

## **QUALITY MANAGEMENT OF EDUCATION – FROM PROCESS TO PRODUCT**

**Remus Chină**

**Assist. Prof., PhD, "Dimitrie Cantemir" University, Bucharest**

*Abstract: The last two decades are characterized by the need to increase the quality of education provided by the school today. Technological development unprecedented, exponential multiplication of information flows in the world today - of their density and access more easily the any type of information, for any individual, regardless of educational level, generates categorically multiple challenges on educational systems and, directly to the school, leading to the necessity of obtaining a quality education - compatible with these challenges. In this paper we treat the education from the perspective of quality management, believing that the product is exactly the education provided in schools. From this perspective, we will show that the applying a quality management processes that are central to delivering educational products provided in direct interactions teacher - pupil / student, education quality can be improved.*

*Keywords:* management, quality, system, process, education.

### **1. INTRODUCTION**

Global approaches on education increasingly emphasizes the need to implement at the level of *the educational system, the educational process or educational entity* of instruments and methods of quality management (*Quality Management - QM*). However, the application of specific elements of quality management in the educational process, not performed similarly with those in the *economic, industrial or business* are considerable differences regarding implementation process of those elements! Due to an *enormous resistance* to change - we appreciate - and / or due to a *considerable diversity* of education systems (at European continent), the adoption of specific elements of quality management, was done with all sorts of gaps and confusions that

have hampered the process itself, results insignificant or less relevant... Thus, major confusion has appeared on understanding / clarification of concepts / phrases, such as:

- *Quality of education compared to quality in education;*
- *Quality assurance in education / quality assurance of education compared to quality management in education / quality management of education;*
- *Education - service<sup>1</sup> or product?*

At those listed above were added "*local definition*" stipulated by the normative act, without being based on two fundamental elements: *consensus* and *validation enshrined in the quality management*.

For these reasons, I have appreciated as *necessary* and *useful* for the reader of this paper, the definition of fundamental concepts enshrined in specialty literature, defined by consensus and validated worldwide because using "distorted" them or reinvented in a manner alleged original led to the creation of "*conceptual barriers*" redoubtable<sup>2</sup>, which are proving to be more difficult to overcome.

We use, for example, *definitions established by the ISO family of standards* or *referential* and globally accepted and validated. Starting from these definitions and considering in terms of quality management that "education" is a product then the question arises: *can we get quality education from succeeding process management before realizing this product? How, when, who, what, where?*

## 2. (SOME) BASIC CONCEPTS

### a. *Product:*

i. „*Result of a process*” (ISO 9000:2006, 3.4.1); ii. „*A good, idea, method, information, object or service created as a result of a process and serves a need or satisfies a want. It has a combination of tangible and intangible attributes (benefits, features, functions, uses) that a seller offers a buyer for purchase. For example a seller of a toothbrush not only offers the physical product but also the idea that the consumer will be improving the health of their teeth*” (businessdictionary.com) [2];

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<sup>1</sup> NA: However, in the literature it is considered that the service is also a product

<sup>2</sup> NA: We mean that enough seriously, that these terms "consecrated" through a normative act, have been used, including doctoral theses stated as "oases" of research in the field of quality assurance in education / of education

**b. Service** – „A valuable action, deed, or effort performed to satisfy a need or to fulfill a demand” (businessdictionary.com) [2].

**c. Process:**

i. „Set of interrelated or interacting activities which transforms inputs into outputs” (ISO 9000:2006, 3.2.3);

**d. Quality management system (QMS):** „Management system to direct and control an organization with regard to quality (ISO 2000:2006, 3.2.3);

**e. Quality assurance (QA):** „Part of quality focused on providing confidence that quality requirements will be fulfilled” (SR EN ISO 9000:2006, 3.2.11). „QA means all those planned and systematic activities necessary for to provide confidence that requirements relating to quality are fulfilled.”<sup>3</sup>

### 3. THE EDUCATIONAL PRODUCT AND ITS REFERENCES

References to the concept of "educational product" leads to at least three different relevant approaches of it in the literature:

**a. Guide ISO IWA 2: 2009, Chapter 3, paragraph 3.4[9]:** „The educational product - product that relates to education". This definition leads to a wide range of material and immaterial products. This includes products with educational purpose such as: *logic games, articles, videos, guides, manuals, equipment used in experiments*, etc, all referred in current practices as "educational products"! However, we appreciate that they are rather the auxiliary means (curricular) for use in the process of delivery of the educational product! The definition offered by the ISO IWA 2:2009 guide, although general, leads us to the idea that, "*products relating to education*" will form what is called, the current "education." Or, more clearly, the education delivered by an organization working in this field, will be *a resultant of educational products obtained from specific processes inside the organization!*

**b. A further significant approach to the concept "educational product" is found in the writings of a American expert in quality management, Myron Tribus<sup>4</sup> (1992, p.1) [19]:** 1. *The school is not a factory.* 2. *The students are not the product.* 3. *Their education is the product.* 4. *The customers for the product are several: a) The students themselves; b) Their*

<sup>3</sup> NA: AC can mean all corrective and preventive actions systemically and systematically developed by the organization to keep the organization "path" to achieve the strategic goals set on them - has proposed.

<sup>4</sup> Tribus, M.(1992). Quality management in Education. Exergy, Inc. Hayward, CA, p1

parents; c) Their future employers; d) Society at large. 5. Students need to be "co-managers" of their own education. 6. There are no opportunities for recalls.

**c. Particular attention attaches to the concept of "educational product" (though without clarification effective!) Edward Sallis in his book "TQM in education"<sup>5</sup> (p.19) [14]:** „Terms like ‘the supply of graduates’ make education sound like a production line with students emerging from the end of it. The problem with this definition is that it is difficult to square it with much educational practice. For a product to be the subject of a quality assurance process the producer needs firstly to specify and control the source of supply. Secondly, the ‘raw material’ must pass through a standard process or set of processes, and the output must meet predetermined and defined specifications. The idea of the learner as the product misses the complexities of the learning process and the uniqueness of each individual learner. **What then is the product?**”

It outlines two aspects: a) **education is a product** (ISO IWA 2 and M. Tribus); b) **education is a service**<sup>6</sup> (E. Sallis).

According to the definition of "product" mentioned at the beginning of this paper, the concept of "service" is included in *the product*. Therefore, education can be considered **a product!**

#### **4. THE EDUCATIONAL PRODUCTS MADE BY AN EDUCATIONAL ENTITY (SCHOOL / FACULTY / UNIVERSITY)**

We appreciate that education provided by the school organization will be a sum of educational products with two major components: *educational products* made by teachers and *educational service* offered by the school.

##### **4.1 THE EDUCATIONAL PRODUCT PROVIDED BY TEACHER (EPT)**

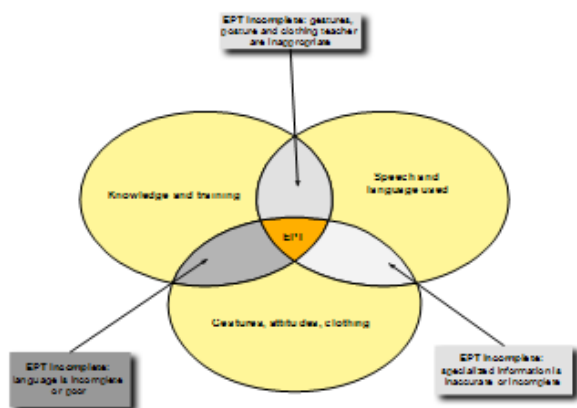
In our view, the educational product achieved by the teacher/ professor may consist of: **a) Knowledge and skills** (which allow him to achieve a certain level of pupils’ or students’ understanding of the taught lesson/ course); **b) Communication skills**; **c) Nonverbal messages** (conceived and sent voluntarily or involuntarily) by: *clothing appearance, gestures,*

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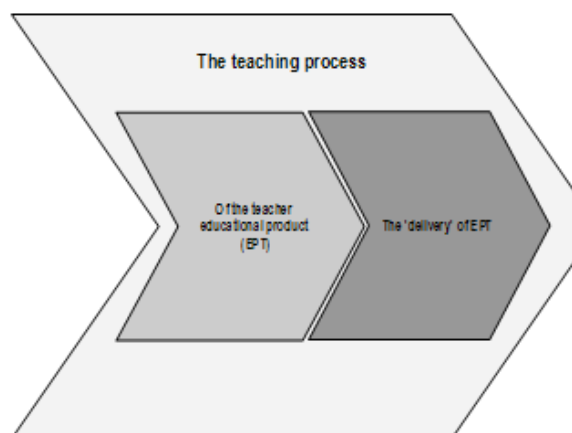
<sup>5</sup> Sallis, E. (2002, third edition). TQM in Education. Kogan Page Ltd, London, UK

<sup>6</sup> NA: From the perspective of the definitions laid down by ISO 9000: 2005, the service is everything a product therefore educational service in the sense of E. Sallis, is also a product (educational)

*attitudes, language etc.* A representation of this "mix" on a Venn diagram, will lead us to the image in Figure 1.



**Figure 1:** Educational product developed by a professor (EPT) - the result of interference in its construction three key issues: 1. knowledge and training; 2. language used; 3. non-verbal language (gestures, attitudes, fashion aspect). Source: author



**Figure 2:** *Process of teaching* consists of teacher's educational product and its delivery process. Source: author

It is noted that PET is an interference between the three aspects. As the interference increase (by overlapping circles), PET is "complete" and the teacher will provide students (customers) a quality educational product *fit for use*<sup>7</sup>!

Let's look at the foundations of a school: *classroom (lesson)*. We distinguish *two essential processes: developing educational product of the teacher* (which he prepares before interaction with the class / group of pupils / students) and *the delivery* thereof ("transport vehicle" of the educational product to student's mind and soul!)

The pupils/ students - considered as „customers” of the teacher/ professor - receive and "consume" the educational product *directly and immediately*, while interacting with its provider, usually without having the possibility of "testing" it. The set of resulted interactions between student and teacher/ professor are generating the product of the school. („*The education*” provided by the school). Possible corrections and corrective actions as well as preventive actions (in a QA approach) are usually very beneficial for the next "customers" who will thus receive an improved product.

<sup>7</sup> NA: From the definition of quality "*fit for use*" (JM Juran)

It is to be noted that these "customers" may be represented by: ***the following process<sup>8</sup> within a school – i.e. the next class, discipline or study year - or by the following school.***

The specialists say the teacher-student interaction is an ongoing act of creation<sup>9</sup>! Therefore, it is not sufficient professional training for exception to the professor, she has completed with the delivery process (its own service educational) which needs to be constantly creative, extremely useful and effective so what the student receives during the interaction can be used later...

If we will place *the customer* in the center of this approach (first principle of quality management is "customer orientation"), we may ascertain that during a school day, the „customer” pupil/ student will interact successively with many "process owners" (i.e. teachers/ professors) each of them delivering his/ her own educational products! The process of direct interaction "teacher - student" called "*lesson / classroom*" includes mostly teaching process made according to Scheme shown in Figure 2 two components: *educational product of the teacher and the delivery process.*

*To remember: The two essential elements: the teacher's educational product (EPT) and delivery process are not separate! They are delivered simultaneously to consumers (pupils / students).*

### **DELIVERY PROCESS OF THE EDUCATIONAL PRODUCT (EPT) MADE A PROFESSOR**

We appreciate that in "sphere" of the delivery process enters usually how the teacher presents the PEP. "*Packaging of*" it is essential in the delivery process and the teacher must be careful with this. There is a very well-established theory in regard to the concept of delivery of a service<sup>10</sup> / product. *How delivers EPT teacher? At what level? What tools? What materials used for delivery* - appliances, books, pictures, films, experiments, lectures, methods, techniques, etc.).

However, it is not enough to have an educational product "good"<sup>11</sup> of the teacher. Because the two processes are extremely important to complete the whole "chain" of fundamental educational process: ***the learning process and evaluation.***

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<sup>8</sup> NA : From "the next process is the customer" (Masaaki Imai - Gemba Kaizen)

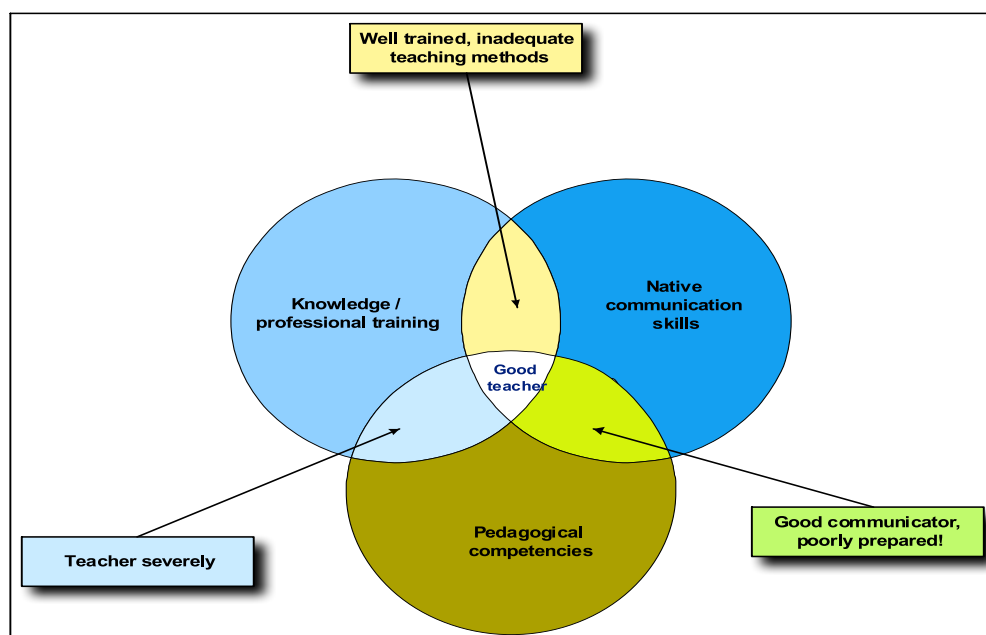
<sup>9</sup> NA: View Ken Robinson's book - Out of Our Minds: Learning to Be Creative., Capstone, 2001 (translating into lb. Romanian Post Publishing, 2011)

<sup>10</sup> NA: See SERVQUAL model - Berry, Zeithaml and Parasuraman (1990) - Five Imperatives for Improving Service Quality. Sloan Management Review, pp. 29-38

<sup>11</sup> NA: To be read *adequate!*

The first process "belongs" to the pupil / student and is directly related to teaching. On the other hand, the community and the family in which the pupil / student develops exercise a strong influence on the learning process!<sup>12</sup> The second process belongs teacher (part) and the educational system (mostly)!

In this context, the profile of a good teacher is very important! A graphical representation of the current skills and competencies of educator should lead to "construction" shown in Figure 3 and outline what should we call a "good teacher"?



**Figure 3:** The teacher is good at the junction of three key areas in personality. Source: author

## 4.2 FROM EDUCATIONAL PRODUCTS MADE BY TEACHERS AT SCHOOL EDUCATIONAL PRODUCTS

If we extrapolate this "construction" to all teachers (educators) within a school, we get a resultant of their educational products - the most important component of the school's

<sup>12</sup> NA: An important alternative to resolve this situation is the school campus / university that can stimulate and coordinate the learning process

educational product! The second component will be the educational services offered by the school for pupils / students, parents, stakeholders!

The educational products made of any school should contain, in our opinion:

- **Study programs** - based on national curriculum, local, etc. - provided by the school. In practice, according to Romanian legislation, these are programs of study for which the school is accredited, on different levels and / or specialization / qualifications.

- **Extracurricular activities** - activities complementary study programs (accredited). Are activities outside of regular courses and is designed to supplement, deepen or broaden the specific activities carried out under the fundamental processes of the organization;

- **Training programs** (other than those based on national curriculum). For example, by diversifying educational products by offering training to adults from the community;

- ***The result of educational products made by teachers in school*** - is "the result of convergent" of all educational products developed by each teacher during the process "classic" teaching - learning - evaluation of school, but at the same time with each pupil / student in part. This "appearance" of PES is, in our opinion, the most important part of the educational product of the school, having clearly and greatest influence on educational products of that organization, because the three "parts" components of school cannot be achieved without teachers! This is confirmed by recent research<sup>13</sup> which revealed fully the crucial importance of quality teaching staff regarding the quality of education;

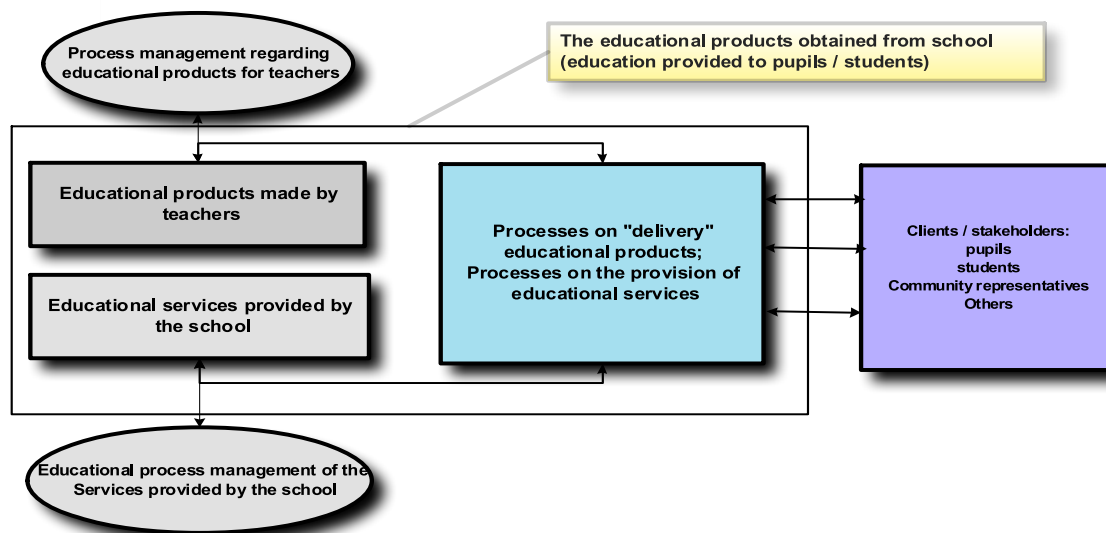
- ***Educational services<sup>14</sup> provided by the school.*** The educational products made by School will be provided to pupils / students through the educational services offered by the organization. That are part of educational services? All specific processes, we say, by which the client has access to the products made by school: classes (lessons) maintaining and improving the spaces dedicated courses to the standards in the field, personnel policies, security of clients, communications and affirmation their school space and beyond.

The composition the educational product developed by school and "delivery" of its customers (pupils / students) can be imagined as the diagram of Figure 4.

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<sup>13</sup> Pearson Report 2012 [www.pearson.com/uk](http://www.pearson.com/uk). The report revealed the following vital in school life: The teaching staff is essential in the construction of that school educational products

<sup>14</sup> ISO 9004-2) - the service: "The result generated by activities at the interface supplier / customer and the supplier internal activities to meet customer requirements."



**Figure 4:** The composition school educational products according to the author. Naturally, students will participate in the construction of these products through the processes of interaction with teachers. Source: author

*The outputs of the processes of interaction "school - pupils" will be embodied their **key competences** validated by final examinations / certification. We must not forget a single moment that the educational product of any school organization has a very specific: to achieve it are co-participants in a considerable extent, even "consumers" / clients / beneficiaries / stakeholders. This happens throughout the processes of interaction student - teacher, teacher - class school - student, school - parents, etc.*

## 5. FROM MANAGEMENT PROCESSES THAT UNDERLIE SCHOOL'S EDUCATIONAL PRODUCT AT QUALITY OF EDUCATION PROVIDED BY THIS

Considering the foregoing, we conclude that the education provided by a school is the result of converging the two main types of processes:

**a. The processes leading to educational products made by teachers and school organization;**

**b. The processes that lead to educational service of the school and its delivery;**

Starting from the *definition of quality* given by J.M. Juran [15], through the quality of education we understand both the quality of educational products made by teachers and the quality of educational services provided by the school. From the current reality we find that it is not enough in a school to have only one teacher "very good". It is necessary to have a certain

number of teachers to form a stable *critical mass*, so that they can build *little by little* (*step by step*) characteristic educational product for their organization.

*Critical mass* - those teachers will contribute with their own educational product - to "construction" mentioned! In this situation it is absolutely necessary to implement a management of educational processes!

### **Where we should act with specific methods of quality management?**

**Simple:** to improve processes which lead to the educational product components (PES) of the school. I said earlier that recent research conducted by specialists' shows that the essential part in the development of educational products 'quality' represents primarily the quality of teachers in the organization. It's the Pearson Report 2012 [4] it is revealed this important issue. The report highlights the strong connection between special status given to teachers and quality of education in system

How to improve the quality of education provided by any school organization? Through *continuous improvement of management processes that are central to delivering PES*. For example, the fundamental process management (school): "*Teaching - Learning - Evaluation*" can be improved including TQM (Total Quality Management) techniques: Method JIT (*Just In Time*) (Kaizen). The (education) is delivered to the place and at the right time. What this means in reminded process?

***The time for the lesson is used with maximum efficiency without loss or delay.***

This involves, including begin and end the lesson at times allocated to it! *No sooner and no later!* Another aspect - "*stocks undelivered*" to the client (part of the course were not covered or superficially viewed) **are zero!** It all depends on the management team of the organization. The its ability to implement a quality management system to efficiently and effectively manage processes in the organization, especially those related to achieving educational product.

How can a teacher to improve their own educational product based on TQM philosophy, for example? By successive application of known quality virtuous cycle PDCA / PDSA<sup>15</sup> [5] combined with another SDCA<sup>16</sup> virtuous cycle [6]. Thus he will act on the components that make up its own "educational product".

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<sup>15</sup> PDCA / PDCA cycle: Plan-Do-Check-Act

<sup>16</sup> SDCA: Standardize Do Check Act, proposed by Masaaki Imai in his book "Gemba Kaizen"

## 6. CONCLUSIONS

Any educational organization responsible must propose a resolution of key issues: educational products "offered" customers - students / pupils, stakeholders are *suitable for use*? A *quality management system* implemented in the operation of the organization can give the answer to this question. We have seen that the quality of education we mean usually an approach to school organization - educational entity reference in any educational system. *The educational products* made by educational entity are offered for consumption to its customers: students, stakeholders, through a process called specific *educational service*.

The two concepts are strongly interlinked because school's educational service is in reality part of the educational product developed by the organization. A treat education just *service* would be a grave error, in my view, because it would lose sight of the other part: *educational product teachers!*

The essence of the educational process is the result of interaction between each teacher and class / group of pupils / students, respectively, with each student! Professor, "in charge of the process," has a twofold mission essential in regarding the quality of education provided by the school: *making a product adequate for use by the customer and supply the product to the consumer through a quality education service*.

Implementation of quality management concepts specific to the functioning of a school organization creates real opportunities to manage in a scientific manner the processes that lead to educational products provided by the organization.

There are schools in Europe (mainly British educational space) that have outstanding performance managed by conquering the prestigious Award of Excellence EFQM. There are many such examples in other parts of the world - Malcolm Baldrige Award winners (American Model of Excellence) at the "education".

Therefore, the exact definition of educational products made by school organization leads us management processes that underlie their achievement.

***By implementing a quality management system in the organization, we are able to improve specific processes and obtain products "suitable for use" - i.e. what we call quality of education!***

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