PhD Snezana Jovanova-Mitkovska
Faculty of educational sciences, University "Goce Delcev"Stip, R.Macedonia
PhD Dijana Hristovska
PS "Stiv Naumov", Bitola, R.Macedonia

APPLICATION OF IT IN TEACHING AND EFFECTIVE LEARNING IN PRIMARY EDUCATION

Abstract

The paper is elaborated theoretical issues related to effective teaching, effective learning. Identifying effective teaching as a process that involves a series of teaching-learning activities, social interaction, constant feed back communication, a process that involves application of a number of strategies by the teacher and student at the process of teaching and learning, process which takes place in creative, stimulating environment, according to developmental characteristics of students of a certain age, we try to find, in which correlation is it, with the students effective learning. Also, we try to find a connection with applying the ICT in the effective teaching and learning process, because effective teaching in elementary education also means an effective integrating of technology into the teaching process through the teaching of all subjects, their application which will allow for active student access to content, its active learning and independent learning. This would integrate core components: active engagement, group work, permanent feed-back, evaluation, self evaluation.

Also, in this paper as a result of micro research conducted in R. Macedonia, using descriptive method, technique analysis of documents on the subject in primary education programs, as well as interviewing, we presenting views, opinions of direct practitioners-teachers realizes the process of teaching with the help of ICT, its role in achievement of greater effectiveness in the teaching process, their suggestions for improving the same, as attitudes and opinions, suggestions of the students associated with its use in teaching.

Key words: effective teaching, effective learning, IT, new didactical design

"Education is a fundamental human right. It gives to children, young, adults, and power, to think critically, to make choices to improve their lives. It breaks the closed circle of poverty and is key element for economic development." (EFA, UNESCO)

Introduction

An important provision related with the strategic development of the Republic of Macedonia is committed to raising the educational level of the population, children, youth, taking into consideration the fact that human resources are the most important, in whom we must invested, so that we could successfully engage in the processes of global development. In this sense, the emphasis in our country is placed on setting higher standards in education, enhancing creativity, fostering multiculturalism, cultural

diversity, application of modern information and communication technology – ICT, everything in the direction to have quality education, education which has characteristics of dynamic and flexible structure, which enables horizontal and vertical mobility of students and teachers.

Such high standards are set at all levels of education, but primary education is the primary key, which covers the youngest population, because errors and omissions that may occur in primary education can not be reimbursed from any other higher education degree. So, at elementary school introduced a series of changes aimed at achieving a higher effect are introduced, strengthening the effectiveness of the teaching process and the effectiveness of the learning process. Famous Macedonian experts in the field of education, (National expert team, UNICEF, 2007) in the Republic. Macedonia identified indicators for school effectiveness as:

- Increased academic achievement - children achieve what they may the best;
- Use of innovative methods aimed at teaching the child - children learn by understanding, motivating environment and in accordance with their potentials;
- Enough time for learning and instruction - children stay in school used to develop individual potentials;
- Increased / improved attendance of children in school, low to non-existent rate of repetition and dropout;
- Increased / improved competence and responsibility of the teacher - the school create conditions, supports individual initiatives and provides for professional development and advancement of teachers.

School effectiveness as we can see from these indicators, we can achieve by providing effective teaching and effective learning of pupils in primary education, and analogous to it in all grades. But what we know and understand about effective teaching, which provided effective learning?

According to Samantha Haley (2010), „Effective teaching is a set of numerous skills that talented teachers work hard to hone. Effective teachers nurture effective learners; effective learning is a skill set that the students develops. An effective teacher helps a student become an effective learner by giving the student tools to work with and room to question"

or by Paula Swenson (2010)".Effective teaching can mean different things in different environments."

Paula Svensson noted several basic factors which, according to it depend on effective instruction, including:

- School environment - Generally, an effective learning atmosphere is positive, free of stereotyping, and has an orderly yet varied structure;
- Techniques - all types of effective teaching include student involvement and interaction, clearly stating learning objectives at the start of the lesson, using questions effectively, and using a variety of instructional techniques, thereby varying the routine; using a variety of techniques to handle one set of learning objectives; work or small-group case studies;
- Personal qualities - respect for the students some sort of sense of humor seems to be an essential ingredient of teaching effectively;
- Feedback in effective teaching is provided in a variety of ways: through discussion, in writing and non-verbally, never solely through testing. Most

importantly, the feedback should serve to motivate both students and teachers, promoting an active learning situation.

We, on effective teaching will mean a process that involves a series of teaching-learning activities, social interaction, constant feed back communication, a process that involves application of a number of strategies by the teacher and student at the process of teaching and learning, process which takes place in creative, stimulating environment, according to developmental characteristics of students of a certain age.

Based on the stated goal of Haley and Svensson, we can conclude that both authors emphasize the role of the teacher in creating effective teaching, he is the one who should devise and apply a range of different strategies that will motivate students to be actively engage in the process of their own learning and personal development.

Effective teaching promotes effective learning. Michael Signal (????) states that "Effective teaching results in student learning. Ensuring that all students learn is the most important aspect of teaching, but effective teaching ensures that learning is purposeful and deliberate. Teachers must know what students need to learn, how to best teach it and how to tell if they have learned it.

It implies the existence of a creative, stimulating learning environment that will allow activation of all senses of the student, which will be flexibly structured, which will allow free movement, interaction and activity, experimentation, research, creation, which would allow effective learning.

In this respect, we put the issue how to the effective teaching learning process?

One of the best ways to learn is when we have a clear goal, rules, when something is done, be prepared, when we stars from the concrete. For example, in mathematics the notion of number will get through concrete set of easily recognizable elements appropriate to the child's age rather than abstract, unknown to children; we can not work with operations with numbers, if we had not met with crowds elements in the set, relations, etc..; when asking students to explain, ask questions, explore, when the student receives constant feedback that if something is done well or not, we have teamwork, cooperation, constant communication when there environment that abounds with a variety of materials, teaching aids, tools, additional software programs, application of ICT, when learning is our pleasure. "Learning environments that support effective learning for children are places that feel comfortable, enhance curiosity and provide pleasurable experiences". Johanna Parry Cougar, eHow Contributor June 25, 2010

In order to achieve effective teaching and learning, in Macedonia in the period 1989-2011, the Ministry of Education and the Bureau of Education realized numerous projects such as: Active interactive teaching-learning (1990), Draft Programme for the Development of ICT in education (2005-2015), Draft Strategy for Development of Information society, E-School (2003-2008), Macedonia connects (2004-2007), Modernization of education (2004-2009), Computer for every Child (2006-2015). It performed numerous seminars, workshops, which were the most numerous in the area of information literacy in preschool, primary and secondary education, bearing in mind the current campaign of the Government of the Republic. Macedonia Computer for every child, in accordance with European trends in education and is analogous to that equipping school with modern ICT technology whose application in the realization of the curriculum was to produce greater efficiency and to facilitate effective learning by students.

But what happens in practice?

In order to arrive at knowledge of the current situation related to the application of ICT in teaching and effective learning realized little research in the Republic. Macedonia, particularly in cities Stip and Bitola. We applied descriptive-explanation methods and from the techniques of collecting data used analysis of pedagogical documentation specifically analyzed the curriculum for nine-year basic education, and the curriculum for the first cycle of primary education as well as free interview technique that explore opinions and attitudes of teachers for teaching effectiveness with the application of ICT in our educational practice, offered their thoughts on the models, forms of formal and informal education in their field of ICT, effective learning of students, positive, negative sides in the implementation of teaching.

Results from the analysis of pedagogical documentation

The analysis of the curriculum for nine-year compulsory education in the Republic. Macedonia shows that the subject Computing is an integral part of the concept of nine years education, which is taught as an optional subject in the third, fourth and fifth grade, with a total of 72 hours per year, keeping in mind five different topics: Introduction to Computer System, Computer Graphics - graphical information, textual information; Sound information: Combining information to third grade and the same themes course widened, deepened with new content, plus the theme Communication and Internet as a theme for fifth grade students that are processed during those 72 hours. It is realized by means of educational software Tool kid and is oriented to make students acquire basic computer literacy, culture, skills for working with computer skills to search and use Internet services. What is particularly important is that students are offered ready-made solutions, but are placed in a position to freely, creatively, according to individual needs and interests of each student. Teaching of this optional subject is done by class teachers, which is a necessary pre-qualification and their information literacy, especially dealing with the stated educational software.

Analysis of curricula for the first cycle of basic education showed the following:
- One of the goals of development from the period of first to third grade is stated: to introduce students in using ICT in the function of the object, in order to enrich their experiences and knowledge;
- The didactic recommendations for performing various teaching subjects such as: Macedonian language, math, learning about the environment, English, music education, art education, especially when it talked about teaching resources which be used for implementation of teaching activities, recommended application of computer educational software, especially tool Kid program and other multimedia CD ROMs verified by appropriate educational games, Internet, confirmed by the Ministry of Education and aimed at, enriching the language and voice culture, knowledge and skills in mathematics education ; acquisition of knowledge about the complexity, diversity and connectivity of the overall phenomena, objects and processes, activities and relationships between people in the immediate surroundings; adoption of terms from the English language based on multisensitive and holistic learning proper musical expression and acquisition of durable and usable knowledge and skills in artistic expression with the use of computer techniques for drawing and coloring the surface.

The application of ICT, especially educational software, the implementation of educational activities which mean activation of each student and his progress, according to his individual abilities, mean the teacher abilities, his skill, and creativity in the implementation of teaching using ICT.

Analysis of the results of interviews

Talks with teachers were conducted during the 2010/11 academic year. Interviewing protocol consisted of columns containing more informal, flexible topics: general information on respondents, the application of ICT in teaching, problems in implementation, forms of education for certain software programs, the effectiveness of teaching students, effective learning using ICT, advantages, disadvantages.

The basic structure of the sample consisted of respondents from several primary schools in Bitola and Stip. The sample was suitable according to the needs of the research team. Upon the sample subjects were given their last name initials of its name.

The first question asked respondents about the opinion of their training for the application of ICT in teaching. We presented some of the answers of respondents:

AG "Yes, I think the current professional and methodical preparation of ICT in primary school helped us to deliver the program. But I think that this training only partly capability us for application of ICT, their implementation of the curricula. In teaching practice often used different methods, forms, strategies to work, as long as several priority competences as capability to work in WORD, EXCEL, INTERNET EXPLORER, POWER POINT.

Common for all considerations, is that, they think that the only form of informal education seminars, training usually implemented in the schools by before trained colleagues previously determined by the head of the schools, education software and operating system Tool Kid and Edubuntu.

As for the material-technical conditions for the realization of teaching using ICT, all respondents agreed with the fact that the actual material-technical conditions for work are enough for teaching process realization with ICT application,

Another theme of the questions referred to the issue in which subjects teachers usually apply ICT?

All teachers said that the most common application is in ICT courses: language, learning about the environment and art education.

When we asked them about the effects of the implementation of teaching using ICT, we had two diametrically opposing views.

1. Teachers who believe that the use of ICT makes lessons interesting, inspiring, attractive to students, creative, flexible; a shorter period of time achieved higher scores, students are creative, to support, cooperate, help each other...

2. Teachers who believe that the application of ICT in teaching requires a longer duration, greater effort by the teacher, the teacher's inability to monitor all students, "students come to school with more knowledge of ICT and often during the school trying to install new programs n the computers what they carry from their homes, games, etc... "

V.B. "I can not follow all students simultaneously. Today's children, work with computer from home with small feet. It happens to retreat behind the computer and try to install new programs. I am powerless to deal with such situations. Often requires the assistance of some students who perceive a higher level of knowledge of working with computer technology."

In this respect, they gave their proposals concerning the furnishing of information laboratories, with continued technical support, rather than a computer before each child.

In view of the considerations associated with their use of ICT and students learning most teachers agreed with the fact that students can learn more effectively using ICT, which provides greater obviousness, interactivity, easier and faster adoption of terms, makes students curious, interested, strengthens the competitive spirit of students, makes learning fun, like a game, fun, students have opportunities to follow and practice of multi-modal presentations, the ability to transfer information, perceived opportunities for more possible solutions to given problems .. .

S.Z. "Every time when I realize educational content by applying the program Tool Kid students learning passes without a major effort. All of them are actively involve, particular when solving mathematical problems, are curious, interested, try to come up with solutions, practice, checked, compete, cooperate. Then, for them is not mathematics toward tears but, fun math, math with using ICT"

Possible inconsistencies and solutions from the application of ICT in teaching respondents cited:
- To improve the quality of organization and structuring of seminars on the application of ICT, more practice, seminars to be effective, professional dissemination, education, exchange of ideas to be at the level of professional assets, teacher advice, parent meetings;
- Integration of ICT in the implementation of content from all subjects as an interactive new way of working that gives students the opportunity of learning to be interesting, warm, creative, logical;
- At schools to have laboratories equipped information, rather than computer before each child, with a permanent technical support;

Conclusion

The analysis of theoretical discussions of this problem and empirical data from the research that came with the application of techniques: analysis of pedagogical documentation, nonchalantly interview, and direct contact with participants led to the following conclusions:
1. The questions that were asked earlier, in the introduction, during the research, had found their answer in the theoretical discussion and in the data as a result of research.
2. The conclusions in this examine should not be accepted explicitly, because they because they relate to a specific example, at a particular time.
3. It is necessary to create an learning environment, adequate space for the application of ICT motivating enough, flexible, which encourages children's interest in learning the content through ICT, and teachers as active flexible, partners in learning.
4. Need to redesign of programs and software development for any particular subject each, of course flexible enough to allow personal investment from teachers.
5. More frequent application of ICT and in all subjects that enable learners to explore, create, problem solve, experience challenge and have fun.
6. To allow each teacher to meet the need for permanent education and training in each area necessary for their professional development;

"As every child has the right to opismenuva, so too has the right to become capable users of ICT. The child needs to experience ICT as a tool that provides ample opportunity for communication and information gathering. (Sheridan & Pramling Samuelson: 2003:267)

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