STUDENTS' CONTRIBUTION TO THE IMPROVEMENT OF TEACHING METHODS

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Abstract: *This paper is intented to emphasyze the possibilities to grow up the Romanian education within teenagers in spite of all problems related to education, poverty, economic crisis, unemployment, migration, unmet training, useless teaching methods etc.*

On the one hand, it identifies and proposes the approach of a new research regarding the decrease of the following phenomena: the truancy and dropout of Romanian students, the young people migration and youth unemployment.

On the other hand, the paper reflects the important role of students and their contribution to the improvement of teaching methods and vocational training development during the current economic crisis. We investigate how can students influences the Romanian labour market and the educational system.

The objectives refer to the assessment of the tendencies of Romanian youth involved to create a new future for own country. The results of the research draw attention to the potential loss of our knowledge society.

Keywords: *continual improvement, Teaching Methods Change*

General introduction

The paper highlights the new global educational trend influenced by the students[16], the youth labour market and the changes in the interactions between Romanian educational services market and the labour market. [3].

Our expectations are:
- show the importance of appreciations of the students' role in education and labour market;[3]
- demonstrate the differing types of quality tools/techniques attributed to the Japanese .but used by all of us in educational organizations/ companies;[18]
- illustrate the applicability of tools and techniques of quality teaching methods improvement using American models;[17]
- describe individual applications of appropriate quality tools which involve Teaching Methods Change[3].

Objectives:

1. An appreciation of the students' role in education;
2. A continual improvement as a type of change that is focused on increasing the effectiveness and/or efficiency of an educational organization ;
3. An interpretation of policy and regulatory educational challenges in relation to students' unlimited quality initiatives.

Prior work

From the perspective of Teaching Methods Change, we examined the new trend influencing the educational market.[3].

We also discussed the main strategic choices available for the Romanian students to improve teaching methods.

Design/ Methodology

This report presents a map of past, present and future changes to education and training as

students' contributions to the improvement teaching methods.

Results

There are the follow results:

- to contribute to this vision-building process on ways of addressing emerging competence needs,

- to contribute to the development of imaginative visions and scenarios of the future of learning and teaching.

Implications:

New technology in education, tools and services enhancing learning; open education and resources; assessment, accreditation and qualifications; life-long learning; formal education goes informal; individual and social nature of learning and teaching, the epistemological and ontological bases of pedagogical methods[3].

Background

Providing effective education is important in ensuring well-rounded and competent students who can contribute towards the development of our nation[7].

This study is part of a larger study investigating the effects of an affective-cognitive approach on learning.

Since 2009 our small group of teachers, as wel as parents, involved in educational process has been started to fiind solutions for quality assurance problems in education[3], [13], [14], [15].

We are now trying to open a new folder with many educational and economical files for improvement Romanian education and economy. The most important files are Continual Improvement of Educational Organizations and Teaching Methods Change.

This article reports on the preliminary study that looks at three personality traits constructs that are related to the affective dimension of learning, learners' locus of control (feeling on the factor that control their success), self-efficacy (feeling on their ability to succeed in specific situations) and attitude towards learning as these aspects have been shown to be critical in ensuring educational success in past studies. Findings

Sustainable development considerations require youth to embrace a range of additional skills beyond the science they have traditionally relied upon to solve engineering problems[7]. This will require changes to the way in which education prepares students for professional practice [2]. To meet this demand, the existing content-based curriculum was transformed into an outcome

would be invaluable not only in engineering education practices which is the primary focus of this study but can also be extended to education in other disciplines. The first steps were made by us in last article [3] and other important researchers [1,[2],[7],[16],[17].,[18],[19],[20],

Continual improvement of educational organization

Continual improvement of educational organization is a type of change that is focused on increasing the effectiveness and/or efficiency of an organization to fulfill its policy and objectives [18].

- It is not limited to quality initiatives.

- Improvement in educational and business strategy, learning and business results, actors involved in educational process/ customers, employees and supplier relationships can be subject to continual improvement.[18]

There are basic steps in problem solving:

- Define the problem and establish an improvement purpose.

- Collect data.

- Analyze the problem.

- Generate potential solutions.

- Choose a solution.

- Implement the solution.

- Monitor the solution to see if it accomplishes the goal.

Figure 1 [18]

based education curriculum for training engineers [17].

The change has created new teaching demands on engineering lecturers with the introduction of new compulsory courses (creativity course, soft skills courses, entrepreneurships, community involvements etc.) in addition to the increasing engineering subject matter content to be covered.

The limited repertoire of effective teaching skills of engineering lecturers makes their task especially challenging in light of the higher expectations in terms of students' learning outcomes[7].

Although learning is the expected outcome, teaching is the precursor to learning and thus the importance of teaching and pedagogical methods.. What is more critical "the way students are taught has a significant influence on the type of cognitive structures they create and the way they store and structure knowledge they acquire determines to a great extent how flexible they will be when they must use that knowledge." [7]

The instructional cycle (illustrated below) is a process that most effectively occurs at the departmental level in the hands of the faculty who understand the practices, conventions, and methods that their disciplines convey to majors;[9].

Learning goals can be written for individual courses or for academic programs. They answer two questions:

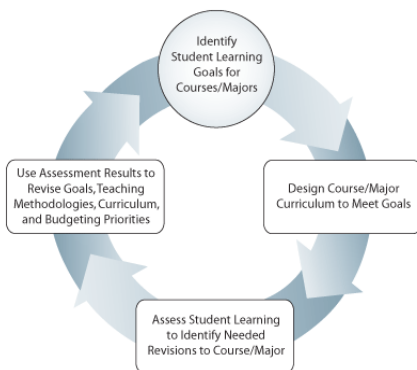- What do you want students **to know** by the time they finish a course or a major?

Figure.2[18]

This is a question about the content of the course or major and about the relationships between content areas.

- What do you want students to be able to do with what they know?

We talk about the skills that are important to the course or the major—how students learn and use the content of the discipline to make or report meaning.

Course-based and departmental learning purposes are interactive. There is no one right way to develop learning fulfills. The process can be either top-down (basing course-level goals on learning goals for the major) or bottom-up (inferring program goals from existing course

goals). More likely, it will be an evolving combination of the two. Most importantly, student learning goals represent the structure and character of the particular discipline in which they are situated and the collective wisdom of the faculty**.[22]**

After World War II the Japanese adopted 'quality' as a philosophy for economic recovery and, in line with this traditional approach, sought seven tools to accomplish the economic rejuvenation.[11] The seven tools chosen were:

    a. Histograms
    b. Cause and Effect Diagrams
    c. Check Sheets
    d. Pareto Diagrams
    e. Graphs
    f. Control Charts
    g. Scatter Diagrams

Figure.3[18]

Statistical Process Control (SPC)

To monitor the consistency of product/service of educational quality and maintain processes to a fixed target as designed.

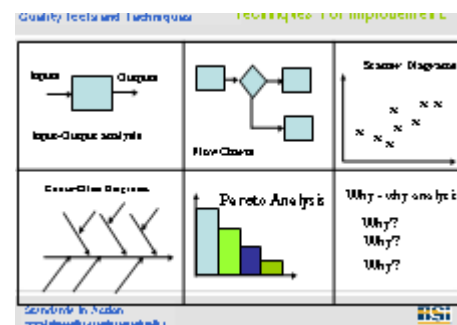To drive improvement actions within a company/ an educational organization.

Figure 4[18]

What can be controlled using SPC? - Variable Measures are those that can be measured on a continuous scale, for example length, time,

weight.- Attributes are characteristics that are assessed by judgment and are dichotomous, *i.e.* have two states such as right or wrong, looks OK or not OK[12].
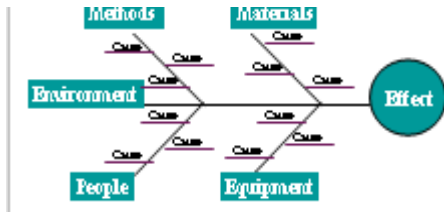

Figure 5[18]

There is the philosophy of making each students/ future worker responsible for the quality of his or her work.
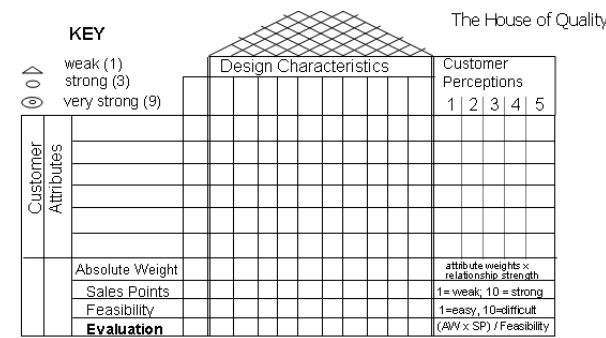

Figure 6 [18]

The QFD methodology has been developed into a continuous process, and it can be applied equally well to educational or manufacturing environments.
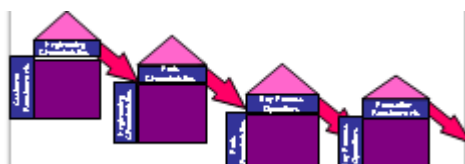
QFD{ Quality Function deployment}

The House Of Quality

Figure 7 [18]

Customers(Students, Employers , Parents, Representatives of political, social, educational and economic environment) Requirements Engineering Characteristics ,Parts Characteristics, Key Process Operations,Education and Production Requirements.

Institutions have a dire challenge in measuring and reading performance requirements from various programs. Blended learning has become a higher choice for several institutions as the numbers of enrolled students increase. This method will result in a higher turnover for students of professionals in the next and upcoming generations. This change will shift the academic role as institutions create opportunities for students on other areas of professional departments other than on-campus based programs. Even as institutions change role in the academic shift, areas of quality measurement will become missed or overlooked. Performance measurements tools help enhance new learning opportunities for institutions in future plans of academic change. Several variables control these methods and measurement tools, but also help institute new plans for change. Ideally, these institutions need to be able to assist with every program they are capable of as well as areas of new blended learning. Having a solvent (plan) for this type of platform will help overall in the quality of education for learners of this generation,[16]

Purpose: The purpose of this study was to review the performance of technological tools in order to develop measurement tools to gauge learner's performance.

Audience: Organizations interested in performance measuring tools that assist in formulating blended learning.[16]

Performance Goals

Goals should be SMART:

- Specific and Tied to Standards
- Measurable
- Ambitious and Attainable
- Reflective of Goals, Objectives, and the Mission
- Trackable [16]

Education management had traditionally been viewed through the myopic lens of education fundamentals as opposed to the management fundamentals used in any profit or non-profit organization[20]. The "strategic management or basic management of the organization" is alienated to the conservative views of education.

It is important that the conservative education fundamentals be viewed through the strategic management lens to bring out the best of both principles – a marriage of education fundamentals and sound management principles. As a start, education quality is an unquestionable imperative that must be supported with clear evidence or an evidence-based performance management system that are used as the planning parameters. It can be argued that the strategic triangularization of the quality-information-planning domains as expounded here, could lead to better education performance through the creation and delivery of educational value meeting the needs of the stakeholders and society. The HEI{Higher Education Institution), basic accountability is through a well-planned and managed systematic approach towards education management. This is illustrated through a unique QMIPS (Quality Management, Information and Planning Systems) of a HEI (Teay, 2008 and 2012) in Thailand that was developed as an initiative towards performance management in a HEI20].
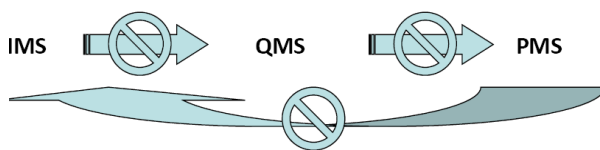

Figure 8 [20]

QMIPS (Quality Management, Information and Planning Management Systems) Model

This **QMIPS** is composed of 3 main systems of the IMS (Information Management System – that defines the statistics, information, data and documentation as evidence or results of the key processes), QMS (Quality Management System – that defines the Standards and Criteria) and PMS (Planning Management System – that defines the Strategic Plan and the OYPB [One Year Plan Budget]). They are interdependent and interlinked to ensure and assure that quality management is evidence – based informed by the IMS according to the PMS planning dimensions.

Interlinkages of the QMIPS (Quality Management, Information and Planning Management Systems)

The **PMS** (Planning Management System) represents the strategic direction of the HEI specifying its key vision, mission,
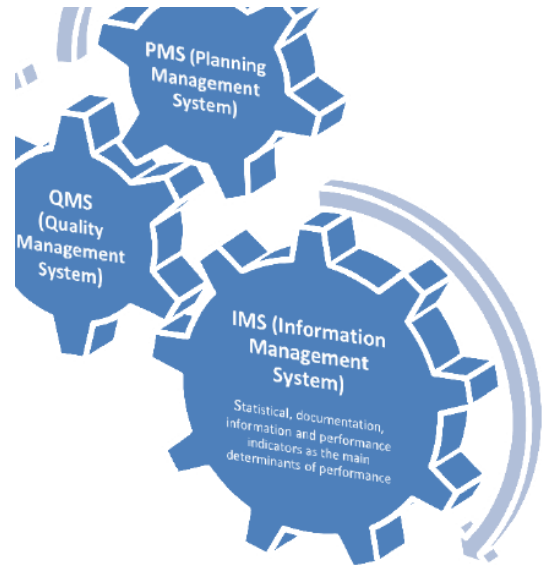

Figure 9 [20]

goals and objectives that are achieved through its strategies. These defines clearly and specifically the strategic direction that the HEI intends to achieve in its 15-years strategic plan supported by its OYPB (One-Year-Plan-Budget) that continuously evolve to achieve its strategic direction. The goals identifies its "what to achieve based on its mission" and the objectives identifies the "what are the measurement of its achievement". These are defined at all levels of the institution, schools and programs to ensure that all are going in the same strategic direction and its performance are aligned and measured as targeted.

The **IMS** (Information Management System) represents the networks and database system developed to collect, collate, store, process and disseminate key statistics, data, facts, information and documents that forms the base of evidenced based decision making and the performance measurement based on its defined goals and objectives. It is noted that the IMS information and data serves the rotating PDCA concept of Plan – Do – Check – Act that has evolved into the newer ADLI concept of Approach – Deployment – Learning – Integration as expounded in the 2011 MBNQA Education Criteria for Performance Excellence (NIST, 2011) and discussed below as to its use for evaluating the process and results of the QMS.

The **QMS** (Quality Management System) which can based on the MBNQA framework (NIST, 2011) for performance excellence has 2 main areas of Process Criteria and Results Criteria leading to the overall audit and assessment of the

performance measurement and management as defined in the PMS. The QMS with its Standards and Criteria acts like a wedge that prevents the HEI's performance from slipping down the slippery slope of continuous improvements. The ADLI (Approach, Deployment, Learning, and Integration) process evaluation factors pushes and leads to its continuous improvements journey up the slope towards its strategic direction based on its plan. The "Process" refers to the methods the HEI uses and for improvements based on the requirements of QMS Standards and Criteria. The four factors used to evaluate the Results Criteria are LeTCI (Level, Trends, Comparisons and Integration) of performance levels which have trend analysis and comparative data while integrated with other results to achieve the mission and goals of the institution, school or program.

Engaging students through video integrating assessment and instrumentation

CS50 is Harvard's introductory course for majors and non-majors alike. For years, they have posted videos of the course's lectures and sections online for the sake of review and distance education alike. But students' experience with these videos has been historically passive.[17]. To make videos more immersive and engaging for students, they developed CS50 Video, an open-source video player for desktop and mobile devices. CS50 Video allows instructors to integrate assessment questions to be answered by students at their own pace or at specific points in time directly into a video player. CS50 Video also allows students to search over video transcripts to find content easily as well as view videos at variable

playback speeds (in order to make videos more accessible for ESL learners). Finally, CS50 Video integrates with third-party analytics solutions to allow instructors to view detailed usage statistics describing how students are interacting with videos (e.g., which videos or portions of videos are commonly watched or skipped over).[17].

classroom materials while viewing a video, creating a more immersive experience.

They have deployed CS50 Video to 86,400 online students and have begun to assess the results. Using CS50 Video, they have integrated questions into the course's lecture and section videos, and we have begun to

track students' progress through CS50 Video's server-side logging of responses. With these data, we have begun to investigate relationships among

a number of variables and learning outcomes, among them:

• *Time of Question*—Are more questions answered correctly if they are presented during a video or after a

video?

• *Type of Question*—Do students learn more effectively by answering multiple-choice or free-response

questions?

• *Frequency of Questions*—Does a higher number of assessment questions necessarily lead to higher levels of understanding?

Traditional video players consisting only of basic playback controls to view course videos results in a largely passive experience for students. Not only are students unable to check their understanding of concepts

explored in videos, but instructors lack data describing which videos are confusing or effective for students. And so, they developed and deployed CS50 Video, a video player for desktop and mobile devices that allows students to answer a range of instructor-defined assessment questions at their own pace while providing detailed analytics

to instructors, to 86,400 students online. Students using CS50 Video's mobile player can engage in a more immersive classroom experience by viewing lecture slides and notes concurrently with lecture videos. Using the data obtained from CS50 Video, they plan to ascertain which topics were most confusing for students in order to refine the course's curriculum and improve students' learning experience. They also plan to compare students' performance on CS50 Video's interactive questions and answers against final grades in order to evaluate the

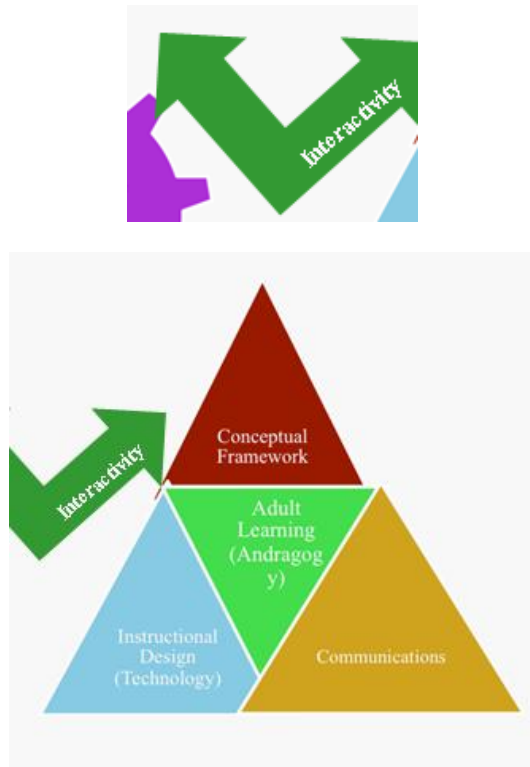predictive value of the embedded questions themselves.
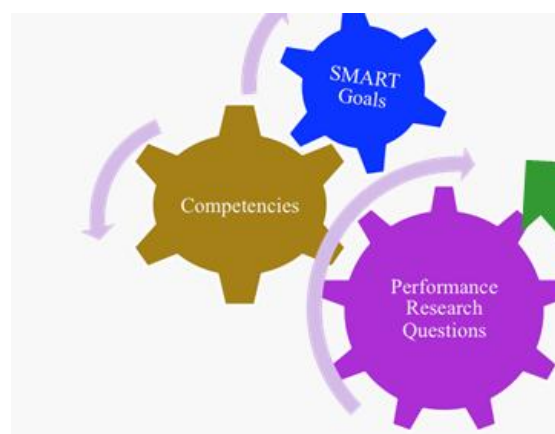
Figure 10[16]

Conclusions

In the future we'll try to determinate Students Reward Preferences with the same variables and articles like in next figure.
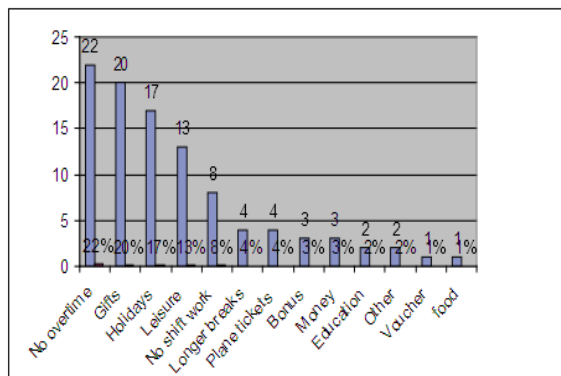

Figure 11[1]

Migrant Workers' Reward Preferences in 2007
Source: Jackson (2007)

The poverty make our students apply to work in other country..

What is interesting is the quantification of the consequences of the intelligence migrations on the economies of the origin countries especially as in most cases of these migrations people have no choice but to work in fields under their professional formation level[3]. This phenomenon is called "brain waste". As we will ascertain from the outcomes of the study achieved in Italy, most (42%) students state that they do not want to return to their origin country, while actually the highly qualified want to remain in their own country in certain life and labour conditions. This happened starting with 2008, along the beginning of the economic crisis, while 23% of the Romanian population was running the risk of poverty, namely having incomes below the threshold of poverty (Eurostat, 2009)[3]. A series of data is presented from studies achieved between 2005 and 2011 in Romania and Italy, for the age category 18 – 35 years[3].

Romanian young men go abroad to work and study, as in their origin country their true value is not appreciated. The study "Romanians and the Migration of the Manpower to the European Union"* discussed by Stoian in a national newspaper, shows that the main reason of the Romanians' departure is the need of esteem (Stoian, 2005)[3]. The top of the favourite destinations of the Romanians who emigrate is, according to the quoted source, made of countries such as Italy, Spain or Germany. The young men between 19 and 35 years old and high school graduates have the most acute feeling of lack of value appreciation. Hence, according to the study, 85% of the respondents said that they knew personally someone who worked in a country of the European Union, of whom 29.5% asserted that they knew someone in Italy, 22.4% in Spain, and 13.5% in Germany[3].

The study was achieved between September 20th and November 1st 2005, on 884 persons, mostly young men between 19 and 35 years old (49.43%), who responded to questionnaires in the counseling offices for citizens all over the country[3].

Germany is included in the top of the favourite work destinations, first of all due to the Romanians' impression regarding Germans as a nation: we know that they are responsible people, who pay correctly; a country where you do not expect any unpleasant surprises (Stoian, 2005)[3].
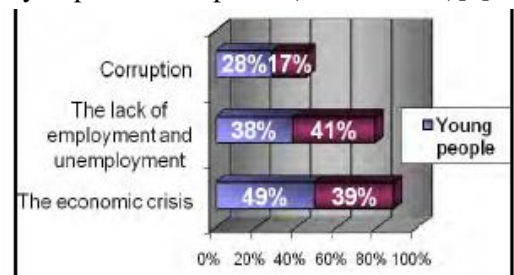

Figure 12[3] – The problems of young men in comparison to adults iRomania
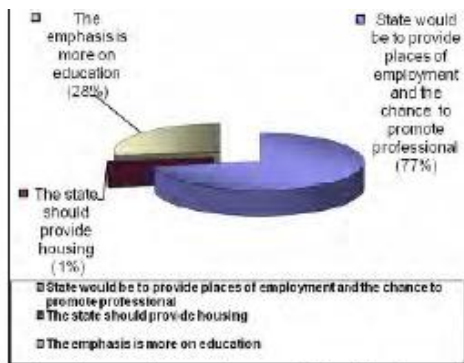
Figure 13[3] – The needs of Romanian young people

Using continual improvement educational organizations and Teaching Methods Change policy can we change the students' poverty and their desires to emigrate?

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