Journal Plus Education, ISSN: 1842-077X, E-ISSN (online) 2068 – 1151 Vol X (2014), No. 1, p. 312-

THE ICT COORDINATOR IN SCHOOL A XXI CENTURY EDUCATION

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Abstract: *In order to meet the needs of a developing society, the educational systems need to rethink both their content (What we learn?) and their methods (How we learn?). They are called upon to introduce ICT in school, an extremely difficult process because of the need to transform the view of most of the teachers on their traditional role (transmitter of knowledge) for which they were trained and became accustomed with.*

Keywords: *ICT, computer skills, education, online resources*

Introduction

This change of vision implies not only the initial training in computer skills and in the use of ICT, but also an understanding of the new way of perceiving the student interaction with the knowledge in the learning process. The informational and communication technologies allow access to more resources than the traditional manual, but what is more important, they enable new types of student activities, more stimulating and productive. The increasing use of ICT in education and the study on how to achieve more efficient educational strategies and also individualized approaches, the attention shifted from teaching (with the focus on teacher) to learning (with focus on the student).

The impact of ICT in education

An analysis of the educational approach (teaching / learning) focusing on the four main components of "educational situation" - teacher, content, student, context - could give us a breakthrough in understanding the role and impact of ICT in this approach:

a. *The teacher*: a binder from transmission to facilitation. At one extreme are the teachers who send, "deliver" information, and on the other, those who design and facilitate students' activities that generate learning.

b. *The content*: a binder from pre-organized/pre-structured to "developed". What you have to learn can be at one extreme, a knowledge package developed for acquisition, and at the other extreme - a draft statement for the realization of which students must gather information, analyze, draw conclusions, and elaborate.

c. *The student*: a binder starting from limited access to online resources and ending with unlimited access to these resources.

d. *The context*: a binder from a low external support source to an extensive external support for the use of these resources.

The real situation in most schools shows that the teacher is a transmitter of information rather than a facilitator of learning; in most cases the content is pre-organized by the teacher rather than the built by the student. Of course there are situations in which all four components are at the other extreme. Therefore it is important for each institution to assess the situation of each component and to take all steps to ensure a continuous balance between these components.

The personal computer is very useful for both students and teachers but its use must be such as to improve the quality of the educational process, not hinder it. The computer should be used with the goal of acquiring knowledge and developing skills to enable students to adapt to a society in constant evolution. They must be trained, oriented with confidence to the changes, and they will feel the need to be better trained to deal with new types of professions. Failure to develop the capacity to respond to change can entail passivity and alienation. The teacher himself lives in a changing society, and luckily in the forefront of change, so he will have to adapt, to adjust, to continuously improve.

The introduction of internet and modern technologies in school results in significant changes in the education process. Thus the act of learning is no longer considered to be the effect of teacher's work, but the result of student interaction with the computer and collaboration with the teacher.

This changing in the educational system has the following objectives:

1. Increasing the efficiency of learning
2. Developing communication skills and individual study

Achieving these objectives depends on the teacher skill in computer use, the teacher's style, the number of students, their interest, knowledge and skills, the atmosphere in the class and type of software used, on the amount of software integration within the lesson, the synchronization of explanations with the sequences used, the assessment methods, the developed worksheets.

The random use of the computer, without a specific purpose, at the wrong time during the lesson leads to boredom, monotony, learning inefficiency, failure in achieving the lesson objectives and can even generate a repulsion sentiment over this modern teaching-learning-evaluation tool. Excessive use of the computer may result in loss of practical skills, computing skills and abilities in investigating the reality and can damage human relation. Also the excessive use of self-learning denies the student-teacher dialogue and leads to the isolation of the learning process in the psychosocial context. The teaching content is segmented and atomizes too much, and the mental activity of students is diminished, being guided step by step.

Using the personal computer has numerous advantages:

- Stimulates innovative learning ability, adapted to the rapid social change;
- Strengthens the scientific investigation skills;
- Increases awareness that the concepts learned will be useful later;
- Increases the learning efficiency by immediate assessing of student responses;

- Strengthens students' learning motivation;
- Stimulates imagination and logical thinking;
- Introduces a cognitive style, an effective independent work style;
- Installs a climate of self-improvement, of competitiveness;
- Mobilization of psychomotor skills in computer use;
- Development of visual culture;
- Trains useful practical skills;
- Provides a permanent feedback, the teacher being able to redesign the lesson based on the previous sequence;
- Faster data processing facilities, to perform calculations, display the results, outputs, graphs, tables;
- Provides choices for using the appropriate strategies for solving various applications;
- Develops thinking so from a general way of solving a problem the student finds himself the answer to a specific problem;
- Prepares students for a society based on the concept of lifelong learning (education throughout the life);
- Determines a positive attitude toward the discipline and toward the moral values, the cultural and spiritual needs of society;
- Helps students with disabilities to integrate into society and in the educational process.

The computer is extremely useful because it stimulates complex processes and phenomena that no other teacher can make out so well. Thus, through it the students are getting models, justifications and illustrations of abstract concepts, illustrations of unobservable or difficult to observe processes and phenomena. It allows experiments practically impossible to conduct otherwise due to lack of teaching materials, inadequate endowment of the school laboratories or the danger to which students and teachers would be exposed. The students can easily modify the conditions in which the virtual experiment takes place, it can be repeated a sufficient number of times so that they can follow the way in which the phenomena performs, and they can extract their own conclusions and can enunciate laws.

Also, the computer is used for developing communication skills, for collecting, selecting, synthesizing and presenting information, for typing essays. Thus, students develop the ability to critically assess the accuracy and correctness of the information obtained from various sources.

Strategies used to increase the effectiveness of online resources:

1. *Ensuring students with a greater control over resources*. This makes students more involved in the content construction. Students who have not only realized the possibilities of the new technologies, but have also gained control over them, develop their capacities to plan, select, explore, solve problems, monitor and evaluate their own progress. In many school subjects - science, mathematics, languages - ICT allows to overcome the limited framework of the manual by appealing to recent data, information on a wide area, by meeting the knowledge interests of the students.

2. *The learning situations are more realistic and authentic*. The access to information resources and enhanced involvement of students in the content

construction lead to more authentic learning situations. For example, students can study at the environment class, by using information from data banks of different countries, images, descriptions and statistics relevant to the issues investigated. Furthermore, Internet communication ensures direct data collection or enables a form of collaboration on the respective project.

3. *Combining or integrating ICT within a suitable pedagogical strategy*. Building content requires different types of learning situations; studies show a decrease in the activities led by a teacher, a decrease in frontal training front and a shift towards project-centred activities and independent learning. Effective use of ICT must be accompanied, sustained, supported by a pedagogical strategy based on the knowledge of how learning occurs.

4. *Training is extended to online learning communities with the potential to support the school curriculum*. Networked schools provide new interaction models, extending learning beyond teacher and manual. The possibilities for presentation and manipulation of the learning outcomes, facilitates collaboration with other users - students or local community members. It also raises the possibility of collaborative projects with other schools or local community experts.

5. *Teacher training is extended by including learning problems in terms of using ICT*. Teachers, like other professionals, need the new technologies but also the knowledge to use these technologies in order to solve tasks of increasing complexity. Teachers need to be better informed about the potential that these technologies pose to the teaching/learning process. Like in any other countries, the computer initiation remains the main problem in training future teachers or improving existing ones. The large differences that exist in this part of the "educational situation" create many difficulties for developing a unitary approach to the use of ICT in schools. The introduction of computers and ICT in educational practice has occurred in parallel with three decades of cognitive sciences research, during which our understanding of how learning occurs was widened: the investigations in this field, revealed that knowledge is not passively received, but actively constructed by the learner based on previous knowledge, attitudes and moral values. The dependence on a single source of information, for example, the manual limits the construction of knowledge.

6. *The teachers perceive the online technologies as the driving force for the educational reform*. The use of ICT leads to a rethinking of education, starting with questioning the way in which its goals are determined, the way the curriculum is designed, the manner in which the interaction between student and curriculum takes place, as well as how the educational process is assessed. This impact on educational systems can only occur under conditions in which ICT is used in an educational approach focused on the fundamental thesis "the learner actively constructs knowledge"; when ICT is used in a traditional manner, based on the "transmission of knowledge" principle, the impact on the education system will be insignificant.

Show me, I will remember 20%
Show me and tell me, I will remember 40%
Show me, tell me and let me do it myself, I will remember 70%

Changing is difficult. Effort and time will be needed to facilitate changes in people. The fears of teachers should be recognized and solutions to the impasse should

be provided. They need to be reminded that there are benefits with these changes, and the most powerful tools to decrease resistance to change are the teachers themselves: teachers that see other teachers effectively using the technology tend to embrace that technology. Indeed, for over a century, children went to school, sat in class and worked under the supervision of adults more or less trained for that job. Although the specific contents have somewhat changed, reading, writing and mathematics are still central areas of learning, as they were 200 years ago. The interaction of these apparently opposite forces - one based on continuous change and the other based on tradition and continuity - is the main challenge of the future and today's society.

It can be said that the integration of ICT resources in education is beneficial and leads to an increase in school performance, provided that students have the basic knowledge of computer use. This requires the introduction of classes on computer and ICT in all profiles and all levels of education. Also the teacher should work with small groups of students and the classes are to be equipped with modern computers connected to the internet. Teachers should possess in addition to theoretical knowledge and practical skills related to the studied discipline, also the ability to use the ICT resources.

ICT should not only be a tool to present the existing content in another manner, but instead should lead to changes in thinking and working style of classroom teachers, crystallized in centuries of traditional education, and with too little concerned over the personality and the potential of the student.

The use of ICT should not become an obsession, because every student has the right to academic success and to achieve the highest curricular standards possible, that's why appropriate teaching methods have to be found for each case. Therefore we must not discard the chalk, the blackboard and the sponge, the work with the manual, problem solving and real experiments, because by creating a direct link between practical experience and theoretical ideas, physics study contributes to the development of student skills required both for his and for the development of the society in which he lives.

In conclusion we can say that in order to achieve quality in education and to achieve the best results we must use both the traditional and modern methods of teaching, learning and assessment!

The ICT coordinator in school

Integrating ICT as a didactical tool in the teaching-learning process aims to improve the educational standards for the students, to facilitate the development of opportunities related to the cognitive performance of students, school-community relation, school development and not least the management of the educational system.

What is and what does the ICT Coordinator in school (ICT = Information and Communications Technology)

- the ICT coordinator is not a new teaching position, but it is a task that every teacher interested in ITC integration, can master, after following some training courses;
- the ICT coordinator helps choosing the right application for a particular teaching activity;

- advises teachers in choosing training courses, provides a schedule of activities and ICT experiences for different classes of students;
- the ICT coordinator role in school, exercised by a teacher, will facilitate tracking

the progress and continuity in the development of digital skills of students through the use of new informational technologies in addressing all school subjects.

Applications that could help the ICT coordinator:

- World Wide Telescope - attractive study on the solar system and the universe;
- Microsoft Auto Collage - provides the opportunity to achieve photo collages on a particular topic
- Math Worksheet Generator - math tests generator for I to VIII grades;
- Songsmith - creates songs with own lyrics on pre-determined musical backgrounds;
- Kodu Game Lab - creation of interactive games on given topics;
- Storyjumper - permite realizarea unor carti digitale cu povesti proprii ale elevilor la care se pot adauga personaje si fundaluri proprii sau prestabilite allows the creation of digital books with students own stories on which they may add characters and backgrounds;
- Storybird- creating stories with colorful and cheerful images attractive to students;
- Photostory 3 for Windows- allows the creation of short films with own photos and you can add text and your own voice
- Photopeach - creating an animated spiral based on own photos
- Goanimate - creation of cartoons in which the characters talks about a certain topic given by the teacher
- Padlet - online wall on witch students can post comments about specific topics, especially in used in critical thinking
- Voki – an avatar with different speaking characters announcing the solving of the task requested by the teacher
- Audacity- enables MP3 voice recording of students.

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