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FROM THE COMPUTER TO THE MULTIMEDIA APPLICATIONS - A STEP TOWARDS PROGRESS, TOWARDS COMPETITIVENESS AND TOWARDS PERFORMANCE

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***Abstract**: The exceptional development of the information technologies has changed the way people interact with the computer. The technological advancement switched the attention from the computer to what people can achieve through these machines. Thus, the multimedia applications are the future of a society which is in full progress and development. They provide the students interactivity, openness towards the world, towards knowledge, towards communication and independence in learning. Use multimedia applications in school should not be limited to certain domains or to certain stages of the educational process, but should be integrated in a rational and well thought mode! The computer is very useful both student and teacher but its use must be made in order to improve the quality of the educational process, not complicate it. The computer should be used in order to pursue the acquisition of knowledge and training of skills enabling students to adapt to a society which is in a permanent evolution. Thus, the act of learning is no longer considered to be effect of the approaches and of the teacher work, but the result of the students' interaction with the computer and collaboration with the teacher. Using the IT technology on extensively involves a degree of civilization, and in the educational process leading to the formation of an active and responsible attitude at the students. The paper presents a multimedia application and a questionnaire through which you can highlight once again the fact that multimedia applications are a step towards progress, towards competitiveness and towards the performance!*

***Keywords:** Education, Questionnaire, LabView, Modern technologies*

I. INTRODUCTION

Achieving a comparison between the traditional education and the modern education in which are used the new technologies can highlight a number of differences aimed both the process of teaching, learning, assessment but and the school performance of students. Also, were observed differences in the students' psychology, in the motivation for learning, in the relationships established between teachers and students and between students. Therefore, it is considered that the use of modern technologies in the educational process is primarily a social response at growing demand for education, at the need for diversification and for sophistication of tenders and training institutions on multiple levels: actors, contents transmitted methods and styles of teaching, learning, assessment, institutional management procedures, and extracurricular activities.

II. THE STUDY OF THE CURRENT CONTINUOUS NETWORKS

For to study the current continuous network, was achieved an application developed in LabView.

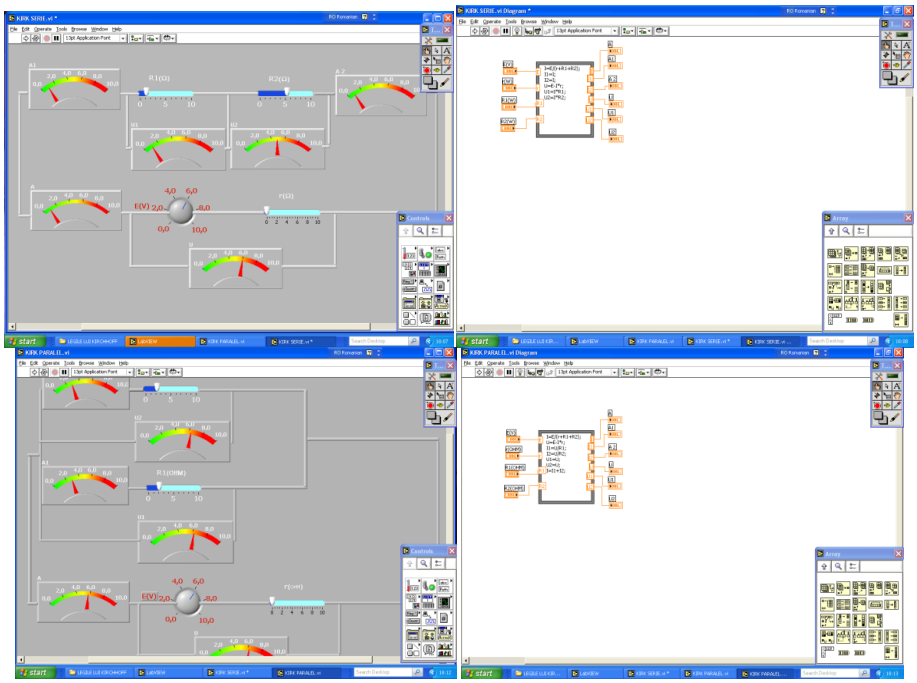

Figure 1. The functional model of the application made in LabView

The students enter the values for E, r, R_1, R_2 and read on ammeters and on voltmeters the values of electric current intensity and of voltage. Simulation allows at students to describe, analyze and compare the operation of a series circuit and of a parallel circuit current, identification of circuit' elements and a manner in which can to be assembled in circuit. The students can analyze the differences which appear in functioning of the circuits if the source is real or ideal. The students can verify Kirchhoff's laws or solutions to problems. A disadvantage of this program would be that no errors of measurement, so students can not analyze the causes of these errors and can not use algorithms for to calculate these errors. Using this simulation students learn in a pleasant way about the current continuous networks. The verification of the theoretical knowledge assimilated by students can be done using an interactive quiz with dual choice type items. The student chooses an answer and is congratulated if the answer is correct or is advised to learn more if the answer is wrong.

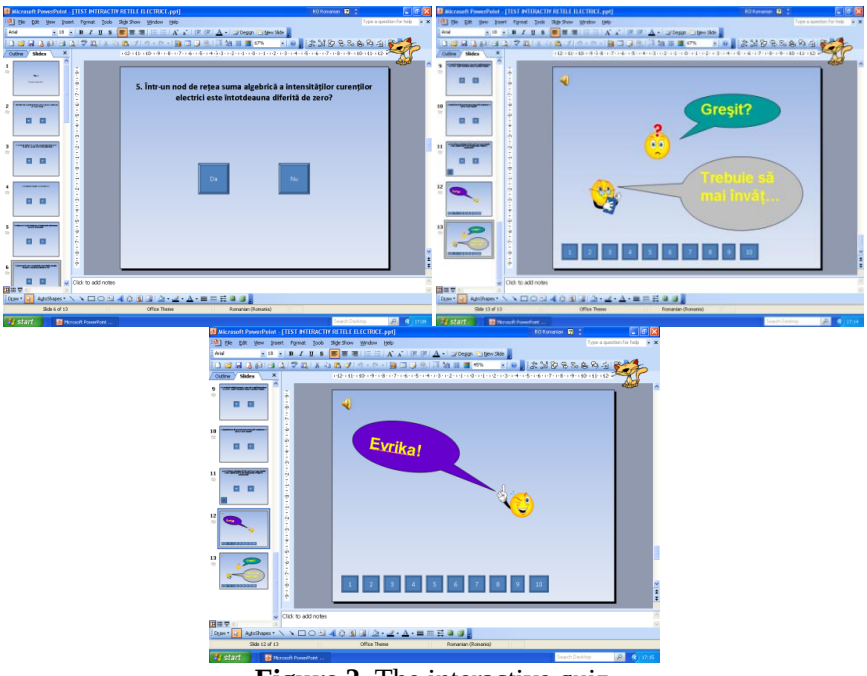

Figure 2. The interactive quiz

Also, they available a crossword made in excel.

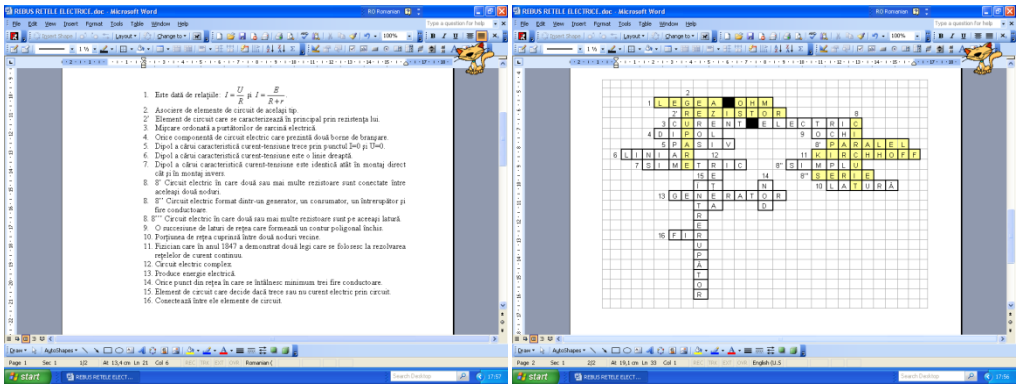

Figure 3. A puzzle made in Excel

III. THE QUESTIONNAIRE ELABORATED

In "The methodology of the sociological research," Septimius Chelcea said: "The questionnaire is a valuable tool for knowledge and, implicitly, for organize the life of human communities." So, I elaborated a questionnaire that I applied to students for to observe which is the influence of modern technology in their career. In developing the questionnaire we considered the fact that in the structure can be highlighted questions: introductory, for passage, filter, bifurcated, "Why", control, identification. Introductory questions are designed for heating the atmosphere, for to give the human subject a sense of trust in the investigator and in him-self. Questions for passage aimed marking the new groups of questions concerning on another problem. Questions filter stop passing the human subjects to a certain category with specific questions. Questions bifurcated separate the senses "pro" and "against" in the human subject' answers but do not stop it for moving to the following questions. Questions "why" are designed to cause explanations in report with different points of views expressed. The control questions check fidelity, consistency of the expressed opinions. Identification questions are used for to analyze the questionnaire answers.

Questionnaire

1. Please circle one number on the scale below for to indicate your opinions about the quality of Romanian education system.

	Non-qualitative				Qualitative
The quality of Romanian education system.	1	2	3	4	5

2. Do you think using the modern technology will influence the quality of the education system?

Greatly	
Much	
Little	
Barely	
Not at all	

3. Can you use the computer?

Very well	
Well	
Little	
Barely	
Not at all	

4. Where you learned to use the computer?

In formal environment	
In informal environment	
In non-formal environment	

5. For what purpose you use the computer?

Entertainment	
Education	
Other purposes	

6. Use the modern technology in the physics lessons?

Very frequently	
Frequently	
Sometimes	
Rarely	
Never	

7. At what point of the lesson you think should use the modern technology?

Moment for organizing	
Updating knowledge	
Capturing the attention	
Communication the goals from the new lesson	
Content	
Fixing the knowledge-achievement the feed-back	
Achievement the transfer	

8. The software used is adapted at Romanian education system?

Greatly	
Much	
Little	
Barely	
Not at all	

9. Do you think using the modern teaching methods and the computer you will obtain a progress, stagnation or a regression in education?

A progress	
Stagnation	
A regression	

10. Why the use of modern technology does this influence on the learning process?
11. How advanced the level of integration the modern technologies in physics lessons, over the years, in Romania?
12. In what the emotional state are you in climbing toward knowledge, toward the moral and professional perfection?

	
	
	
	
	
	

IV. CONCLUSIONS

The questionnaire was applied to 235 students after using modern technologies in the physics lessons. Analyse of the students' answers shows that most students consider that the Romanian education system does not correspond to international standards in several points, but using the modern technologies in the educational process, physics become more attractive and easy to understand. Most students know how to use the computer very well, but most use it for entertainment, for discussion on social networks rather than for to gather documentation about the problems of education, school, science, culture and art. Most students have learned to use the computer at home, with relatives or friends therefore in a non-formal environment because they were born in the digital period. In the educational institution they can develop the digital skills and they can improve them in the specialized courses. Within the physics lessons have found an increase in the use of modern technologies but unfortunately, not all teachers have changed their thinking and work style in the classroom, crystallized in centuries with traditional education, too little concerned on personality and the student possibilities. Even in those schools where there is the change and the champions, who can produce and disseminate organizational change, are issues unable to material support of the activities involved in this process. Most students consider that the teachers should use modern technology to capture the attention, to the presentation of the lesson' content and to fixing the knowledge - achievement feed-back. Using randomly, without a precise purpose, at the wrong time of computer during the lesson leads to boredom, monotony, inefficiency of learning through non-participation of students at the lesson, non-achieving the objectives and can cause the revulsion against this modern material for teaching, learning and evaluation. The students noted the improper adaptation of the foreign software at Romanian curricula, and increasing the quality of software created by experts, by teachers or even by Romanian students. The majority of students consider that using the computer and the modern teaching methods will record the progress at school. Such, training and learning based on modern technologies offers students an interactive and multimedia environment, an open, synchronous and asynchronous medium of communication, independent of equipment, distance and time. The majority of students have seen an acceleration of the integration of modern technologies in physics lessons since 1990. Their opinions were incorporated in the chart below.

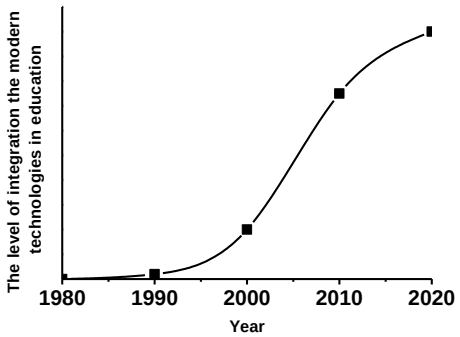

Figure 4. The level of integration the modern technologies in education

From the graph's analysis is observed that before 1990, digital technology was almost absent from the educational institutions. There were few computers with very low performance. Between 1990 and 2000, the integration of modern technologies in physics lessons increased but not too much because the teachers should attend at the training process. Between 2000 and 2010 there was an intensification of the use of modern technologies in the didactical process. Teachers and students are passionate about technology and use it more than ever. After year 2010, there foresee a further increase in the level of integration of modern technologies in physics lessons but is more moderate. Now, teachers and students are concerned with achieving the performance! Using modern technologies in the physics lessons produces a change in student attitude. This transition occurs from reluctance, to curiosity, to increase learning motivation, to satisfaction and to success at school. All

these goals will be reached faster if take into account that the teacher' mission should not end with the end of the lesson. He must know the creative potential of each student and how to can stimulate it, to grasp their creative manifestations in outside the school hours, in extracurricular activities, to make him aware of his capacities and to develop habit for self-evaluation. Thus, the activity outside the classroom would be an organic part and an element of teaching and learning. Its purpose it must be to develop the skills for independent work and creative abilities of students in outside of the classroom activities as broaden and deepen the students' knowledge. It is important the increase of awareness and interesting for the study. Questionnaire conducted shows an increase of student' interest for study, a positive change in their attitude and in the manner of teaching and assessing. The quality of students' education increases very much! So, I think that using the modern technology, the school can give a guarantee that graduates can satisfy the society's trust and can become responsible people!

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