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### APPLICATION OF COMPUTERS AND EDUCATIONAL COMPUTER SOFTWARE IN TEACHING NATURE AND SOCIETY

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**Summary:** Today it is inconceivable that any work of modern man without the proper equipment and technology. New technologies in the learning process create new ways of communication, knowledge transfer and create new social relations. At the time of the dynamic and technological development, the need for the application of educational tools is a challenge for teachers. The acquisition of teaching content, supported by teaching technology increases the level of knowledge and critical thinking. Modern teaching nature and society involves application of computers and educational computer software in teaching. The use of computers and educational computer software in teaching enables students to more easily adopt many concepts, natural phenomena, processes, relationships between living beings, living and non-living nature. At the same time motivate students for reflection, thinking and integration of intellectual skills. For this purpose here we will try to show the experiences of teachers in the use of computers and educational computer software in the educational process in teaching of nature and society.

**Key words:** the subject of nature and society, teaching technology, computer.

### PRIMENA RAČUNARA I OBRAZOVNI KOMPJUTERSKI SOFTVERA U NASTAVI PRIRODE I DRUŠTVA

**Rezime:** Danas je nezamislivo da bilo koji rad savremenog čoveka, bez odgovarajuće opreme i tehnologije. Nove tehnologije u procesu učenja i da kreirate nove načine komunikacije, transfera znanja i stvaranje novih društvenih odnosa. U vreme dinamičan i tehnološkog razvoja, potreba za primenu obrazovnih alata je izazov za nastavnike. Usvajanje obrazovnih sadržaja, koju podržava tehnologija povećava nivo znanja i kritičkog mišljenja. Savremena nastava prirode i društva, podrazumeva primenu računara i obrazovnog računarskog softvera u nastavi. Upotreba računara i obrazovnog računarskog softvera u nastavi omogućava učenicima da lakše usvoje mnogi koncepti, prirodne fenomene, procese, odnose između živih bića, žive i ne žive prirode. U isto vreme motiviše

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*učenike za razmišljanje, razmišljanje i integraciju intelektualne sposobnosti. Za ovu svrhu ovde ćemo pokušati da pokažemo iskustva nastavnika u korišćenju računara i obrazovnih računarskih softvera u obrazovnom procesu u nastavi prirode i društva.*

**Ključne reči:** nastava prirode i društva, savremeni obrazovni softveri, računar.

## **1. APPLICATION OF COMPUTERS AND EDUCATIONAL COMPUTER SOFTWARE IN TEACHING NATURE AND SOCIETY**

Today it is clear than ever that the future, prospects and development of a country largely depends on its willingness and ability, to organize education on a modern way. Daily work in education, requires changes in the way of work, importing certain means, methods, forms and techniques that corresponded with the request and movement on teaching.

Knowledge and usage of ICT in the modern world present one of the basic elements of literacy and culture of man. There is no doubt that the use of the computer greatly facilitates learning and work. The development of ICT in recent years has brought significant changes in education. Equipping schools with contemporary computer equipment and information literacy is one of the priorities for reform of the education system.<sup>3</sup>

The goal of primary education is to enable individual development of students according to their abilities, gaining permanently knowledge and skills and their applicability to everyday life. Generations that comes, unlike the older ones use more modern technology. For that purpose should be made a separate plan in order that pedagogical, methodical shaped instructional materials, to enable pupils, students and even older generations for the present, also and for the future that is based on information and communication technology.

Computer technology is considered essential for any serious education, to modernize itself for survival and success in today's time. The computer as an effective teaching tool widely is used in content in the teaching nature and society. Through it it's allowed control, regulation and management in the teaching, and learning provides constant feedback that possesses great motivation and represent basis of a system of fair valuation and assessment work with students.

The value of computer is that it connects pupils with countless data, allows activity, independence and commitment to mental strength and creativity of pupils. For teachers that implement contents from the subject teaching in nature and society, the computer is a powerful tool for new and improved strategies in the process of education and transmission of rich and quality knowledge.

From the very beginning with the introduction of computer education in teaching nature and society was clearly that open unseen data, the possibilities for data processing, communication between the remotest parts of the world, the fastest access to all information. In addition to these findings are the words of Silvana Levejkovska indicated in her article in the Educational crossroads, which reads: "In the field of educational technology, the teacher should have knowledge in order to properly use modern technological means. The efforts of the teacher should exist in every part of the raising

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<sup>3</sup> Delić, N. (2008), Informaciono-komunikacione tehnologije u obrazovanju, Fakultet poslovne informatike, specialistički rad, Banja Luka, Retrieved from: <http://www.apeiron-edu.eu/centar/Radovipdf/Specijalisticki/NedimDelic.pdf>

process, following the innovations and introducing that a positive result and that determines its role as a researcher and expert on educational technology".<sup>4</sup>

With the introduction of computer education in teaching nature and society, and learning about the environment, it was clear that creates opportunities for its application in the educational process. Curriculum in teaching nature and society, create the conditions for gradual uncover of mutual relationships and dependencies among the flora and fauna, including mercury and non-living nature and significance of human activity in society.

The implementation of the program introducing computer in basic education with its seriousness and necessity has shown that the approach and efforts of all who were involved in this work are examples of how to organize things with this technology. The training of all teachers at the elementary school, through meaningful and well-designed seminars has given its results. Although there were some implementation difficulties, taken as a whole, the computer is well accepted by all staff in primary education. Computer in teaching process drew attention to the pupil. How much is important knowledge for the pupils, which acquired according to the subject teaching in nature and society, speak the data supplied from teachers in primary schools.

The teaching of nature and society, as interdisciplinary and multidisciplinary discipline, there are more opportunities for the application of computer in teaching process. Therefore required a good desire, courage and commitment to teaching gain a new momentum, a modern way and teaching content will be more natural, more interesting and closer to the pupil.

In addition to this, the best speaks words of Mr. Cvetanka Mitrevska, which says that "the basic role, purpose, and justified the application is that it can help in increasing the efficiency of the teaching process and learning process, which includes:

- ❑ Increasing the opportunities of the teacher to have greater impact on pupil for educational purposes;
- ❑ Reduction of time learning about educational goals achieved;
- ❑ Rreducing the invested financial costs.<sup>5</sup>

The introduction of modern technology in the teaching process, bring some changes in the method of learning and teaching. The current model comes to a new environment, which requires new methods of work. There are different types of learning, depending on what is theme of learning, in what environment is learning, the characteristics of the person who teaches (pupil), and the person who teaches (teacher). Knowledge is the value that an individual can attain in the learning process and varies from individual to individual. Each individual receives information differently at a given moment. The knowledge base is always information that an individual receives, directly or indirectly and thus achieve their personal development.

In the realization of teaching nature and society, the uses of computers play an important role. With their application students can easily understand many concepts, natural phenomena, processes, relationships between living beings, living and non-living nature.

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<sup>4</sup> Levejkovska, S. (2003), Vzaemen odnos na akcionite istraživanja i obrazovna tehnologija, *Vospitni krstopati, godina VIII*, br. 7172, 2003, str. 16

<sup>5</sup> Mitrevska, C., Pojavata i razvojot na nastavata so pomoš na kompjuter, *Vospitni krstopati*, Godina XI, str. 9, 2006

With proper use of this tool provides interaction and communication among students. Students should work in groups, because through those ways each comment on the progress of work, and exchange new ideas and knowledge. At the same time creates a mutual interaction between pupils and teacher. Teaching with the help of computers contributes to the development of speech and scientific language among students. Those students who acquire new knowledge with computers and educational software will show good results in the adoption of logical operations, rather than students who are educated in traditional teaching.

Through the use of computer and related educational software in teaching of nature and society among pupils allow:

- students to gain knowledge and skills for working with computers;
- to improve the quality of knowledge that pupil acquire through teaching nature and society;
- to develop children's personality - logical thinking, problem solving;
- improves motivation among pupils;
- develops a sense of responsibility when using the computer.

For all these advantages of using computers, are made various educational software, which can be used by pupils and teacher in primary education, where they will gain more knowledge in different subjects. With a good educational software, pupils can acquire a wide range of knowledge and skills that improve the quality of their knowledge. In our schools frequently is used child package ToolKid, which is part of the e-school, funded by USAID and implemented in cooperation with the Bureau for Educational Development. The Ministry of Education created a web portal for the implementation of specific instructional content through presentations in which besides the text and pictures, pupils will be able and auditory to learn about some changes and processes in nature and in wildlife. (<http://skool.mk/>).

This is just a link in the chain of positive opportunities that brings with it the realization in teaching using the computer, which is based on encouraging positive development of quality young people who successfully brings with contemporary trends in society and life in general.

Information technology gives us greater opportunities to discover the characteristics of students, educational influence on them, encouraging their abilities in forming a positive value system as an integral part of our social environment and humanitarian mission.

## **2. CONCLUSION**

Computerization into primary education is a universal system for teaching, for evaluation of knowledge, to raise the quality of teachers work, while for pupils is a source of knowledge and a means for faster and better learning. With the creation of good educational software, pupils can acquire a wide range of information and skills that improve the quality of their knowledge. Therefore, it is necessary in future to use educational software for integrated learning in primary education in purpose to improve the quality of the curriculum. With their use of each pupil is trained himself to develop their own potential and to establish the person that in future will be able to solve complex problems and finding effective techniques for better job performance.

Pupils are not just passive listeners, but getting an active role. The main characteristic of this teaching is the interaction as a process of mutual relations between pupil, teacher and tools for learning. Pupils are grouped according to their knowledge and abilities and are given a variety of instructional content. According to its pedagogical orientation, active teaching strives to establish something new and progressive, with the school affairs shall humanizes and makes learning easier and more interesting. The organized and systematic work of the teacher and student quickly can be performed by means of teaching computer, and thus to follow new technological education and educational achievement.

Life is movement and the teacher has influenced on the future of the pupil.

#### REFERENCE

- [1] Велјановска, В, Митревска, Ц., Трајковска, В., Целта на современите системи за компјутерски подржано оценување, Просветно дело, Скопје, 2010, стр. 98
- [2] Леџковска, С. (2003), Взаемен однос на акционите истражувања и образовната технологија, Воспитни крстопати, година VIII, бр. 7172, 2003, стр. 16
- [3] Митревска, Ц., Појавата и развојот на наставата со помош на компјутер, Воспитни крстопати, Година XI, стр. 9, 2006
- [4] Delić, N. (2008), Informaciono-komunikacione tehnologije u obrazovanju, Fakultet poslovne informatike, specialistički rad, Banja Luka, Retrieved from: <http://www.apeiron-edu.eu/centar/Radovi/pdf/Specijalisticki/NedimDelic.pdf>
- [5] Ismajli, H, (2008), The impact of teaching technology on the development of critical thinking, Odgojne znanost: Vol. 10, br. 1, str 97-112
- [6] Ploj Vrtič, M., Pšunder, M. (2009), The computer as a modern form of communication in the educational process from the teacher's point of view, Informatologija 42, 2009, 1, str. 10-17
- [7] <http://skool.mk/>