A new approach to learning with the introduction of modern information tools and software in the teaching process

Jezdimir - Luka Obadović[1]

[1] JUSSŠ „Vukadin Vukadinović", Berane, Montenegro
e-mail luka.obadovic@gmail.com i jezdimiro@t-com.me

Abstract: The paper presents the importance of the concept of lifelong education in the time we live and necessity for a modern school where the teacher is appointed to the student. In this context, the work is based on research analyzing the reform of introducing modern information tools and didactic software, both in teaching and learning process, which can significantly contribute to the quality of teaching process, learning efficiency and better didactic organization of individual subjects. The paper affirmed the logic of development of modern information society, both teachers and students, which must be directly supported by introducing adequate information technology in schools, aspects of tools in teaching, OneDrive software applications for the storage of educational materials, the use of blogs and social networks in the implementation of modern teaching and use software package GeoGebra in teaching.

Keywords: information technology; tools; software; teaching; learning; changes

1. INSTEAD OF INTRODUCTION: A REVIEW OF INFORMATION TECHNOLOGY, AND SOFTWARE TOOLS IN MODERN SCHOOL

The vision of the information society development in the third millennium involves the application of modern information and communication technologies (hereinafter ICT), which are considered the main driving force for change in the education system of Montenegro. Modern ICT is imperative that our modern society imposes. In this context, open three aspects of the study of ICT in teaching and learning: defining ICT-assisted learning, continuous adaptation of ICT as a means of teaching and the inclusion of ICT as a new scientific field and appropriate methods of education in the regular education process. The research analyzes the construction of a modern educational system of Montenegro, through the examination of the possibilities opened up by introducing modern ICT in the teaching process follows the logic of the development of modern information society, both teachers and students, which must be directly supported by the introduction of adequate ICT in schools. Taking into account that this time the inevitable must be made specific and long-term efforts to innovate in this way the teaching process, as far as possible adapt both to the needs of the educational process in modern conditions, and the real needs of teachers and students. It is on these premises construction of a modern educational system of Montenegro

has justified the introduction of ICT, both in the teaching process and the learning process, but it does not need to fit more systematically analyze, adjust and monitor its development and its positive side. The research part is related to ICT, which can significantly contribute to the quality of the teaching process, the learning efficiency and better organization of individual didactic courses, because the **teacher** allows you to: *improve its awareness*; *uses modern teaching methods and forms of work*; *teaching process more interesting, more relevant, more dynamic, which is the basis for active teaching*; *always have feedback on learning*; *classes tailored to the individual abilities of students*; *guide students in independent research, organization and realization of teaching*; *easily carried out by connecting the teaching content with the real world*; *has a two-way communication with students using social networks in the implementation of the Hours*; *objectively evaluate the knowledge of students*; *to time update its work*; *shall be devoted to creative work, because routine tasks can be performed quickly (draw scheme, calculating, copying, etc.)*; *instead of lecturing probing the role of becoming a collaborator and advisor to students*; *i always uses the principle of obviousness*; on the one hand, and on the other hand, allows the pupil to: *teach according to their abilities*; *teaches a speed that suits him*; *develops the ability to work independently*; *acquired permanent knowledge*; *develop their creativity*; *be active in the learning process*; *be motivated to learn*; *acquire knowledge that can be applied*; *always have access to their accomplishments*; *easily and effectively share their knowledge with other students*; *uses different sources of information*; *critical access to sources of information*; *Always be on time informed about the education process, its objectives and tasks*; i work *in a pleasant environment*. The time in which we live shows that the knowledge-based society at the same time the company for continuous learning and education. The Ministry of Education of Montenegro through the project MEIS implemented the most important part of the use of ICT in education. MEIS project consists of several activities: equipping all schools with computer equipment, the introduction of broadband Internet, the training of teaching and administrative staff to work on the computer by school ICT coordinators... and finally the introduction of MEIS applications, see [1]. Computer literacy teachers in Montenegro is the process of continuously running, through training for computer skills and gaining corresponding ECDL certificate confirming possession of the necessary knowledge and skills.

2. INFORMATION TOOLS IN TEACHING

Tools for creating interactive content are important factors of effective teaching and learning in the future. In a broader sense, the tools should not be seen as a substitute for traditional books and textbooks, but should be accepted as a new way of organizing teaching and learning, as well as innovation and qualitative supplement more traditional and conventional methods of education. Learning in the future must be such as to allow access to content and knowledge to everyone. Aims to enable easier, faster, simpler, more flexible teaching and learning through real examples, which should build on and create new opportunities for the acquisition of knowledge. The role of students in creating learning content with the use of tools will grow significantly in the future. We should emphasize the fact that the tools are widely used in teaching, especially when using programs that are, in most cases, already installed on your computer and are used in everyday practice. In addition, tools in teaching and learning can be used by teachers and students:

⇨ *teachers* the tools used to create interesting teaching materials for students, introducing them to the topic and thus motivate students for further work, while

⇨ *students* after learning of basic skills, tools applied in independent problem solving individually, in pairs or in groups. They begin themselves to work, study material and acquire knowledge, which is very different from the passive listening that is present in the classic set, connecting material with the phenomena of everyday life, develop critical thinking and logical thinking. In this way the students themselves using tools partly created the content of the class and actively participate in class.

ICT offer a wide range of tools that can create new opportunities in the classroom, see: [2].

2.1. The division of tools for e-learning by category

Bearing in mind the identified tools of teaching and learning, it is necessary to indicate the possible division of tools that have to be carriers of all future changes and innovations in the educational system of Montenegro in the foreseeable future. In this context, starting from the current situation and current tendencies, tools for e-learning can be divided according to categories: *tools for teaching*; *tools for the processing of images, sounds and videos*; *tools for web meetings, conferences and virtualization*; *tools for social and kolabaracioni space*; *presentation tools*; *communication tools*; *personal tools*; *blog and wiki tools*; *Microsoft Power Point*; *Skype*.

ICT tools are widely used in teaching, especially with the use of programs that are already installed on your computer, and install programs from the Internet.

2.2. OneDrive computer application for the storage of teaching materials

Overall, **OneDrive** (formerly called SkyDrive, Windows Live SkyDrive and Windows Live Folders) is a free computer application that allows the user files on different computers synchronized automatically. In line with contemporary trends of the reform of the educational system of Montenegro, allowing users to store their files private, share them with their contacts or to publicly announce that the students can use during class and after class. To be able to log on OneDrive, you need to open an account on Microsoft web page login.live.com and thus allow yourself a free email address to which you will be able to receive and send electronic mail, see [3].

It should be noted that the educational materials that teachers prepared easily mounted on OneDrive. In this regard, the OneDrive can store about 15 GB of material. Within this framework, the teacher can set up a plan and program of continuing professional development for all, as well as the basic criterion for further work, presentations, pdf books, photos and everything that is considered important for the implementation time and achieve goals. When the teacher puts the material on your OneDrive account, students can on your PC, wherever they are, to take this material and use it in the acquisition of materials. All they need is to have an internet connection. In addition, students can create their OneDrive apps installed presentations, exchange ideas, and the like.

2.3. The use of blogs in the implementation of modern teaching

Blog or **weblog** is a type of website that does not require any knowledge of programming languages (html, php, css) to run and makes a series of chronologically organized texts that are displayed on Web pages. In this regard, the entries are sorted from the most recent content at the top of descending to the bottom of the page. Keeping all this in mind, through automated software can easily create and manage a blog, see [4]. In that sense, blogs allow you to express your opinion without any restrictions. They can write to anybody. The design and implementation of blog posts can vary not only by its subject and scope but also in terms

of format. It should be noted that the blog online diary or album, where you enter the new content is done in the style of the journal, which provides an opportunity for the teacher without any restrictions to devise a teaching unit (or for teaching the subject), and set it on its space from several smaller parts. Smaller parts are easier to acquire, but that feeling will be the engine for further learning. Students will be able to easily and quickly access the information they provide.

Today, the number of blogs is increasing day by day and more and more of those who share their thoughts with students, friends and strangers. In this sense we can see and blogs that combine the written word with photographs, video or audio content.

Blogger is one who governs blog. Instead of recording his thoughts in the physical log, blogger/she puts their ideas, thoughts and conclusions on the Internet in order to share with readers of his blog. All these facilities go to the blogosphere, and blogs can be classified into three basic categories: personal blog (focused on the subject), organizational blog (arranged by organizations or schools) and business blog (made for the purpose of making money, whether it comes to advertising, sale or promotion of products or services). Increasingly, bloggers act as a pressure group. Within this framework, a common custom of leaving comments, mostly mutual praise minded. In this regard, there are blogging spams, objectionable content that is not in accordance with the theme of the blog. In addition, advanced services have on the web spam-filters that prevent comments that are not in line with the theme of the blog. Application of the blog in the implementation of modern teaching ICT as a tool is multiple sets faster and easier communication; provides an easier way to exchange ideas and realized educational content among teachers; gives students an opportunity that no additional classes, using the blog compensate for lost teaching materials; teacher continuously creating blog (blog teaching) which encourages students to cooperate, establishing peer learning and communication through certain activities, for example: inform students about upcoming events, sets the assignments for assessment, for talented students for the competition; your blog can have some compartments school (homeroom or class blog) that the students edit their own departments or together with homeroom teachers or other, which would publish articles, news related to the activities of the departments, and schools; school can have your blog (school blog, some are appointed by, and as a school website) which would publish regular school activities teaching.

In the foreseeable future it is essential to establish a much closer relationship between the Internet and, blog and modern teaching, in order to shorten the time required for learning and enable teachers and students to become creators of modern teaching process.

2.4. Social networks continue to function

The **Social Network** (Social Network) is a service of the Internet which occurs in the form of platforms, windows or web pages and is used to interconnect users. It should be noted that today there are hundreds of such services, among the best known are: Facebook and Twitter. **Facebook** is an online social network, which was founded in 2004 by *Mark Zuckerberg*, a former Harvard student. In its infancy, Facebook was intended only to students at Harvard University who in this way could communicate with each other and exchange information. Later, many other universities, schools and companies around the world have joined the network. Available to all operating systems. It is free for all its users. Facebook profile is your personal page by the time i complete a variety of applications. The most popular place for posting photos. Users who no longer wants to be a member of Facebook, you can delete your profile by typing this, see [6]. Facebook is now the most popular service for socialization

with a growing number of users.The majority of pupils in schools has a Facebook profile, and if it does not have all that is necessary is to have an account on e-mail and to sign up. The teacher can make a special profile classes, invite students to friends and communication can begin. There are students who would not be what the teacher asked the class, asked Facebook in chat (conversation), or through a message left by the teacher inbox. Bearing all this in mind, the teacher can make a website that students themselves need to like (like - like it). Accordingly, there is the possibility of banning access profile, "*undesirable*" persons who might possibly disturb some inappropriate content other members. **Twitter** is a microblogging service and a social network that is based on the exchange of short text messages no longer than 140 characters, gathering and monitoring of other users. It is used via the web, a variety of desktop applications, and mobile phones, as it was in the beginning and the main purpose. The founders of Twitter are *Jack Dorsey*, programmer and web enthusiasts, the idea of a web service which allow users to quickly report what they are doing and where they are, and the originator of social networking and user content, *Bizu Ston*, which together within two weeks agreed prototype Twitter . They were joined by *Evan Williams*, the man who coined the term "*blogger*" and was one of the people who initiated the mass blogging, see: [7]. Using Twitter is free. Twitter does not require any setup and installation, after registration you have your twitter profile with the address "*twitter.com/imekorisnika*" and you can start to tweet to your heart's content. It can be said that the whole concept is based on Twitter: tweets setting, selecting the users whose tweets you want to follow - '*Following*' and users in your account can follow your tweets - '*Followers*'. In order to track a person's tweets permit is required from the users whose tweets you want to track, just finding and clicking on the '*Follow*' and that's all you need to do to track a person's tweets.

3. SOME USE OF SOFTWARE IN TEACHING

GeoGebra is an interactive application designed for geometry, algebra, statistics and budgets. The application is intended for teaching and learning of mathematics and other sciences. It is used in schools and universities, see [8].

Application creator *Markus Hohenwarter* GeoGebra. GeoGebra is available on a variety of platforms. It can be "*combined*" with HTML, CSS and JavaScript. In this way you can get the dynamic and achieves that created material is interesting for students. Classes are designed as a web site where you can find materials on the construction of the triangle, and then presents tasks whose resolution is implemented in GeoGebra. What is new is that the teacher, in this form of lectures, does not need to use a chalkboard or even a classic resource in the classroom. Full demonstration was achieved using the software which he directs, and may later i'm a student. Featured content is not a substitute for attendance time, it serves as a complement and support learning during which the teachers and students to find advantages. By mastering software package GeoGebra, as well as their creativity, teachers can create electronic lessons from any other field of mathematics and thus the time to do more interesting and dynamic. Electronic lessons can later be left to the students when learning another look at how the obtained solution which contributes to a better understanding of the area that was treated.

In order for this approach to teaching mathematics in schools has come to life, it is necessary to work on additional IT training some teachers of mathematics, since it is concerned only with mathematics, computer science, and not in the foreseeable future.

4. CONCLUDING REMARKS

The time in which we live shows that the knowledge-based society at the same time the company for continuous learning and education. In this context is seen insight into the results of numerous studies and outcomes of planned changes that testify to the rapid development of digital media and information. Consequently, all European countries have established a national strategy for the use of ICT in education, among them Montenegro through the project MEIS. The vision of the development of the information society implies the use of modern ICT tools for creating interactive content and books in electronic format to all. In today's time when the IT revolution at its peak, it is only natural that the modern schools and modern teaching methods can not be imagined without the active use of ICT tools in teaching and learning, OneDrive app for storing documents, blogs and social networks in teaching and GeoGebra software package for teaching and learning from school to university. Social networks aim to connect teachers and students as active participants on the Internet, gathered around the teaching of educational content, activities, and provide a new way of communication and exchange of information with each other in real space. They have become part of our lives. There are a variety of social networks. Moving from those that are created to meet people (*facebook.com*), exchange short messages and socializing (*twitter.com*), those who serve in music (*flotones.com*, *mog.com*), to the network to registered users achieve their business contacts and stay in touch with them (*linkedln.com*). Today there are over 200 internet sites social networking. Modernization of teaching and learning is a process that is carried out according to the circumstances and possibilities, showing significant results. Existing Montenegrin conditions should not be a limiting factor for innovation, the introduction of modern information tools and software in the teaching process, if we want to really be teachers of the 21 st century and to bring our lessons to the needs, interests and abilities of students in the future

REFERENCES

[1] Ministry of Education of Montenegro (2004). *MEIS* (*Montenegrin Educational Information System*) - *Main Project on Education Information System of Republic of Montenegro*, Podgorica.

[2] Eurydice, Androulla Vassiliou (2011). *Key Data on Learning and Innovation through ICT at schools in Europe 2011*, European Commission, Brussels.

[3] Wikipedia (2016). OneDrive. Web site visited 28.03.2016., Internet address: https://sr.wikipedia.org/wiki/OneDrive

[4] Wikipedia (2016). Blog. Web sites visited 28.03.2016., Internet addresses: https://en.wikipedia.org/wiki/Blog , www.blogger.com, www.wordpress.com

[5] Wikipedia (2016). Social network. Web sites visited 28.03.2016., Internet address: https://hr.wikipedia.org/wiki/Društvena_mreža

[6] Wikipedia (2016). Facebook. Web site visited 28.03.2016., Internet address: https://hr.wikipedia.org/wiki/Facebook

[7] Wikipedia (2016). Twitter. Web site visited 28.03.2016., Internet address: https://hr.wikipedia.org/wiki/Twitter

[8] Wikipedia (2016). GeoGebra. Web site visited 28.03.2016., Internet addresses: https://en.wikipedia.org/wiki/GeoGebra