

# PUBLIC MANAGEMENT

## TOTAL QUALITY MANAGEMENT IN SECONDARY EDUCATION IN GREECE. EVALUATION OF THE DEGREE AND THE METHODS OF ITS UTILIZATION

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### Abstract

*The purpose of this research is to examine the utilization of Total Quality Management in secondary schools in Greece. The method followed by this research is the quantitative methodological approach, which is carried out by distributing questionnaires to teachers of this level, followed by the statistical analysis of the collected data. The results of the survey showed that in the context of Total Quality Management practices in secondary schools in Greece, 98% of teachers participate in more than two meetings for educational, pedagogical and administrative issues. When it comes to planning the school year, 55% of respondents reported that schools set clear goals with loose schedules, while 36% reported strict schedules. Also, 90% of teachers stated that goals are clear and realistic, while 73% reported that principals frequently discuss quality practices. Therefore, the research concludes that a majority of the interviewed teachers show a positive attitude towards the application of qualitative methods, indicating that qualitative elements work effectively in a collaborative environment. However, bureaucracy is a major barrier to quality improvement, and educators should be more open to collaborations in the context of total quality management.*

**Keywords:** Total Quality Management, School Management, School Effectiveness, Secondary Education.

### INTRODUCTION

Total Quality Management (TQM) is an innovative management philosophy aimed at enhancing the whole quality and effectiveness of a firm, necessitating the involvement of all

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individuals in all aspects (Derviciotis, 1993). It is a systematic approach that considers every interaction in everything levels of an organization, so it is concerned with overall effectiveness rather than individual achievement. In a school environment, where children are educated, quality and a high level of performance are major goals.

This research article focusses to the examination of the utilization of Total Quality Management in secondary schools in Greece. To achieve this goal, it uses the quantitative methodological approach. In this way, the quality practices that are utilized in Greek schools as well as their effectiveness based on the opinions of the teachers who are members of the school community are going to become transparent. Thus, this research expects to highlight the elements that need improvement, in order for Total Quality Management to be integrated more dynamically in secondary education.

### **THE CONCEPT OF QUALITY MANAGEMENT**

Quality as a concept has its origins since ancient times, while it can refer to different areas of human activities (Psomas, Jaca, 2016). Quality in a business refers to the set of characteristics and elements that determine the satisfaction of customers and stakeholders, as well as the response to their requirements and expectations. Quality is not only limited to the products or services of a company, but also reflects the quality of the company's processes, systems and internal operation, and in recent years due to the digital transformation it is also very much related to the concept of innovation (García-Fernández, Claver-Cortés, Tarí, 2022).

The concept of Quality Management refers to a set of principles, strategies and practices aimed at ensuring the continuous improvement of processes and the quality of products or services of an organization. At its core, quality management focuses on satisfying the customer's needs, as well as establishing and maintaining standards that ensure the overall efficiency of the organization. Total Quality Management (TQM), which is an evolution of the principles of quality management, promotes a holistic approach to management (Ebrahimi, Sadeghi, 2013). It applies to all areas of an organization and incorporates every level of the management hierarchy, from senior management to the workforce. The success of TQM lies in the continuous improvement of processes, the avoidance of mistakes and the active participation of all members of the organization.

A variety of techniques that both actualize and reinforce the corporate notion of quality can be implemented within the framework of Total Quality Management. But as Fotopoulos, Psomas, & Vouzas (2010) point out, in order to become more innovative, practices like process quality management and employee involvement are influenced by quality management and customer focus first, and then by quality improvement tools and techniques (García-Fernández, Claver-Cortés, Tarí, 2022). First and foremost, a key component of attaining high quality standards in a business is the active involvement of staff members in the quality management system. This practice's use helps to improve the company's overall performance as well as its products, procedures, and overall performance. Employees who actively participate in the creation of procedures and goods are especially better positioned to spot flaws or potential improvements. As a result, their input, particularly when it comes to

the production process, might result in the development of more effective and efficient procedures and goods.

Employees' sense of accountability and dedication to reaching these goals are also strengthened when they actively participate in the establishment of quality goals (Batista, Feijo, Silva, 2013). Enhancing the goals' alignment with the actual needs and capabilities of the organization is also beneficial. Their involvement in quality inspections even serves as a catalyst for her to recognize possible issues and act quickly to resolve them. It also promotes accountability and a sense of the value of excellence among all staff members. Employees are, after all, the ones that deal with issues and observe daily operations. Their active involvement may result in the acceptance and execution of suggestions for process and quality improvement.

Employee engagement in the quality management system increases their sense of ownership and accountability for the overall performance and quality of the business (Saffar, Obeidat, 2020). Employees become engaged participants in the process of achieving high quality standards and ongoing development as a result of their participation. Employee initiative is another aspect of quality practices (Psomas et al., 2023), and it is an essential component of Total Quality Management in any business. It stands for the cooperative, trustworthy, and dedicated spirit to the idea of ongoing improvement. There are several advantages for the company as well as the employees when they are allowed and encouraged to take the initiative.

### **QUALITY MANAGEMENT IN SCHOOL UNITS**

The goal of Total Quality Management (TQM), a contemporary approach to education management, is to continuously improve both the general running of the schools and the quality of education that is given (Kaleli et al. 2024). It is predicated on the knowledge that excellence demands the participation of all stakeholders, including educators, parents, students, and administrators, and cannot be left to the purview of management acting alone. Three main pillars are prioritized in the implementation of total quality management in education: ongoing process improvement, community participation (Mustafa, Hidayat, 2024), and a commitment to meeting the needs and expectations of the school's "customers," or students and parents. The major objective is to establish a school that is effective, offers a top-notch education, raises student achievement, and makes everyone happy.

Continuous improvement is one of the fundamental tenets of total quality management. This translates into an effort on the part of school units to continuously review and enhance instructional strategies, student learning procedures, and administrative procedures. Gathering information from every facet of the school's operations, assessing performance, and applying the results to enhance results are all part of putting TQM into practice (Arcaro, 2024). School units can assess their own strengths and weaknesses and take appropriate steps to improve their effectiveness. Participatory leadership is yet another essential TQM component. As leaders, school principals have an obligation to foster cooperation among educators, parents, and students by fostering an atmosphere of open communication and mutual trust (Kilag, Sasan, 2023). The school's overall performance is improved and a stronger commitment to its

objectives is attained when all members of the school community are involved in decision-making and strategy definition.

Furthermore, two crucial TQM processes are evidence-based decision making and data analysis. Measurable data can be used by school units to assess the quality of administration, the progress of their students, and the efficacy of their educational strategies (Kadhim, Ahmad, 2021). School administrators can find areas for growth and modify their approaches to get better outcomes by evaluating this data. Despite being difficult, implementing Total Quality Management in school units can have a number of advantages. Operating under TQM principles makes a school more adaptable, efficient, and more equipped to meet the ever-changing needs of the contemporary world. Parents trust the school to give their children a top-notch education (Qayoom, 2023), teachers work in a more organized and helpful environment, and students have access to additional educational options. All things considered, TQM provides a solid framework for ongoing school improvement that fosters cooperation, creativity, and academic performance.

## **METHODOLOGY**

The aim of this research is to examine the utilization of Total Quality Management in secondary schools in Greece. Specifically, the research questions to be answered are:

- 1) To what extent do the conditions of secondary education institutions in Greece correspond to the indicators that have been set, which indicate elements that guarantee the existence of quality processes?
- 2) To what extent does the implementation/compliance/promotion of the indicators of TQM encounter obstacles in a school unit, present problems, or what prospects "open up" for further applications and improvements?

The research focuses on investigating and analyzing the prevailing situation in 168 secondary education institutions across the Thessaly Region. A sample of 20 public secondary education units was selected from various locations within the Thessaly Region, specifically: Karditsa (1st and 3rd High School, Palama 1st High School, and Sofades High School), Trikala (3rd Middle School, 6th High School, and Agnadero Middle and High School), Larissa (3rd High School, 1st High School of Larissa, 1st Agia, and Abelona 3rd Middle School), Magnesia (2nd Middle and High School of Volos, 3rd Middle School, and 2nd High School of Nea Ionia), and the Sporades islands (Skiathos Middle School and High School, and Skopelos 1st Middle and High School).

The sampling method chosen is a combination of stratified and cluster sampling techniques. Specifically, we first divide the population into strata based on geographical dispersion. According to theory (Cochran, 2007), the strata should be heterogeneous, which is why initially the 4 prefectures of the Thessaly Region were selected, and then within each prefecture, urban and rural school units were chosen. The second criterion pertains to the cluster sampling technique, which is the primary methodological choice for sampling large populations. In education, a cluster is considered the school unit, where a large volume of information exists from both educators and students.

The sample size is 210 individuals, based on Cohen, Manion's (2000) recommendation for the optimal sample size. This translates to approximately 10-15 individuals per school unit, depending on the educational staff serving in each unit. The sample consists of educational staff serving in the aforementioned school units. Educational staff was chosen as the sample source for this research because, according to systemic theory underlying the principles of TQM, educators are simultaneously inputs and outputs of the educational system (Katsaros, 2008).

The method followed by this research is the quantitative methodological approach, which is carried out by distributing questionnaires to teachers of this level. The questionnaires were completed voluntarily and anonymously to ensure the protection of participants in the research. The data collected through the improvised questionnaires were coded and recorded in electronic files. The initial processing was carried out using the SPSS software (version 21) by SPSS Inc. ([www.spss.com](http://www.spss.com)).

Analysis and correlation of qualitative data were conducted using Chi-square tests ( $\chi^2$ ), frequency factor analysis, and correlation of quantitative data (indicators). Additionally, analyses with histograms were performed. Initially, correlations between all questions were explored based on the Pearson correlation coefficient ( $r$ ) / Spearman and its statistical significance. To yield reliable results, each selected variable for factor analysis should correlate with others, and this correlation should be statistically significant (Sig. <0.05). Simultaneously, data were analyzed using Microsoft Excel software from the MS Office 2021 package by Microsoft.

Furthermore, the existence of normality was checked using the Kolmogorov-Smirnov criterion and the one-way ANOVA test. Where normality was not present, non-parametric tests such as the Mann-Whitney and Kruskal-Wallis tests were applied, and an independent samples t-test was conducted. When the sample size was less than 50, the Shapiro-Wilk criterion was used (see Andrew Mayers Introduction to Statistics and SPSS in Psychology, Pearson, p. 49). In cases where the sample sizes in groups were unequal, post-hoc analysis was performed using the Hochberg criterion (see Andrew Mayers Introduction to Statistics and SPSS in Psychology, Pearson, p. 180). Additionally, an examination of the parameter considered as an indicator of the method's reliability was conducted (Cronbach's  $\alpha$  (alpha), or internal consistency coefficient).

## RESULTS

According to the research, the 210 teachers answered questionnaires. Of these, 76 were men and 134 women. 74 teachers serve in high school and 136 in high school. Out of the total only 6 have an age of up to 34 years, i.e. 3%, 63 to 44, 106 to 54 and 35 to 65 years. It is observed that the 67% of school unit teachers are 45 years old or older. Of these, 40 serve in schools in Karditsa, 36 in Trikala, 62 in Larissa, 35 in Magnisia and 37 in the islands of Sporades (Skiathos and Skopelos).

Regarding planning at the beginning of each school year, 55% of respondents stated they have clear objectives with relaxed timelines, while 36% reported clear objectives with strict timelines. The progress of the planning's outcome is monitored only at the end of the year by

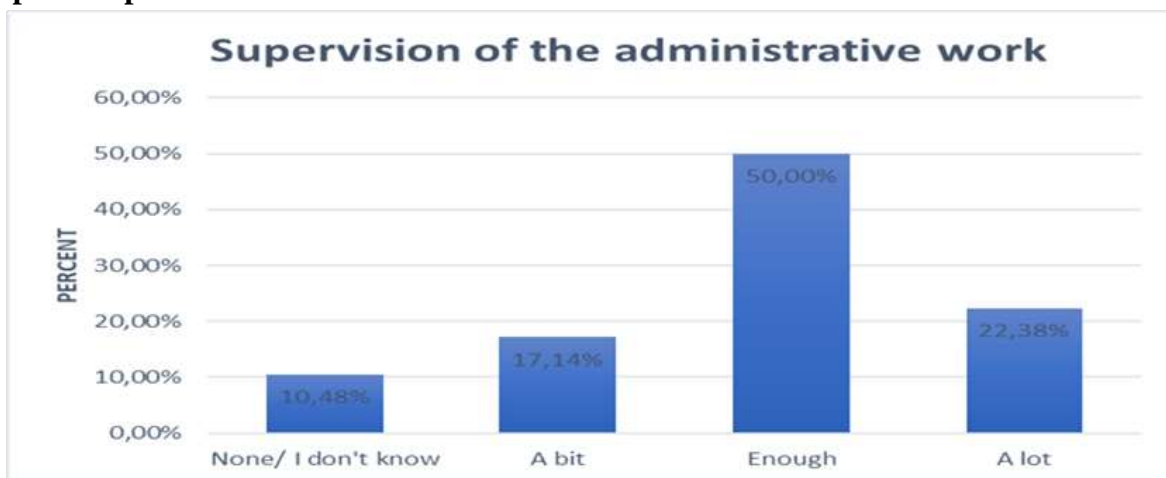
12%, while approximately 60% stated that monitoring occurs at the end of each term, and 30% indicated it happens nearly every month.

**Graph 1. Leadership Objectives**



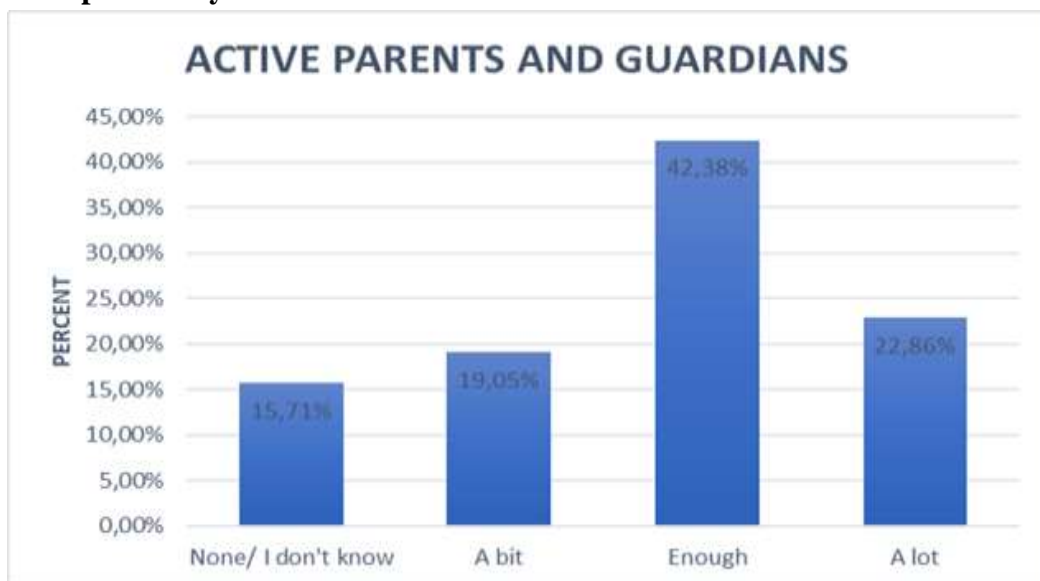
Regarding the quality of objectives, 90% of educators respond that they are clear and realistic, while 73% report that school unit directors frequently discuss quality practices.

**Graph 2. Supervision of Administrative Work of Staff**



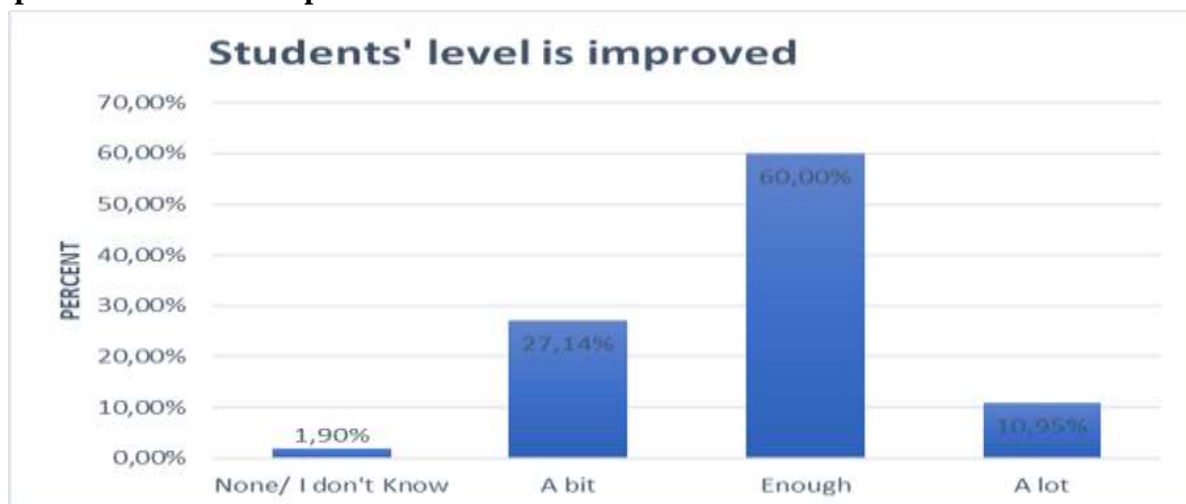
Moreover, 80% claim that the principal is knowledgeable about administrative legislation, with 20% responding with a fairly good score. Regarding whether the principal exercises personalized supervision for each subordinate, 30% of respondents answer negatively, while the rest respond affirmatively. Educators respond in a similar manner regarding the systematic control of their administrative duties.

**Graph 3. Responsibility of the Parents' Association**



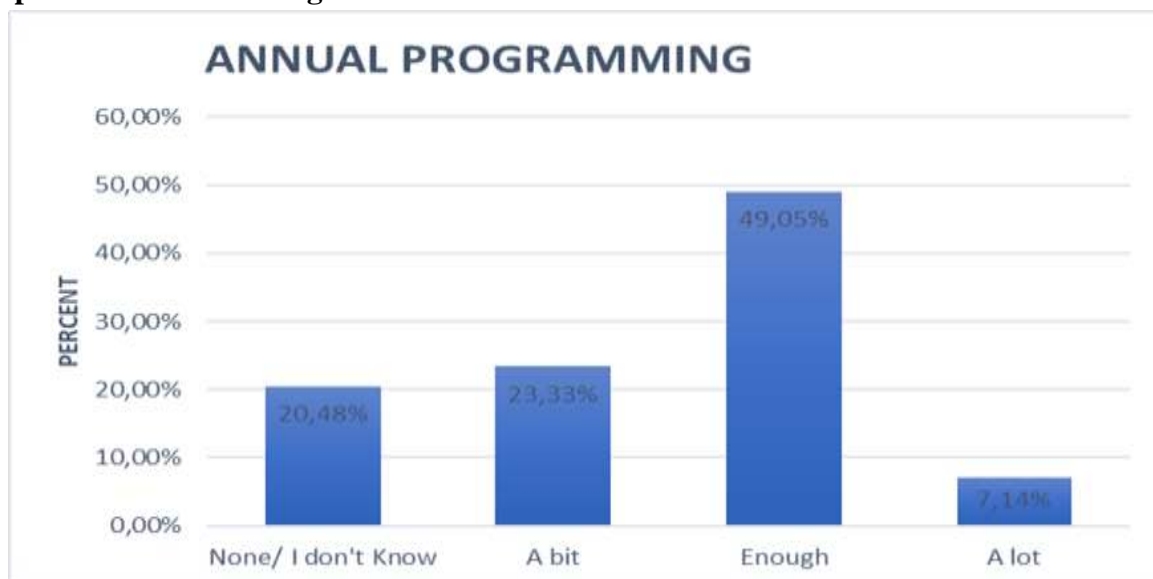
Regarding the active involvement of the Parents' Association in the school, 65% respond positively, while a significant percentage, around 35%, respond negatively. Additionally, for the existence of a complaint form for students, a large percentage, 82%, answer "no." Furthermore, regarding the school's annual events with the assistance of local factors, more than half of the respondents admit that they are almost nonexistent, and the same applies conversely. That is, 60% of respondents answer that neither are the school facilities utilized for activities of the local community.

**Graph 4. Incremental Improvement of Students**



Furthermore, the progress of students throughout the school year improves significantly for 60% of the educators, greatly for 10%, while unfortunately not at all for 30%.

**Graph 5. Annual Planning**



In the area of annual planning for the school unit, the following observations were made: Firstly, a percentage of 56% indicates that the same planning is followed each year, with the same objectives in mind. Finally, the vast majority of educators, 80%, respond that the school's annual planning is faithfully implemented, although the 20% who claim the opposite should not be overlooked.

**Graph 6. School Climate**

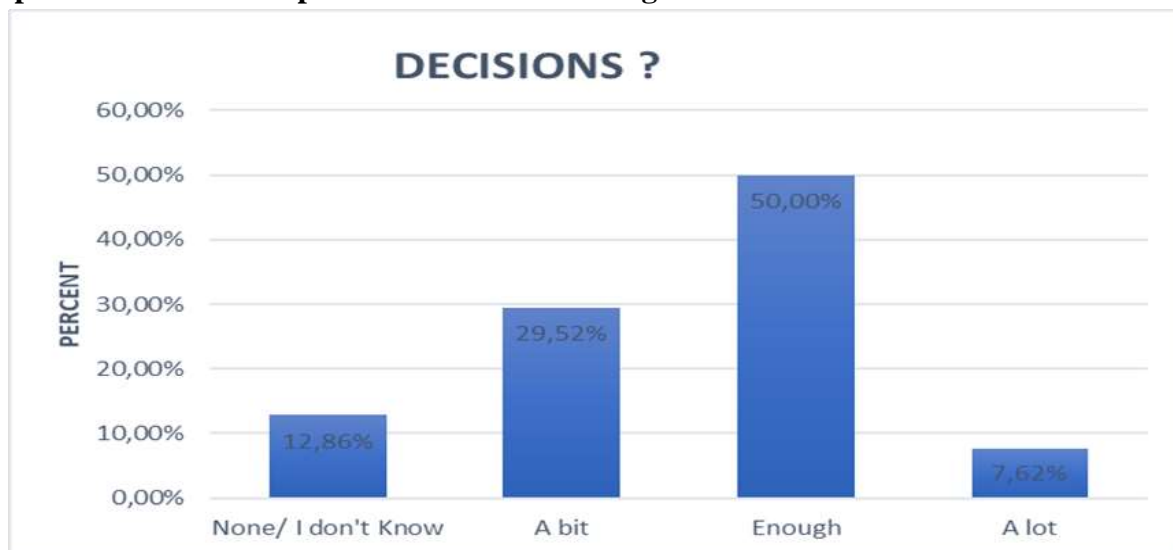


Nevertheless, in a percentage of 47%, teachers respond that in their schools more than two extracurricular programs are implemented, but 65% of them respond that they do not participate in multi-day excursions. Regarding the climate prevailing among colleagues in a school unit, it is observed that 66% participating in the survey respond that no extracurricular activities are organized for the association (for example, gatherings), while those meetings, councils, and associations held every year are merely administrative, responds 72%. However,



the same percentage responds that teachers are characterized by intellectual harmony, but the remaining 30% which supports the opposite is not small.

**Graph 7. Student Participation in Decision Making**



Regarding the cooperation and resources index, the findings revealed the following: 60% of respondents indicate that there are insufficient resources and that the financial allocations from the school committee do not meet the needs of the school units. The table below presents descriptive measures of the distribution of factors.

**Table 1. Descriptive measures of distribution of the 6 factors**

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
Sum_h Leadership score	210	41,00	41,00	82,00	63,4524	8,18507	66,995
Sum_ps Score politics and strategy	210	44,00	26,00	70,00	52,7714	7,59597	57,699
Sum_ad Human resource score	210	53,00	19,00	72,00	50,2714	7,91206	62,601
Sum_sp Score parthnerships and resources	210	19,00	7,00	26,00	16,3190	3,68082	13,548
Sum_d Score process	210	32,00	12,00	44,00	31,2286	4,51633	20,397

The correlations between factors are presented in the table below.

**Table 2. Correlations between factors**

Factors	Kolmogorov-Smirnov results
Leadership	D (210) =1.077, p=0.19
Policy and strategy	D (210) =1.111, p=0.169
Human resource's	D (210) =0.694, p=0.721
Partnerships and resources	D (210) =1.076, p=0.197
Procedures	D (210) =1.295, p=0.070

## CONCLUSIONS

First, for all indicators in general, on average, respondents answered positively, which is interpreted as a positive attitude towards application or power quality methods. There is also a correlation between all the factors, which means that the more qualitatively one factor works, the more qualitatively the others also work effectively. Nevertheless, it is found that the positive response and those from instinct (intuition) or qualitative actions alone do not they can guarantee an entirely qualitative result and a modern one effective school. This conclusion confirms many of the recorded in the literature, as it is first demonstrated that education has all the weaknesses of public administration, such as polynomialism, centralization, bureaucracy (Lainas, 2004) and according to findings of previous researches, the overmeasure is largely responsible for them bureaucracy.

Similar conclusions also emerge from previous researches that show that a large part of teachers follow anachronistic methods, since they do not incentives are provided to them for training. In contrast, years of service in the same school unit seem to have no effect in responses, which demonstrates that teachers are adapting quickly in a new professional environment. In general, however, according to the findings of this research, managers are capable executives and possess some leadership and management skills, however present some weaknesses in terms of compliance with certain administrative regulations procedures and educational programming, while failing to adequately control the educational process and its results, as well as pedagogy work of their subordinates.

## BIBLIOGRAPHY

- Arcaro, J. (2024) *Quality in education: An implementation handbook*, Taylor & Francis.
- Batista, M., Feijo, A., Silva, F. (2013) *Quality management and employees' attitudes: an example from certified enterprises*, *Management Research, The Journal of the Iberoamerican Academy of Management*, 11(3), 260-279.
- Cochran, P. (2007) *The evolution of corporate social responsibility*, *Business horizons*, 50(6), 449-454.
- Dervitsiotis, K. (1993) *Total Quality Management*, Stamouli Publications, Athens.

- Ebrahimi, M., Sadeghi, M. (2013) Quality management and performance: An annotated review, *International Journal of Production Research*, 51(18), 5625-5643.
- Fotopoulos, C., Psomas, E., Vouzas, F. (2010) Investigating total quality management practice's inter-relationships in ISO 9001: 2000 certified organizations, *Total Quality Management*, 21(5), 503-515.
- García-Fernández, M., Claver-Cortés, E., Tarí, J. (2022) Relationships between quality management, innovation and performance: A literature systematic review, *European Research on Management and Business Economics*, 28(1), 100-172.
- Kadhim, S. A., Ahmad, M. (2021) The role of TQM in education: an empirical investigation of preparatory schools of Iraq, *International Journal of Services and Operations Management*, 39(1), 26-36.
- Kaleli, Z., Konteos, G., Avlogiaris, G., Kilintzis, P. (2024) Total Quality Management as Competitive Advantage for the Internal Strategy and Policy of Greek Special Education School Units, *Journal of the Knowledge Economy*, 1-20.
- Katsaros, I. (2008) *Organization and administration of education*, Athens, Pedagogical Institute.
- Kilag, O., Sasan, J. (2023) Unpacking the role of instructional leadership in teacher professional development, *Advanced Qualitative Research*, 1(1), 63-73.
- Lainas, A. (2004) The work of the Director of the school unit and his contribution to the effectiveness of the school, *Scientific Yearbook of the Pedagogical Department D.E. of the University of Ioannina*, 17, 153-179.
- Mustafa, M., Hidayat, R. (2024) Classroom management in improving the quality of learning in the education units, *Journal of Higher Education Theory and Practice*, 24(5), 56-69.
- Psomas, E., Jaca, C. (2016) The impact of total quality management on service company performance: evidence from Spain, *International Journal of Quality & Reliability Management*, 33(3), 380-398.
- Psomas, E., Keramida, E., Bouranta, N., Kafetzopoulos, D. (2023) The adoption of Lean in the Greek public sector. An employee perspective, *International Journal of Lean Six Sigma*, 14(7), 1518-1543.
- Qayoom, A. (2023) Effectiveness of Parent Teacher School Management Committee on Quality of Education in Public Secondary School of Tehsil Hub, District Lasbela, *Voyage Journal of Educational Studies*, 3(4), 227-236.
- Saffar, N., Obeidat, A. (2020) The effect of total quality management practices on employee performance: The moderating role of knowledge sharing, *Management Science Letters*, 10(1), 77-90.