UNIVERSITY IN NOVI SAD
FACULTY OF EDUCATION IN SOMBOR

THE THIRD INTERNATIONAL CONFERENCE ON INFORMATICS, EDUCATIONAL TECHNOLOGY AND NEW MEDIA IN EDUCATION

SOMBOR
2006

Treća međunarodna naučno-stručna konferencija
"Informatika, obrazovna tehnologija
i novi mediji u obrazovanju"
ZBORNIK RADOVA

Izdavač
Pedagoški fakultet u Somboru
Centar za izdavačku delatnost

Za izdavača
Prof. dr Dragan Soleša

Glavni i odgovorni urednik
Prof. dr Dragan Soleša

Knjiga 114

Biblioteka
Posebna izdanja

Recenzenti
Prof. dr Ivan Gerlič, Slovenija
Prof. dr Heli Ruokamo, Finska
Prof. dr Danimir P. Mandić, SCG
Prof. dr Jovan Savičić, SCG
Prof. dr Dragan Soleša, SCG
Doc. dr Marjan Krašna, Slovenija

Kompjuterska obrada
Alen Milošević

Štampa
"Print Azur" Sombor

Tiraž
300

ISBN 86-83097-51-X

The Third International Conference on
Informatics, Educational Technology
and New Media in Education
PROCEEDINGS OF PAPERS

Publisher
Faculty of Education in Sombor
Publishing Centre

For publisher
Professor, Dragan Soleša, PhD

Editor in chief
Professor, Dragan Soleša, PhD

Book 114

Edition
Special Issue

Reviewers
Ivan Gerlič, PhD, Slovenia
Heli Ruokamo, PhD, Finland
Danimir P. Mandić, PhD, SCG
Jovan Savičić, PhD, SCG
Dragan Soleša, PhD, SCG
Marjan Krašna, PhD, Slovenia

Technical editors
Alen Milošević

Printed by
"Print Azur" Sombor

Circulation
300

ISBN 86-83097-51-X

Konferenciju su pomogli:
Program profesionalnog razvoja nastavnika u Srbiji - KORAK
i Sekretarijat za nauku i tehnološki razvoj IV AP Vojvodine

korak

UNIVERSITY OF NOVI SAD
FACULTY OF EDUCATION IN SOMBOR

THE THIRD INTERNATIONAL CONFERENCE ON INFORMATICS, EDUCATIONAL TECHNOLOGY AND NEW MEDIA IN EDUCATION

SOMBOR
2006

Contents

Dragan Soleša
INFORMATICS, EDUCATION TECHNOLOGY AND NEW MEDIA IN EDUCATION ---------- 11

Kirk Anderson, Lence Miloseva, Keith Walker
LEARNING TO TEACH FROM EACH OTHER: CANADIAN PRE-SERVICE TEACHERS' PERCEPTIONS ON EFFICACIOUS BUILDING EXPERIENCES WITH AN EUROPEAN REFLECTION ---------- 14

Milica Andevski
PEDAGOGY OF THE MEDIA AND USE OF CHILDREN ---------- 23

Sanja Antonić, Adam Sofonijević, Aleksandra Popović
E-LEARNING IN LIBRARIES: PRESENT, FUTURE, PORTALS ---------- 27

Jasmina Arsenijević, Dejan Arsenijević
INTELLIGENT TOOL FOR SUPPORTANCE KNOWLEDGE MANAGEMENT IN EDUCATIONAL SETTINGS ---------- 33

Srđan Arsenijević
FROM INFORMATION TO COMMUNICATIVE PRACTICE ---------- 39

Tatjana Atanasova-Pachemska
CURRICULUM REVISION AND ICT INTEGRATION ---------- 45

Dušan Bogičević
INDIVIDUALIZATION OF TEACHING BY THE USE OF COMPUTER'S EDUCATIONAL SYSTEM ---------- 50

Geza Cekuš, Žolt Nemestovski
INTERDISCIPLINARY EDUCATION USING DIGITIZED MAP ---------- 56

Metod Černetič, Olga Dečman Dobrnjič, Brina Černetič
KNOWLEDGE IN INFORMATION SOCIETY ---------- 63

Ivana Cindrić, Mario Dumančić
VIRTUAL CLASSROOM – A SUPPLEMENT TO FOREIGN LANGUAGE LEARNING A PILOT PROJECT CARRIED OUT AT THE FACULTY OF TEACHER EDUCATION ---------- 73

Dragan Cvetković, Dragan Rastovac
THE TOOLS AND TECHNOLOGIES FOR ONLINE LEARNING ---------- 79

Olga Dečman Dobrnjič, Metod Černetič
INFORMATICS IN EDUCATION MANAGEMENT ---------- 86

Geza Cekuš
Žolt Nemestovski

INTERDISCIPLINARY EDUCATION USING DIGITIZED MAP

Summary: *In the last few years, since the instructional-educational work hass been changed, we speak more and more about two very important processes: the use of the computer and the interdisciplinary education. The two authors – through a particular example – are looking for the answer to the question how reconcilable the two processes are. Forming and developing the knowledge of the map using the computer is new in the practice. The possibilities of knowlegde acquisition are also new. We want to emphasize that these processes could be realized in the teaching of several subjects. Moreover, the pupil's menthal abilities could be improved by these processes.*
Key words: *interdisciplinary, integrated education, digitized map, 3D orientation, development of the abilities*

1. INTRODUCTION

The use of computers, slowly, but becomes more and more frequent in the instructional-educational work. Spreading of the professional and amateur softwares helps this process. Unfortunately, the softwares which follow the programmes are very rare (Czékus, 1998). They are methodically, didactically and tradely well made. On the other hand, the teachers' further training is running, too. They are much more brave to use computers. We can say that nowadays the instruction and the education is more up-to-date, and more efficient than it was before. (Nadrljanski, 2002).

In spite of all this, the pupils are not active enough on the lesson (Jukić, 1997, Mandić, 1991). They do not get enough feedback about their work, generally only when they do an oral test. Therefore we should find new solutions for these problems..

A possible solution could be the use of computers in the process of teaching. A survey (Gordán, Námesztovszki, 2003) shows that the pupils, who attend the 3rd and the 4th class, can

use the computer on basic level. The problem is that the teachers are still not prepared enough to use the computer (www.palatabla.zenith.org.yu, Cekuš 2004).

Geberally pupils are easily predisposed to new things, unlike the teachers. In this respect teacher training should be reconsidered.

Using the computer, the education could be interdisciplinary. The interdisciplinary and integrated education has been a requirement in the last few years (Anderson, 1985, Czékus 2005). It especially refers to the teaching of Nature and Society, and Environment, but it can be related to other subjects like Geography and Biology, too.

2. INTERDISCIPLINARY AND INTEGRATED EDUCATION AND THE USING OF THE COMPUTER

In the first four classes of the primary school there are only a few „clear" school units (Pravilnik, 2005). The contents themselves need to be taught integrated. A good example for this is the treatment of the geographycal contents in the subjects „Environment" and „Nature and Society".

Complexity is one of the most important characteristics of the subject of Nature and Society (Czékus, 2005). We have to work up only a few amongst the geographical contents, especially the physical-geography parts, but it is needed to work them up without mistakes; it is important, because in this way later, in the 5th and 6th classes, we will not have to corrigate this knowledge. These contents are: space (field!), terrain, waters, clime, zoo- and fitogeographical contents, natural resources of the litosphere, demographical contents. The geographical contents relate to the sociological, biological, physical, chemical contents. The digitized map we speak about satisfies the most expectations.

The 3 most important things we have to know about the space: it has a size, we can find orientate in it and it is continuous (it does not have an end).

The child learns about the space step by step (Jukić, 1997, Randjelović, 1996)): first as a baby his/her bed and room, later the flat/house. When he/she starts going to school, the space broadens to the home-school relation. These spaces are directly experienced by him/her. Experiencing the abstract space is not as easy, because he/she cannot percieve its size and continuity. It is the duty of the school to help the child understand the concept of the space by developing the skills needed for this. The digitized map helps the improvment of these skills. With the help of this map the child can discover the world around (his home, neighbouring settlements, the community, the region). There are two phases in the development of the orientation: the ego central-phase (the child is in the centre, he/she compares the surrounding world to himself/herself) and the ectocentral-phase, which needs higher mental abilities. When the pupils make the orientation's basic principles acquainted - the plan of the classroom, the plan of the schoolyard, the road between the school and another place, the map of the settlement - then follows the use of the digitized map. It can substitute the wall map and the table map, too. In the higher classes (5th-8th) the pupils can read out a settlement's parallels and the degree of longitude, too.

The digitized map is suitable to show and to hide the terrain, the rivers and the dead waters, too.

It can be used on other lessons, too (for example mother tongue, history). The child can see the arms of some settlements, the old photographs about the settlement (and about it's inhabitants).

The map can be used as a dictionary in the Hungarian-language classes, because beside the settlement's Serbian name there is the Hungarian, too.

The software can be useful at the forming of different skills, too, for example addressing letters. Amongst the datas of the settlements there are the postal codes, too.

When they get practice in the using of the software, teachers can ask the syllabus playfully back, for example they can make imagined trips.

The software is not only good for solving the functional exercises, but also educates – for example teaches tolerance. Amongst the informations about the settlement you can find the settlement's demographical datas, too. The pupils learn which nationalities live in a settlement. In pedagogy there is a common principle that we can love and respect only those who we know. With the help of this map we can learn more about our community.

3. DIGITIZED MAP OF VOJVODINA

When you put the disc into the CD-ROM, the menu of the sofware starts automatically (autorun menu). If the „Autorun insert notification" is turned off, we have to turn it on for the menu to start alone. If we do not want to change this function, we start the file „Start. exe" from the CD.

In the sofware's menu you can choose:

- **Start** – pressing the button we start the sofware. The waiting time depends on the quantity of the RAM memory, speed of the CD-ROM, and processor (of course, if the memory is a bigger one, the CD-ROM and the processor is faster, we have to wait less).
- **Introduction** – it contains informations about Vojvodina. It describes the geography, hisrtory, politics, population of Vojvodina and contains a gallery of photographs.
- **Exit** – pressing the button we exit from the menu and from the whoole software.

Picture No.1. The sofware's autorun menu

3.1. DESCRIBING THE SOFTWARE

The instructional software „Digitized map of Vojvodina" eliminates the lack of the traditional education. Watching the presentation, the user perfects his practical skills int he use of computers. What's more, this educational software is a global and an interesting source of knowledge. This type of information affects more organs of sense, and provides interactivity. This method has more advantages because it arises pupils' attention and provides successful work for teachers, contrary to the most dominant method of nowadays – it is the method of chalk-blackboard-words.

It ia a common sense that the teaching of Nature and Society based on direct watching (family, home, traffic, qualities of materials and creatures etc.), children can most effectively be acquainted with these things in this way. This works only if there are real conditions for it. With

this software the pupils learn the reality on another way, because there are several ways to achive the aim. This matherial gives several ways to the teachers in practice, and also to the pupils who know how to use the computer. This sofware awakes the interest of pupils with its interesting contents and opportunities, urges the pupils to leave their house and to learn something about their surroundings on the spot, or to do experiments.

The sofware is worked out following the education-curriculum and the programme (Pravilnik o nastavnom planu, 2005), the textbook (Trebliešanin, 2005a), workbooks „Zavičajnica" (Trebješanin, 2005b) and the methodical handbook (Trebliešanin, 2002).

The minimum configuration to the work is a processor 486. It is needed a CD-ROM, a video card with an 800x600 resolution, a sound card and operating system „Windows 95" or a newer version of Windows, too. The sofware can be used easily, because you do not need to install the CD – the installing programs are mainly in English. The sofware does not occupy any memories on the hard disc. There are all the sofwares burned on the CD which are needed at the work of the sofware.

The sofware is worked out and made in that way that it can be used by the pupils, teachers and parents.

The structure and the handing of the CD is simple, it follows the level of a second class-pupil of a primary school. It is enough to know how to use the mouse.

Presentations are used on the introductional lessons, on the repetition- and systematize lessons. It helps the teacher a lot when they learn a new topic.

Digitized map of Vojvodina is made in the sofware „Macromedia Flash MX 6.0" and saved in the file „mapa.swf". The „start.exe" file contains the appropriate player to the „swf" files.

In the middle of the monitor is the map, on the edges are the teaching aids to the map.

Picture No.2. A part of the map – with all the properties

3. 2. Helping instruments

3. 2. 1. The block which makes the screen's picture bigger

The button, which makes the screen's picture bigger, you can find on the left-up part of the monitor. Using the + and the – buttons you can make the map bigger and smaller in the middle of the monitor. Using the arrows you can move the map. There is a circle in the centre of the star; pressing it you can restore the map to his original state, when the whole map is seen and the zoom is 100%. On the right side of the block is a place where the percentage of the zooming is shown, whose value can move between 100% and 400%. Under this icon there are two arrows with which we can make the pictures bigger or smaller. There is a number under the arrows which signs the „measure" of the zoom.

3. 2. 2. The block to find settlements

On the left-down part is the block to find settlements. There are **486** settlements of Vojvodina processed. The settlements are arranged by the alphabet. At first we have to choose the initial letter of the settlement we want to find, then get it on the list. If we move the cursor on the name of the settlements, the background of the given settlement becomes blue. When you click on the name of the settlement, you will see introduced circles and a cross which sign the precise place of the chosen settlement. Beside the cross and the circles of signing the settlement, next informations appear on the monitor: the settlement's Serbian name, it's Hungarian name, the name of the community in Serbian, the name of the community in Hungarian, the telephone number and the postal code of the settlement. Clicking on the crossed out circles on the left-up part of the block we destroy circles and the cross which marks the settlement.

3. 2. 3.The block to set the terrain

It can be found on the middle-top of the monitor. You can determine its coming into view using the arrows. With the arrows you can move the line which is moving on a scale, too. Under this scale there is the percentage of the transparency. If we turn off the terrain on the map, different colours appear on the block. We determine the whole background of the map by choosing these colours.

3.2.3. The block to turn in- and off the groups to modify the map

The block is on the right-up part of the monitor. The next buttons are on this block: the parallel and the degree of longitude, borders, hiding the areas, the surface of the water, roads, built-up areas, legend, informations about the designer, exit.

3. 2. 4. The block to modify the map

We can modify certain qualities with this option. We can hide and show the different geographical and societical qualities of the map.

The buttons to modify are in the next groups:

- The parallel and the degree of longitude – we hide and show the parallels and the degree of longitude (together or separately).
- Borders – we hide and show the border of the Land, the Province, the area (district) and the community.
- Coverage of the area – we hide and show the areas. We can hide the whole Bačka, or certain parts (North Bačka, South Bačka, West Bačka).
- Area of the water – we hide and show Vojvodina's areas of water.
- Roads – we hide and show the roads on the map. We can show and hide them using given buttons: motorways, magistral international roads, magistral roads, asphalted roads, local roads and railways.
- Built-up areas – the built-up areas are grouped by the number of their inhabitants. There are the next buttons: settlements under 5,000 inhabitants, settlements between 5,000 and 10,000 inhabitants, settlements between 10,000 and 25,000 inhabitants, settlements between 25,000 and 50,000 inhabitants, settlements between 50,000 and 100,000 inhabitants, settlements more than 100,000 inhabitants. We have put a button in this group to mark the capital of the province, a button to mark the county town of the district, a button to mark the county town of the community. Here is the button to show and to hide the name of the settlements, too.

There are another buttons to show: - legend, informations, the button to exit from the programme.

4. SUMMARY

There are not enough maps in the schools. In a lot of schools they out of dated, ripped maps.

The curriculum does not provide enough time to learn about our closer permanent. Only a few primary school-pupils know their community, region and province.

The digitized map contains every settlement in Vojvodina. In addition to the name of the settlements, you can find their Serbian name, postal code, telephone number, the community that belongs to, arms, photos from the settlement and the map of some settlement. You can search for the name of a settlement, too. Besides, the programme contains the roads of Vojvodina (motorways, international roads, magistral roads, local roads, railways), it's terrain, the rivers, lakes, marshes, community-borders, district-borders, provice- and state borders. The listed things can be turned on and off separately helping the illustration and the search.

A part of the programme is the Introduction, in which the user can read about the geography, history and status of Vojvodina in.

The software which is made by us should ease the mentioned difficulties:

- It would help the realization of the Hungarian equivalent of the Vojvodinian geographical names (settlements, communities, districts, rivers etc.)
- It would equip the schools with timely maps (geographical, political)
- It would teach the users about their closer permanent (roads, water-network, borders)
- It would teach the users about the history of Vojvodina (it would strengthen the attachment to the native country and the tolerance)
- It would develop the younger generation's computer knowledge (how to use the mouse, a software)

The programme excellently can be applied on the lessons, and the pupils can also use it alone. You do not need a very good computer nor a big knowledge about the computers tor un this programme (at the user's side). The CD contains all the necessary accessories for the running.

REFERENCES

1. Anderson, J. R. (1985): Cognitive Psychology and its Implications. New York, W.H. Freeman.
2. Cekuš G., Namestovski Ž. (2004): Obrazovni softver u nastavi prirode i društva u osnovnoj školi. In: Zbornik radova Savremene informatičke i obrazovne tehnologije i novi mediji u obrazovanju. Učiteljski fakultet, Sombor. P.39 55.
3. Czékus G. (1998): Az audiovizuális eszközök alkalmazása. Atlantis, Újvidék.
4. Czékus G. (2005): A természetismeret-tanítás módszertana, Szabadka.
5. Gordán K., Námesztovszki Zs. (2003): Egy felmérés a kisdiákok számítógép használatáról. Új Kép VII pp 26-29.
6. Jukić, S. (1997): Učenje učenja u nastavi. Savez pedagoških društava Vojvodine, Novi Sad.
7. *Mandić, P., Gajanović, N.* (1991): Psihologija u službi učenja i nastave. Lukavac.
8. Nadrljanski, Đ., Soleša, D. (2002): Informatika u obrazovanju. Učiteljski fakultet, Sombor.
9. Pravilnik o nastavnom planu za prvi, drugi, treći i četvrti razred i nastavnom programu za treći razred osnovnog obrazovanja i vaspitanja. Prosvetni pregled. Specijalni broj. maja 2005, Beograd.
10. Ranđelović, J. (1996): Uvodni deo nastavnog časa. Nova prosveta, Beograd.

11. Trebješanin, B., Gačanović, B., Novković, Lj. (2002): Priručnik uz udžbenički komplet Priroda i društvo u 3. razredu osnovne škole. ZUNS, Beograd.
12. Trebješanin, B., Gačanović, B, Novković, Lj. (2005a): Priroda i društvo. Udžbenik za 3. r. OŠ.. ZUNS, Beograd.
13. Trebješanin, B., Gačanović, B, Novković, Lj. (2005b): Zavičajnica. Radna sveska za 3. r. OŠ. ZUNS, Beograd.
14. www.palatabla.zenith.org.yu

Cekuš Geza, PhD
Namestovski Žolt
Faculty of Education in Sombor, University of Novi Sad,
Sombor, Serbia&Montenegro

CIP – Каталогизација у публикацији
Библиотека Матице српске, Нови Сад

37.01:004(82)

INTERNATIONAL Conference on Informatics, Educational Technology and New Media in Education (3 ; 2006 ; Sombor)
The Third International Conference on Informatics, Educational Technology and New media in Education, Sombor, 2006 : [proceedings of papers]. - Sombor : Faculty of Education, Publishing Centre, 2006 (Sombor : Print Azur). - 429 str. ; 24 cm. - (Special issue / Faculty of Education, Publishing Centre ; book 114)

Tiraž 300. - Bibliografija: str. 428.

ISBN 86-83097-51-X

a) Obrazovanje - Informacione tehnologije - Zbornici

COBISS.SR-ID 211977223