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**COMPUTER IN METHODS OF TEACHING NATURE AND
SOCIETY-INDISPENSABLE FACTOR FOR THE DEVELOPMENT
OF INDIVIDUAL THOUGHT, INVENTIVENESS AND
CREATIVITY**

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***Summary:** Computer as an inevitable phenomenon has great power and influence in the sphere of education. It creates a new system of values that lead to radical changes in inconsistencies in teaching and adopt new positive values in it. Changes that occur must find application in establishing of new type of teacher who will encourage students independently to discover, explore, develop itself and create.*

***Key words:** computer, education, creativity*

**КОМПЈУТЕРОТ ВО МЕТОДИКАТА НА НАСТАВАТА ПО
ПРИРОДА И ОПШТЕСТВО- НЕЗАМЕНЛИВ ФАКТОР ЗА
РАЗВОЈОТ НА ИНДИВИДУАЛНАТА МИСЛА, КРЕАТИВНОСТ
И ТВОРЕШТВО**

***Rezime:** Компјутерот како неминовен феномен има огромна сила и влијание во сферата на воспитанието и образованието. Тој создава нов систем на вредности кои доведуваат до радикални промени во недоследностите во наставата и прифаќаат нови позитивни вредности во неа. Промените кои настануваат мора да најдат примена во конституирањето на новиот тип на наставник кој ќе ги поттикнува учениците на самостојно откривање, истражување, креирање и самостојно творење.*

***Ključne reči:** компјутер, настава, креативност*

*Трајни се само оние работи
кои добро се прилагодуваат на промените
Черчил*

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1. INTRODUCTION

Late 20th and early new century brought revolutionary changes in many areas in economic, political, cultural, spiritual life, also and in the educational process. Changes occurring in technology and science in the teaching process imperatively initiated the need for application of new, modern, educational technology that will follow these innovative changes, processes and requirements. They have tremendous strength in the educational process, not stop ever, directed toward anyone at any time. It is a time when the thought and technology progressed significantly in the educational system faced with numerous demands that are placed before him.

The development of modern educational system goes in the direction of incorporating computer literacy in school. Computers as inevitable phenomenon have tremendous power and influence in the sphere of education. They create new value system that leads to radical changes in the inconsistencies of teaching and adopt new positive values in it.

Classical teaching within the existing educational process doesn't proved effective enough and often offered only theoretical knowledge, students passively participated in the classroom and then in other life situations. Today's education differentiate the basic skills needed to acquire each student in the learning process, such as: reading, writing, mathematics, science, nature and society and the use of computers.

Inside the working space in the classroom and in life come, first, computer that can be able to serve thousands of users, then arise and small customized computers (laptops) for use by students and teachers everywhere. Here isn't the most important appliance and its major opportunities for transmission and processing of information, but the contents that will be used in the educational process, especially in methods of teaching nature and society, because one medium incorporate vantage of the individual media (teskst, sound, drawing, animation, TV, film clips and so on.).

The application of the computer as an effective teaching tool in the teaching of nature and society has great didactic and pedagogical significance. Through it enables control of regulation and management in the teaching and through learning teacher continually receives feedback that have a great motive power and present basically a system of valuation and fair assessment of the student. In addition to these considerations, the best illustration are the words of Cvetanka Mitrevska in the paper: *The emergence and development of teaching using a computer*, where write: "The emergence and development of teaching using the PC primarily affect two factors. The first factor is programmed teaching, along with machine learning, and the other - rapid development and improvement of computer technology, which year after year, revolutionary improvements that represent a process that never stops. These funds are changing the quality approach to learning in the broadest sense".

At the outset of the introduction of computer in teaching and its application in methods of teaching nature and society, it was clear that open unprecedented opportunities for data processing, communication between the remotest parts of the world and the fastest access to all data. The PC has become an indispensable factor for the development of students intellectual thought, creativity, inventiveness and self-creation.

Curricula in methods of teaching nature and society create conditions for gradual disclosure of mutual relations and interdependence between flora and fauna, living and inanimate nature, and significance of human activity and activity in society. Should learn that enables navigation and efficiency, as are necessary and valuable information from the methods of

teaching nature and society, skulfully that content they learn to examine, review and apply in situations when, where and when should.

The application of computer in teaching in nature and society change the position of student and teacher, by releasing the teacher from routine operations associated with saving numerous data, facts, presentation and evaluation by increasing the activity of the student and constant interaction between student and teacher. We expect the student to become a center of education, obtain information from various sources to advance the adoption of new knowledge at a pace that suits his skills and knowledge and understanding to adopt curricula.

The teacher has the task to teach students how to learn through computer technology and to motivate them for continuous renewal of knowledge and skills in order to better their strike while the study of the contents of other subjects in class, especially those that are study in subject teaching in upper elementary school (history, biology, geography).

Interactive multimediuum - PC provides countless knowledge of students about the world, objects and phenomena that surround us in the immediate and wider environment, which they can practically apply through the observation (of natural phenomena, objects and processes) or visit certain objects (monuments, archaeological sites, museums, health, cultural, social and political institutions).

Contemporary teaching material in nature and society, from teacher requires to find new application solutions in the using of computational techniques to suit the times and needs of student with content from: ecology, health education, the fundamentals of democracy, familiarization with the culture and traditions of the past of our peoples.

As an example of class for the application of computer in teaching nature and society are content of environmental education. The main goal of these subject is the adoption by the students, environmental knowledge, culture, ekopatrol, execution of tasks of order and cleanliness in the school, maintaining personal hygiene. These contents can initiate new ideas, not only theoretical but also practical, specifically to see all the dangers that affect the ecological environment pollution (pictures and video of burnt places, floods, avalanches, air pollution from industrial facilities and how it affects human health, etc.)

The application of computer in teaching nature and society of allowing students to observe and learn about different kinds of natural phenomena and processes (which are dangerous or remote for direct observation by the pupils, thunder, lightning, waterfall, oceans , various kinds of winds, earthquakes, avalanches, volcanoes, different types of animals and birds wich doesn't live in our environment), collected data on history of people of national and general history.

Teaching using a computer is programmed teaching. It allows the teaching process to be individualize, concerning each student receives individual information and progress according to ability and effort that invested. It also allows students to immediately check whether the track and whether the result is good, because in the program is attached and feedback. With every opportunity offered by this educational tool that can replace a good part of other forms of teaching and learning resources.

The computer can be used in all forms of educational work on methods of teaching nature and society, all types of classes (processing new curriculum content, the assess, repetition and systematization of the teaching material). Changes in the position of student teaching result the following:

- It increases the responsibility of the student's own success in learning;
- The impact of his training for independent learning, recognizing and for creativity;
- The changing ratio of collaboration between student and teacher;
- Constant consultation, discussion and clarification;
- Increased creativity, motivation and personality.

Learning, aims and tasks have become a source of personal happiness, joy and pleasure. Students had the possibility to collect information and to check it, feel free to state their opinions, views, liberally to express oneself, attitudes, in standalone use and search the literature, encyclopedias, daily press. It follows that: "In the application of computer technology teacher is less a lecturer and examiner, and more is strategist of the teaching process, organizer of teaching, an adviser to students in the learning process, intellectual leader, a factor that manages the process of teaching and learning which we know that matters."

Changes in the sphere of education affect the change of function of the "teacher". The new time search for extension of pedagogical and social role of the teacher which is different from previous. Here the teacher is not untouchable informant, one who has the privilege of first and last word in teaching. It now appears only as a strategist, organizer and, together with the students realize the educational work, care for the content of verified program and program instruction.

With the establishing of ICT teacher is increasingly becoming a leader and guide (mentor) helping students to transform information into their knowledge. Form the teacher is expected to find ways to reshape their old traditional skills in new and modern methods, to develop new paradigms of education and to adopt new skills. This technology does not replace the role of teacher, but provides him an easier way better, more effective and more acceptable to achieve its educational purpose in accordance with the abilities of all students.

With the introduction of computer in teaching nature and society "should be distinguished from teaching formcomputer. We are not talking about learning the computer, but learning with computers. The goal is using the computer to obtain better results in learning."

At the same time the application can be direct, when the student communicates with the program, and indirect, when the teacher is preparing to deliver the instruction. To provide information is not the same as giving prepared knowledge. Accepted information each student individually should transformed into knowledge, the student should learn how to independently comes to information, how to manage them, how to translates into knowledge.

Computer in teaching nature and society can be applied in several ways:

1. Through preparation of lesson plans for daily planning

2. Using the Internet:

- e-mail;
- internet explorer and their role in: retrieval of text and statistical data, pictures, charts, draft, graphs, maps, changes and processes in nature;
- use of specialized pages (sites) for particular content and objects;

3. Power point (presentation for class)

- Processing curriculum material (frontal teaching, group work, individual,

programmed teaching, etc.);

Checking of knowledge (test);

Development of educational papers (allowing fast control of knowledge, what is the average score of the individual and whole group);

4. Multimedia (atlases, guides, encyclopedias, etc.)

5. Information Systems

For didactical designed of new teaching situations, traditional teaching methods are now directed into new research areas and problems, such as the internet and interactive media. Permanent development of Internet network shows that Internet learning is not only variable method, but that in future one can expect its intensity, and burnt more frequently applied in education.

The application of computer in teaching nature and society enables: easier learning and faster acquire of the material, allowing the economy in the use of time, teaching is more interesting for students and allows enduringly of learned material.

2. CONCLUSION

Changes that happened in recent years in all fields inevitably raised the need for changes in the educational system, which qualitatively changed and position of student and teacher towards to further enhance the student activity and opportunities for self coming to knowledge in accordance with his desires, abilities and capabilities.

We enumerate all the advantages of using computer in teaching nature and society, how, when and how to use, but a leading figure and holder of all activities is the teacher.

If we think about the future of our education and upbringing, computer technology should be an imperative of our time.

3. REFERENCES

- [1] Анита Штерјоска (2003) Технологијата во функција на поефикасна настава, Зборник на Педагошки факултет „Св. Климент Охридски“, Скопје
- [2] Данило, М. (1996) Современа образовна технологија, Београд:Институт за педагошки истраживања
- [3] Efekti primena ICT I edukacijskog softvera u nastavi matematike, Retrieved from: <http://drugar.blogger.ba/arhiva/2009/01/13/2003714>
- [4] Ivkov-Dziguski, A., Primena računara u nastavi, Retrieved from: http://www.dgt.uns.ac.rs/download/inovacije_1.pdf
- [5] Матијевич, М., (2008) Интернет мултимедиите и доживотното учење, Воспитни крстопати, година 15, бр. 11
- [6] Мандић, Д., Информациона технологија у савременој настави, Retrieved from: <http://www.filozof.org/pdf%20format/zbornik2/Danimir%20Mandic.pdf>
- [7] Мандић, Д., (2001) Информациона технологија во образованието, Сарајево, стр. 26
- [8] Митревска, Ц. (2006) Појава и развој на наставата со помош на компјутер , Воспитни крстопати, Скопје, бр. 101, година 11, стр. 10