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ANALYSIS OF THE INSTRUMENTS AND TECHNIQUES USED FOR TOTAL QUALITY MANAGEMENT. APPLICABILITY AND IMPLICATIONS IN THE EDUCATIONAL SYSTEM.

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The concept of quality in education

Applying the concept of total quality management in the educational system is completely normal because, exactly as in other social and economic domains, this sector tries to identify the most efficient methods in order to successfully get along with the continuous changes. Moreover, people who work in the educational system use the concept of total quality management to predict the possible problems that can occur in the future and to develop solutions for them. When we try to answer the concept of quality we have to answer two fundamental questions. The first one is: Which is the product? The second one is: Who are the clients? Both questions can be applied in the case of education.

Giving a definition for education is not easy at all. There are many possible assertions or answers regarding this subject but none of them can be considered as the definition of education. In many cases people tend to think that the students or pupils reflect the "quality" of the educational institution where they study. This statement is wrong. The quality in education, treated as "added value", has to happen at any level and it has to be underlined

that it represents the basis of a national quality management.

The quality of education is mostly conditioned by the quality of the human resources, namely by the professional quality of the teachers. The minimum requirements to ensure the quality of teachers exist. The role of motivating and encouraging the maintenance of this professional quality, as well as its intelligent and efficient usage, is reflected in the institutional framework.

There are many personal qualities which a professor should have. His professional role supposes to accomplish several interconnected roles: he is an expert in the teaching-learning act, a motivating agent, a leader in relation with the group of pupils-students, a counsellor, a role model, a reflexive professional, a manager. [7]

1. Total quality management. Theory and principles.

Starting with these premises, it can be said that TQM is not something imposed. This concept does only determine the things to be correctly done from the very beginning. It can be also used to check if during their

implementation the process was undergone correctly or in a wrong direction. Education and professional development should be a priority of the policies of programs in each country. These should be strongly connected with the policies of qualitative formation and with the completion of employment. [2]

Objective	Continuous Improvement		
Principles	Customer Focus	Process Improvement	Total Involvement
	Leadership		
Elements	Education and Training	Supportive structure	
	Communications	Rewards and recognition	

Fig. 1 The TQM system and its components

In order to identify and creatively solve the problems that appear in education there must be used some techniques and quality instruments. TQM allows the common use of a large variety of instruments and techniques, which support the implementation of its basic concepts. The idea behind these instruments and techniques can also be used in the service industry but also in education. Nowadays, on the educational market, it is often asked the question: Which are the factors that influence the fact that an institution is different from another? The curriculum is basically the same. It is about the added value that gives authenticity features to an institution.

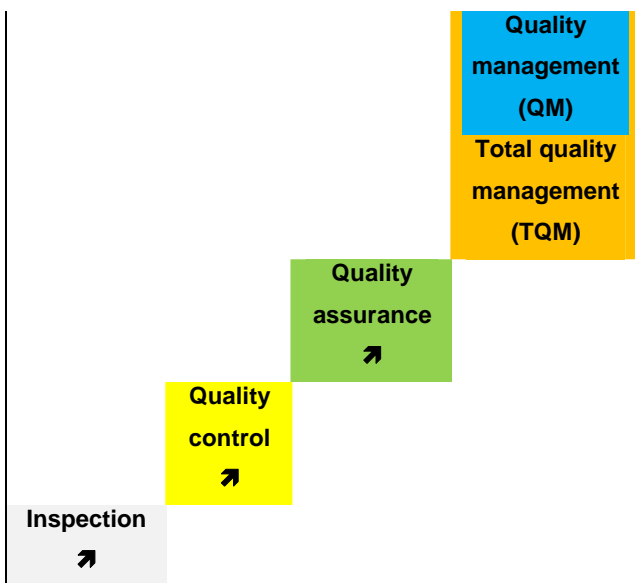


Fig. 2 The hierarchy of quality

To search for this added value is not an easy thing. It demands a close attention, a detailed market research and analysis. This can be done using instruments developed on a basis of principles.

Brainstorming represents an ideal TQM instrument. It is an intuitive and efficient method, which has as goal the common generation of ideas, within a group. The number of ideas has to be as numerous as possible in order to find the best solution to a problem. This solution can be a combination of two or more generated ideas. This technique is easy to use, it appeals to the creativity of the team and it gives the members the possibility to create a multitude of ideas in an original and quick way.

Benchmarking is a systematic process which includes the fact that an organization has certain information about another organization and uses them in order to identify solutions for its own development. In education benchmarking can be used as a method of professional improvement of the teaching-staff. Teachers, as well as the administrative staff, can simply visit other institutions to see how they run the institution and to discover the best practices, which match with their target, and then try to develop them.

The Ishikawa diagram is a technique that has also been named „cause and effect” or „fish bone”. This technique gives the team the possibility to make graphic representations of all factors that affect the problem or the desired effect. The representation can be very well done using a brainstorming session. The goal is to make a list of all factors that affect the quality of a process and then to represent the relationship between them.

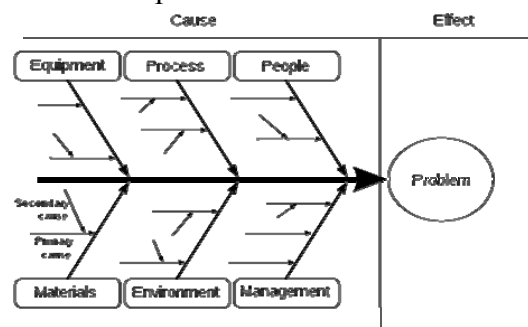


Fig. 3 Ishikawa diagram



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Force field analysis is a useful tool to study the situations that require changes. It is based on the idea that exist 2 forces that influence the change, one is causing the change the other one is against it.

The process diagram is providing information about the environment where the process take place and about the control measures.

The logic scheme helps to identify the process steps and record the progress, decision taken and required activities. The logic scheme is part of continuous improvement process and they are a simple method to treat an issue with criticism.

Pareto analysis known as 80/20 rules it is important. If 80% of the problems can be identified they can be solved through a quality improved process. In principle, the Pareto graph pays attention to most urgent issues that a team or an organization can have.

The career evolution map also called the graphic representation of career of a student provides information about milestones and potential roadblocks within high school or universities years. Every turning point can be a potential issue generated by the different perceptions and can conclude to errors, misunderstandings even failures.

2. Applying TQM into teaching and learning process

Totals Quality Management – TQM concept was introduced in 1940 by Dr. Edwards Deming. The customized elements of Total Quality Management are: „continuous improvement” and “applying to all organization”, and all processes involved strengthen the feedback loop. Applying TQM principle of continuous improvement of teaching quality requires a good understanding. Schauerman and Peachy [3]

and Heverly [1] detailed some possible roadblocks of implementing TQM while teaching:

- capability of educational institution to treat the student as client / beneficiary;
- different approaches of educational institution covering the same disciplinary and teaching expertise;
- different TQM approaches within educational institutions and recognition systems;
- costs of forming as specialist into TQM applicability

Acknowledge the importance of TQM concept into improving the quality within educational institute, thru this study I wanted to identify which are the key characteristics to achieve the objectives. We assumed that the implementation of certain aspects of the TQM techniques into educational process will generate not only resource savings but and greater satisfaction and achievement of the student learning. This study has the following objectives:

1. Understand / gets familiar with particularities of school organizational culture and education especially those linked with total quality management.

2. Study the implementation techniques of TQM principles into educational institutions during teaching and learning processes

3. Analyze the institutional profile based on teacher's perception regarding quality indicators that influence the quality of education.

4. Identify the negative factors influencing quality factors and identify the strategies/solutions that ensure process quality in schools

Research methods, techniques and instruments:

1) Needs analysis (affinities diagram, matrix diagram, tree diagram) ;

- 2) Educational policy documents study (this investigation method including:
 - a) Reference studies in education
 - b) Documents and policies related to high school stage in Romania, various reports
 - c) Specific legislation analysis e.g.
 - Intermediary report of task force: Improvement in teacher and trainers training. Implementation of learning curriculum. Educational and professional training [8],
 - Report of education state of art [9].
- 3) Interview
- 4) Comparative study (schools, high schools, etc.);
- 5) Statistic methods

Needs analysis is a relevant instrument in educational management, related level of educational process and as well related school institution and educational system.

In the frame of needs, it was applied the model of setting the objectives following the needs in education study. This model refers to the fact that general goals are initiated at macro-social level and these ones are applied then in each educational step or profile, school institution, area of expertise, adjusted based on needs and possibilities, taking into account range of needs and related group interests. It was concluded that educational need and as well global options related volume and resources distribution way at micro-social level are not equally distributed and within the same respect, in educational units, due to the fact needs are not the same no matter where or when assessed.

Starting from theory and using practical research methods, different organizational structures were analyzed (school control forums, schools, high schools, etc.) to reveal the role of social players involved in educational process, as well as the quality in quality education management. The conclusion is that the main factors influencing quality of educational process are:

- A. too many changes within too short timeframe – in a very big extent
- B. schools directors are not elected based on pedagogical and management skills, but considering

political criteria – in a very big extent

- C. too aggressive competition for high scores between students – equally
- D. school directors and inspectors not so interested in co-operation and having the common goals related ensuring the quality in schools – in a small extent
- E. evaluation not carried out considering the performance standards known by students – in a small extent
- F. not a direct connection between success in school and success in – in a big extent

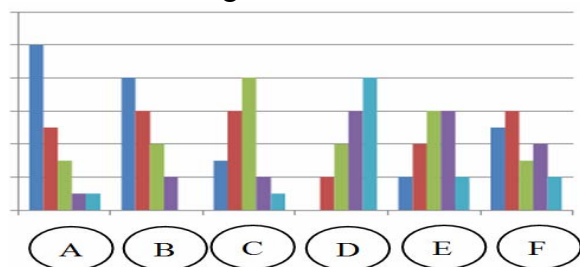


Fig. 4 Factors influencing quality of educational process

Based on analysis, it comes that the instrument most often used for qualitative determination is inspection and evaluation sheet related level of the group, which reflects the quality of teaching process. Internal audit is the most often used instrument for quality evaluation at institutional level.

3. Conclusions

This study summarizes the theoretical base of TQM concept and tools. Implementation of quality models inspired by TQM, that have an obvious transformational tendency, as result of a process of reflection and personal and institutional learning will be very difficult and will generate distrust and uncertainty.

Diversity extreme and contradictory nature of the concept of quality represents the last but not the least important characteristic of quality culture identified.



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The contradictory nature of the concept it is highlighted by some different point of view of teachers on one side and students and their parents on the other side. We can observe already to students and their parents a more tangible trend : they demand that in school the students to get a more practical education, with better applicability into the latter professional and social life while teachers insist on skills and general competencies development (learning, guidance in society, etc.).

In the traditional learning system, many students do not succeed to learn and more importantly they fail to access on to the highest level offered by the system. As an alternative thru TQM the student is planning, learning, checking, revising than testing.

1) Plan → 2) Learn (Do) → 3) Check
→ 4) Revision → 5) Test

Ensuring the optimum resources and needs ratio represent one of the most important problem of education quality within current educational system. How to build an internal guidance system to make sure that the educational institute is accomplish its functions in an efficient way?

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