativity and promoting innovation, operating the organization in a moral frame, formulate goals and strategies, promoting effective communication, adapting to change, paying attention to the satisfaction of the staff's and students' needs, listening to customer demands, coordinating and supporting teamwork, solving problems, understanding the problems, being aware of new developments in technology, managing uncertainty, providing access to the information, promoting education and training, being socially responsible and knowing oneself (Brewer & Blasé, 2001; Williams, 2009).

Additional important skills of the leaders are to think systemically and understand the changes that occur during the work, the planning and the solving of a problem, understand the way in which people learn, grow and improve themselves and understand the reasons why people behave in this way (Ofsted Publications Centre, 2003). Also important is the ability of the leaders to understand the interaction and interdependence between systems, changes, learning and human behavior and understand how each of them affects the other (Witziers et al., 2003).

Finally, according to Ishikawa (1985), all these abilities and leadership skills can be acquired through education and effort because the quality begins with education and ends with education.

Research Methodology
Population of Research and Data Collection Process
The research was conducted in the academic year 2014-2015 and refers to all secondary schools in Attiki District. The research sample was chosen via random sampling and consists of 106 public secondary schools (more than 10% in relation to the total public secondary schools in Attiki), further broken down into 52 secondary schools, 28 High Schools and Junior High Schools and 26 Vocational High Schools. The questionnaire was distributed personally and was returned by mail in the period March - June 2015.

The Questionnaire
The type of the research is survey and the methodological tool used for the data collection is a questionnaire with closed questions. Before the main research, in order to check the clarity of the questions, a prior pilot study involving 11 Directors / Assistant Directors was conducted. Based on the results of the preliminary research, the questionnaire received its final form.
The questionnaire is divided into two parts:
  A. First part: personal and demographic characteristics of respondents (sex, age, total years of service in public education and experience as Directors, size and type of school, the academic background (except their initial diploma) and the participation in seminars regarding education management issues.
  B. Second part: Twenty-seven clauses referred to the basic features and capabilities required from the school directors to introduce and implement TQM in their schools. These clauses come from the related Greek and international literature. The responses of participants were on five-point Likert-type scale (1 = Minimum important, 2 = Little important, 3 = Important, 4 = Very important, 5 = Do not know).

The reliability testing Cronbach's Alpha of the questionnaire showed that the reliability coefficients are relatively high for all the twenty-seven clauses which are referred to the basic features and capabilities required of the school Directors. They have internal consistency coefficient of Cronbach alpha a =, 868.
In relation to the Directors who participated, 66.0% were male, the average age is 52 years and the largest percentage (62.3%) was over 53 years old. The largest category of Directors had experience between 21 and 30 years of service, while most Directors show relatively small and modest experience (54.70% has exercised managerial tasks from one to five years). As for qualifications, 49.1% have only their basic degree, while 11.3% have another university degree. On the other hand, 20.8% hold a MSc or PhD (7.5%) degree. Directors have attended seminars regarding school management issues in percentage 60.38% and other postgraduate studies (24,5%). Most Directors work in high schools with nine to twelve classes.

Method of Research Data Analysis

The purpose of the research led to the identification of dependent and independent variables. Dependent variables were a series of clauses, which indicate personality traits and skills required from the school directors to introduce and implement TQM in their schools. Independent variables are sex, years of service to education and managerial position and the type of school to run. The statistical analysis of the responses was on two levels: univariate and bivariate analyzes. The univariate analysis includes calculating the relative frequencies (percentage %), averages (M) and standard deviation (s). The bivariate analysis includes the testing of the statistical significance of differences between averages of the independent and dependent variables with the aid of non-parametric tests Pearson Chi-square ($x2$), Mann - Whitney U and Kruskal-Wallis H. The use of the above three nonparametric tests was implemented after checking the normality of dependent variables using the normality test of Kolmogorov - Smirnov and the technical simulation of Monte Carlo. To control the regularity for all the dependent variables the Asymp. Sig. (2-tailed) and the Monte Carlo Sig were calculated. Because the p-value for all dependent variables is less than 0.05, we reject the hypothesis of normality of data.

Results

In order to present the basic traits and skills required from the Directors to introduce and implement TQM in their schools we will analyze their responses to the importance, in their opinion, of a number of key traits and skills resulting from the review of relevant Greek and international literature. The mean (M), the standard deviation (s) and the percentage of the basic traits and skills for each choice of the five-point Likert-type scale (1 = Least significant 2 = Little important, 3 = Important, 4 = Very important, 5 = Do not know) are depicted in table 1. In italics are the averages with statistically significant difference (p = 0,05).

Table 1: Responses of Directors regarding the traits and skills to introduce and implement TQM in their schools

Traits and Skills	M	S	1. %	2. %	3. %	4. %	5. %
1. To create vision	*3,87*	0,345			13,5	86,5	
2. To cultivate culture of quality and continuous improvement	*3,83*	0,382			17,3	82,7	
3. Be committed to achieving the goals	3,63	0,486			36,5	63,5	
4. Be a role model and inspiration	*3,77*	0,423			22,6	77,4	
5. To develop innovation	3,65	0,520		1,9	30,8	67,3	
6. Encourage creativity	3,89	0,320			11,3	88,7	
7. To adapt to change	3,72	0,455			28,3	71,7	
8. To effectively manage oneself	*3,66*	0,517		1,9	30,2	67,9	
9. To effectively manage relationships with others	3,89	0,320			11,3	88,7	
10. To empower staff - partners in decision-making	3,70	0,463			30,2	69,8	
11. To act as mentor of the staff	*3,58*	0,602		3,8	35,8	58,5	
12. To motivate the staff	*3,66*	0,478			34,0	66,0	
13. To be effective in communicating	3,83	0,427		1,9	13,2	84,9	
14. To be socially responsible	3,91	0,295			9,4	90,6	
15. To operate the educational unit in a moral framework	*3,77*	0,542		1,9	22,6	71,7	3,8
16. To promote the satisfaction of staff and students	3,60	0,566		3,8	32,1	64,2	
17. To coordinate and support teamwork	3,64	0,484			35,8	64,2	
18. To be aware of new developments in technology	3,55	0,539		1,9	41,5	56,6	
19. To emphasize in education and training	*3,66*	0,517		1,9	30,2	67,9	
20. To understands the problems	*3,66*	0,478			34,0	66,0	
21. To resolve the problems	3,92	0,267			7,5	92,5	
22. To manage the problems	3,85	0,411		1,9	11,3	86,8	
23. To think systemically	*3,62*	0,740	1,9	3,8	30,2	58,5	5,7
24. To know how to manage systems	*3,60*	0,631		3,8	35,8	56,6	3,8
25. To understand the interaction and interdependence between systems	*3,53*	0,639		5,7	37,7	54,7	1,9
26. To understand the interaction and interdependence of learning and human behavior	*3,64*	0,484			35,8	64,2	
27.To understand the way in which people learn	*3,77*	0,466			24,5	73,6	1,9

Discussion

The results reveal that the Directors regard as very important all the above key features and capabilities required from the Directors to introduce and implement TQM in their schools. In particular, traits and skills such as "create vision", "to cultivate quality culture", "encourage creativity", "to effectively manage relationships with others", "to be effective in communication", "to be socially responsible", "to solve problems", "to manage problems" are considered as very important.

Statistically significant difference in averages observed for the key feature "creates vision" ($Z = -2,049$, $p = 0,0$), and the ability to "think systemically" ($Z = -2,073$, $p = 0,04$) and "to understand the interaction and interdependence between systems" ($Z = -2,123$, $p = 0,03$) in relation to the sex of Directors. It is found that the headmistresses consider more important (Mean Rank = 30,00) the above basic characteristic than their male colleagues (Mean Rank = 24,65). Moreover, the headmistresses consider (Mean Rank = 32,39 for the first and Mean Rank = 32,56 for second respectively) more significant both these abilities compared to their male counterparts (Mean Rank = 24 23 for the first and Mean Rank = 24,14 for second respectively).

Statistically significant difference in averages observed for the basic characteristic "serve as a model and inspiration"'" ($x2 = 8,971$, $df = 2$, $p = 0,01$) in relation to the years of service in public education. Directors with experience of more than 30 years consider (Mean Rank = 32,50) as more important the above basic feature compared to those who have experience of 11 to 20 years (Mean Rank = 30,64) and from 21 to 30 years (Mean Rank = 22,29).

Statistically significant difference in averages is observed for the following key features for Directors that have up to 10 years of service in a managerial position: "to create vision" ($x2 = 4,369$, $df = 1$, $p = 0,03$), "to effectively manage themselves" ($x2 = 6,754$, $df = 1$, $p = 0,009$), "to act as mentor of the staff" ($x2 = 7,697$, $df = 1$, $p = 0,006$),"to motivate the staff" ($x2 = 6,456$, $df = 1$, $p = 0,01$), "to operate the educational unit in a moral framework" ($x2 = 5,449$, $df = 1$, $p = 0,02$), and "to emphasize in learning" ($x2 = 4,805$, $df = 1$, $p = 0,02$). Directors in a managerial position for less than 5 years considered these six key attributes as very important (Mean Rank = 22,29 for the first, Mean Rank = 23,47 for the second, Mean Rank = 23,90 for the third, Mean Rank = 23,55 for the fourth, Mean Rank = 23,17 for the fifth and Mean Rank = 23,14 on the sixth, respectively) compared to those who have managerial experience from 6 to 10 years (Mean Rank = 17,88 for the first, Mean Rank = 15,04 for the second, Mean Rank = 14,00 for the third, Mean Rank = 14,83 for the fourth, Mean Rank = 15,75 for the fifth and Mean Rank = 15,83 on the sixth, respectively).

Statistically significant difference in averages observed for the following basic characteristics with respect to the years of service in a managerial position "to effectively manage oneself" ($x2 = 7,469$, $df = 2$, $p = 0,02$), " to act as mentor of the staff" ($x2 = 7,950$, $df = 2$, $p = 0,02$), and "to encourage the staff" ($x2 = 6,531$, $df = 2$, $p = 0,04$). Directors with service in a managerial position for less than 5 years considered as very important the above three basic characteristics (Mean Rank = 27,45 for the first, Mean Rank = 27,14 for the second and Mean Rank = 26,83 for the third respectively) compared to those who have managerial experience from 11 to 15 years (Mean Rank = 19,75 for the first, Mean Rank = 25,33 for the second and Mean Rank = 24,67 for the third respectively) and from 6 to 10 years (Mean Rank = 17,79 for the first, Mean Rank = 15,75 for the second and Mean Rank = 16,83 for the third respectively). Statistically significant difference in average was observed for the key attribute "to understand the interaction and interdependence

between the learning and human behavior", between Directors with managerial experience from 11 to 15 years and above 16 years. In particular, the Directors with managerial experience from 11 to 15 years consider as more important the above basic feature (Mean Rank = 8,50) than those who have managerial experience of over 16 years (Mean Rank = 4.50).

Statistically significant difference in the averages observed for the following basic characteristics with respect to attending seminars in management issues: "to adapt to change" (Z = -2,435, p = 0,015), "to effectively manage themselves" (Z = -2,833, p = 0,005) and "to manage problems" (Z = -2,276, p = 0,02). It was found that the Directors who had been trained considered (Mean Rank = 31,98 for the first, Mean Rank = 33,02 for the second and Mean Rank = 30,50 for the third respectively) as very important the three above basic characteristics compared to those who were not trained (Mean Rank = 23,73 for the first, Mean Rank = 23,05 for the second and Mean Rank = 24,70 for the third respectively).

Statistically significant difference in the averages observed for the main feature "to understand the existing problems" (x2 = 6,035, df = 2, p = 0,04) and the ability "to know how to manage systems" (x2 = 3,841, df = 1, p = 0,04) in relation to the studies of the interviewees beyond the basic degree. It was found that the Directors with a MSc consider to a greater extent (Mean Rank = 13,55) as very important the above basic feature than those who have other studies (Mean Rank = 10,50), another university degree (Mean Rank = 9,25) and PhD (Mean Rank = 6,63). Furthermore, it was found that the Directors / with a MSc consider to a greater extent (Mean Rank = 9,18) as very important this ability than those with a PhD (Mean Rank = 4,75).

Statistically significant difference in average was observed for the key attribute "to motivate the staff" (X2 = 4,053, df = 1, p = 0,04) and the ability to "understand the way in which they learn" (x2 = 4,162, df = 1, p = 0,04) compared to the size of the school. It was found that the Directors who run schools with less than 8 classes felt to a greater extent (Mean Rank = 19,95) as very important the above basic feature than those who run schools with 9-12 classes (Mean Rank = 14.12). Furthermore, it was found that the Directors who run schools with 9-12 classes felt to a greater extent (Mean Rank = 23,10) as very important this ability than those who run schools with more than 13 classes (Mean Rank = 17,63).

Statistically significant difference in averages observed for the basic features "to create vision" (x2 = 9,552, df = 2, p = 0,008), "to cultivate culture of quality and continuous improvement" (x2 = 6,721, df = 2, p = 0.04), "to effectively manage themselves" (x2 = 13,580, df = 2, p = 0,001) and the ability "to understand the interaction and interdependence between systems" (x2 = 13,580, df = 2, p = 0.001) with respect to the type of school. It was found that the Directors who run General Lyceums consider to a greater extent (Mean Rank = 30,00 for the first and Mean Rank = 31,00 for the second) as very important the first two of the above basic characteristics with respect to those who run Junior High Schools (Mean Rank = 28,00 for the first and Mean Rank = 27,00 for the second) and Vocational High Schools (Mean Rank = 20,00 for the first and Mean Rank = 21,00 for the second). Furthermore, it was found that the Directors who run Junior High Schools consider to a greater extent (Mean Rank = 32,00) as very important the third basic characteristic than those who run High Schools (Mean Rank = 26,21) and Vocational High Schools (Mean Rank = 16,85). Furthermore, it was found that the Directors who run Junior High Schools consider to a greater extent (Mean Rank = 30,10) as very important the more ability than those who run High Schools (Mean Rank = 29,25) and Vocational High Schools (Mean Rank = 18,38).

Significant statistical difference in averages observed for the basic characteristic "to know to manage systems" ($x2 = 4,274$, $df = 1$, $p = 0,04$), as Directors who run High Schools consider to a greater extent (Mean Rank = 16.79) as a very important key feature the above, compared to those who run Vocational High Schools (Mean Rank = 11,00).

Conclusions

The purpose of the research is to record and present the views of Directors on the importance of a series of personality traits and skills that they should have to introduce and implement the TQM in their schools. It appears that the Directors consider as very important characteristics of their personality and abilities the ones associated with creating mission and vision for the school, effectively managing both communication and management-related problems in school and promoting creativity. Additionally, they consider as very important that the Director has to be a role model and inspiration to all school members, to act as a mentor of teachers, which motivates them towards the improvement of their professional development, showing sensitivity to social issues and to promote the concept of corporate social responsibility in all school members.

The Directors in order to lead effectively and apply the Total Quality Management (TQM) in their schools, they should have a range of personality traits and abilities. The acquisition of personality traits and abilities can be achieved through training programs, which will include the study of theoretical models and technical knowledge related to TQM, teaching methods for the introduction and implementation of TQM in schools, presentation of the implementation of TQM self-assessment tools in schools and forms of training, case studies and simulation of the leading role in monitoring conditions of application of TQM in schools. The current education officials such as Directors, despite of their professional experiences and specialized knowledge, it is necessary to become familiar with basic principles and practices of educational management and administration and management of human resources and educational systems (Fasoulis, 2001). The quality of education cannot be achieved without an effective administrative mechanism that will help to lay the foundations of quality education delivery assurance.

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