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Information Literacy, Theory and Practice in Education

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Abstract

The globalization, the fast technological development, networking, constant learning and acquiring of new knowledge are main references of today's information society. In the flood of new information, individual must be able to recognize and to use the information on the right way. Search, choice and the valid use of information are out the reach of advanced technologies and they require much more than computer skills. They require the information literacy. The information literacy is interpreted as the ability of individual who is able to recognize, locate, evaluate and use efficiently the information that he need (Shinew, D.M., Walter, S., 2003). The information literate person recognized the need for information, determinate the importance of information, access information efficiently, knows how to evaluate the valid information and it's source, knows how to "nestle" founded information in his knowledge base, understands economic, legal, social and cultural questions of using this information. Towards these items we can see that the information literacy is the future, the key of success, a foundation of getting an education.

Keywords: *Infomation literacy, higher education, knowledge, lifelong learning*

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Introduction

With appearance of the global information society, learning has become lifelong learning. Learning has become continuous training and does not stop when individuals complete formal education system. It appears in various forms by the end of his working career. Of course, the main role is in new ways of acquiring and transferring knowledge and expertise. Education and higher education institutions now must teach the individual how to learn, what to learn and when to learn, how to develop the ability to manage their own learning process. High quality science is based on effective and high quality system of higher education. Changing the current state of science is a necessary process for the overall development of each country. Information technologies have a role to solve the problems created by conflicts of past and present, because of the availability of information, greatly facilitates education by providing flexibility and the ability of active learning. The individual, in the flow of information must be able to identify the information and use it in the right way. Search, selection and proper use of information are beyond the scope of today's advanced technology and require much more than just IT skills that require information literacy. Being information literate means, above all, to have an intellectual framework for understanding, searching and using information that we found. Several European countries slowly introducing information literacy as one of the disciplines in higher education. But in most case, situation is “much talk, little work”. Researching the usefulness of information literacy at the College Carleton in the United States lead us to written of this important issue. Colledge Carleton in received a three year Mellon grant to integrate information literacy into the curriculum, focusing on the major discipline

(<http://apps.carleton.edu/campus/library/about/infolit/projects/mellon/mellonoverview>) They made report by faculty members in the participating departments and also librarians in those departments. They organized the grant into the following categories: Departmental retreats to define information literacy and discuss curricular approaches: curricular grants to redesign courses or assignments that integrated information literacy so that students were better prepared for comps; assessment of activities and evaluation of the overall project. Results were stunning. This model of introduction is only one of example how

information literacy in education have major role and how can be easy implementing and give as great results.

Investment in higher education

Higher education is an integral part of lifelong education and its role is to optimize sustainable national development and production of new knowledge. In a society where knowledge becomes the main source of labor productivity and the first condition of success of an individual; the position of education is also changing appropriately (Srića, V., 2000). Quality education must follow the relevant knowledge that is constantly changing. The modern world is globally faced with problems to adjust their education systems to technology and communications achievements that allow new forms of knowledge expansion. In recent years there are many activities to traverse in information society. The plan of global education is primarily related to the introduction of cheaper, faster and safer working on the Internet and to investments in knowledge and skills needed in the information society. Primary focus should be on improving the quality of teaching and adequate facilities. Information literacy should be major part in higher education to improve learning with low investment and great outcoming results. This chard shows sharing of state budget for science in GDP in 2001. This is an indication of how little is invested in science, especially in Republic of Croatia (Čavlek, M., 2001). An also there is a question: How can we start a project of implementing information literacy when Government invested only 1,5 % in science which is the most vulnerable issue for development of the country?

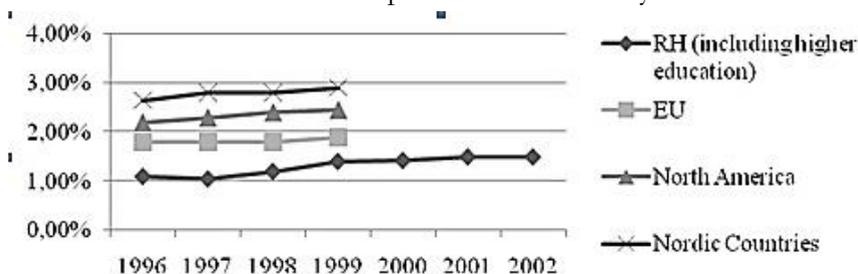


Figure 1. The share of state budget for science in GDP (in 2001).
(Source: OECD Main Science and Technology Indicators, Vol.2001/1;
<http://unescostat.unesco.org/stat/stat.0.htm>).

Information literacy

The concept of information literacy in Europe is insufficiently explored. Rare highly educated individuals are familiar with this term, who are after graduation entering the world of education, information management, electronic education, transmission of knowledge. The purpose of this paper is to explore and demonstrate how information literacy is an important term in education. If we will ever be able to exploit the potential of information society, we must be information literate. Information literacy is interpreted as an individual's ability to identify, locate, evaluate and effectively use founded information (Eisenberg, M. B. , McGuire, C., Spitzer, K. L., 2004). The information literate person classifies, stores, manipulates with that information, and identifies information literacy as a prerequisite for lifelong learning. The information literate person is a person who has learned how to learn. Information literate person had learned how knowledge is organized, how to find the needed information and how to recycle and use founded information in a way that help others to learn from them. This person is prepared for lifelong learning because he can always find the information necessary for tasks or decisions that may be encountered. Information literacy is systematical development of the ability to define information needs; to use tools and procedures for the identification and location of information, to analyze information and results of their use.

The concept of information literacy is interpreted by several principles:

1. The purpose of information literacy is to know how to recognize the nature and extent of information, to know how to formulate the question that demands an answer, to know the different sources of information and the ways in which information can be processed.
2. We need to know how to access needed information, which means that we have to know the organizational system of published information and to be able to determine which information will give us the quickest response to our inquiry.
3. We need to know the system, ie. bibliographic databases, scientific journals, search engines, portals, libraries ect. Founded information needs to be stored for later use.

4. It is necessary to evaluate the information. You need to know to read the text and how to extract necessary from it. We should be able to recognize if the information is the one that we need.

5. We have to learn to use the information independently and know how to use it in team work to perform a specific task.

6. Finally, it is necessary to understand the legal, economic and ethical use of information. We should recognize how the use of certain information was effective, but also whether the use of information respected certain rules. Becoming information literate is a hard working and demanding task because of many opportunities for accessing to informations.

The mane question is how to find and identify the reliable source of informations that is accurate and authentic. This represents a major challenge for the evaluation, understanding and using the information in ethical and legal terms. Questionable quality of founded information is also a great challenge for society and individuals. "U.S. National Research Council 4", (http://www.nrc-cnrc.gc.ca/aboutUs/index_e.html) in 1999. year, is promoting a new concept of "flow" of information technology and an easier understanding of the relationship between information literacy and computer literacy. The report said that computer literacy is a knowledge about the use of computer technology. The information literacy focuses on understanding and solving problems using technology. The information literacy focuses on content, communication, analysis and searching for the information. Although, there is a need to develop information literacy on all levels of education. It is crucial that this kind of knowledge gets to right people who are transferring their knowledge. The student needs to know what is information literacy, it`s meaning and how to get it; not only to develope it. It enables students to observe the content of thir research with criticism, become inward-looking and their knowledge and have more control over learning. With the increase of digitalization, information flow requires more intellectual skills than learning software and hardware.

It requires information literacy (Information literacy resources <http://www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.htm>).

The information literare person is developing basic skills such as: gathering the informations with emphasis on the use of information

technology, analysis and evaluation of the information and information usage. Using includes sorting, organizing, processing, use and disclosure of the information. For teachers or students, this interpretation of information literacy can result with confusion, frustration or indifference.

Today there are many discussions about new concepts of education with emphasis on lifelong education, lifelong learning, information literacy, computer literacy, etc. These are all skills that are not easy to achieve and cope with them. We ask our selves: why there is a great attention devoted to the concept of information literacy suddenly? Is it an abstraction, or only an beautified, adorned traditional view of literacy understanding? Is information literacy was created from transforming some educational rules in a new understanding of learning theory? The question is: Is the information literacy concept or process? Does information literacy represents the embodiment of disciplines that only changed the name over the centuries and the concept has remained the same? Or is it a new concept emerged from existing literacy for the emergence of new technologies in the Information age? Those are the questions with different answers from different authors.

We took a simple example, to help us understand the concept of information literacy. The process of information literacy is simply represented by a teacher Barbara Braxton, from school in Palmerston, Australia. By her opinion; the information literacy process consists of six steps: defining, finding and selection of sources, selection, organization, presentation and evaluation. Each of these definitions is presented by a group of questions appointed while executing a specific task. This is a very simple example, shown on the way that even students in primary school can handle it, ie. they can comprehend the meaning of information literacy and how to gain it. Figure 2. shows the simplified process of how to interpret the teacher Braxton (Braxton, 2010)

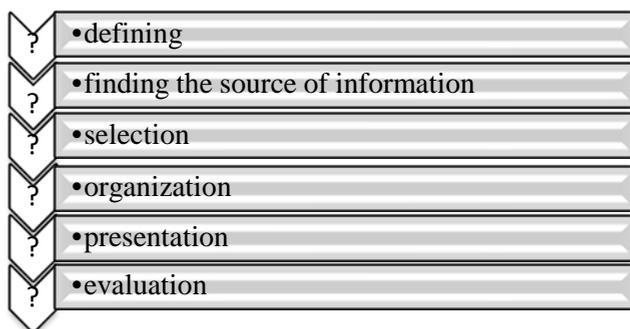


Figure 2. Six steps of information literacy by Barbara Braxton

Information literacy: base for quality education

The main emphasis in higher education is to revise the curriculum and to promote information literacy. Information literacy must be equally positioned as basic subject for students who are live in advanced information society. The need to implementing information literacy into the existing curriculum rather than teaching it in nonchalance is also recognised. Educational systems and educational institutions, must take seriously the challenges of the information age. This includes restructuring learning process, changing roles of teachers and lecturers, who are indebted to help students in active learning. In the IT environment, information literate students, are more active in their researches. Students who are involved in educational activities are searching informations from different sources, they understand the content, they ask their teachers questions about founded informations, they use various methods of learning which is reflected on their own knowledge, the assessment and accountability for the chosen method of learning (Vicky E. Hancock, 1993). Those students are satisfied. When they finish their studies they will know that they have acquired knowledge and that they are experts in certain area. In learning environment the role of teachers is to create an educational environment with tendency for active learning. Teachers must give up their attitudes that teaching is just talking, that learning is "absorbing" and that the knowledge is static. Today, teachers need to involve students in complex assignments that have a purpose outside the classroom. They must be familiar with a variety of new technologies and encourage students to move away from books when when they are seeking informations. Information literacy requires learning environment based on the

information resources. In this environment, students and teachers together decide about appropriate sources of information and how to access them. Apart from traditional sources; like books, encyclopedias, newspapers, professional journals; students today need to know to use technological resources such as software tools, videodisc, CD-ROMs, simulations, etc. Students must know how to use telecommunications to access the data. Also they must know how to use multimedia technology as a material for the collection of data and as a production tool. Information literacy requires active learning. Students have better control over their own learning process, which certainly facilitate the role of teachers as the experts. Teachers must know how to encourage students to start their own researches, to learn them how to take responsibility for their learning and how to use an information for better learning process. We know that the information educated students are better "consumers of information." When those students leave college, they will know how to use this experience in working environment. This knowledge will give them benefits at work and in everyday life because they will appreciate the value and power of information. The greatest pressure is on teachers and educators. Whatever the educational institution is rich or indigent on knowledge; it is the holder of the interests of the whole society. We all know that the lifelong learning is an ideal; the result of informational-educational society. Therefore, there is a big responsibility on educators because they have to "create" students who will know how to become "lifelong learners" and to understand the new processes in learning (Langford, 1998, 59-72). Historically, the concept of literacy is interpreted as a basic ability for writing, reading and comprehension. Computer technology requires greater expertise in reading and writing. When the information is received as a foundation of knowledge, and a knowledge as power; there is the elite that has developed a literary society. However in order to develop the society and its needs, literacy has become a universal right. Educational activities are developing more today towards to information literacy, in order to enable to learn skills of approaching and using resources information, regardless of location.

Promoting information literacy

Information literacy should be primarily concerned about higher education system among the other cultural institutions, and

international economic organizations, governments, ministries and other.

Special pertinence in promoting information literacy has an international organization UNESCO (Woody, F, 2013), who considers that in 21th Century, Information Society will be on the throne. Every educational system needs to know to deal with the proliferation of information and to demonstrate a critical spirit to find their way among the piles of information. A large number of documents of UNESCO and other international organizations speak of "digital gap", which creates danger of division and inequality, because of new technologies. In UNESCO's study from 1994. it is wroten that this is not the gap between "developed and undeveloped", because developing countries are supplying with the latest technologies opening up new development opportunities. They facilitate access to databases, allowing the establishment of "apparent labs" and stopping the outflow of knowledge.

Yet the biggest gap occurs within societies, between those who know how to use new technologies and those who didn`t adopt the necessary skills (Maravić, Edupoint, 2003).

Information literacy documents in the area of library and information profession, reflect an awareness of written knowledge that libraries have and offer in both printed and electronic form, whose usage of depends on information literacy (Trauth, E.M,1991). Main emphasis should be to motivate educators to encourage students to research and help them to learn the material and also to learn how to learn, during the lectures and other forms of teaching. One of the ways for developing and determining the level of IT literacy of students, is a frequent test of knowledge through scientific papers and seminars. They serve to monitor and review progress of students in finding information, their analysis and evaluation of the pooling and releasing a full paper. Classical literature is no longer the only way for finding information; there are informations collected by using modern information technology, particularly Internet. While that, major role is in education and distance learning. Students who participate in such programs are dislocated from the university library and cannot participate in education programs that train students for information usage. On the other hand, students are largely directed to the Internet as the main (and only) media of learning, and they are expected to cope in the "sea" of available

information sources. The United States of America and Australia are the first countries in the number of published and available literature about information literacy, and they have a long tradition in distance learning. In Europe; through various projects, the concept of information literacy is still in bandage.

The EU's project "DEDICATE" is focused on designing distant courses for information literacy in 9 European countries (Fjaellbrant, N., Levy, P. 1998).

Also "Big Blue" project (<http://www.leeds.ac.uk/bigblue/onlineiscourses.html>) is focused at creating an information-educated students in the UK. Multitude of institutions, documents and international government organization guidelines are focused on the phenomenon of information literacy (www.inforlit.org).

Important step of information literacy is to know how to evaluate founded information and to include it in your system of knowledge and values. It is important to learn how to examine and compare the credibility, reliability, accuracy of methods and results. You need to know to distinguish old from new discoveries. Finally, we should recognize did the information meet our need. It is important to learn to apply founded information; individually or in team work; to perform specific tasks. We should know how to recognize if the application of certain information was effective, and also whether we respected all franchises and rules in the use of information; referring to intellectual property, privacy policy, proper guidance of the sources, etc. Information literacy is a prerequisite for lifelong learning and it is common for all science disciplines, and all levels of education. Information literacy encourages students to deal with content with criticism, to explore and control their own flow of learning.

Conclusion

The need for literacy is changing over time, so does reading, writing and calculation and they have much more complexed meaning than twenty or thirty years from now. Teaching the information literacy, today goes beyond notions of literacy set in the past. Information literacy should be the foundation of knowledge in higher education institutions, to remove barriers toward creativity caused by misunderstanding of the research process. The students should be familiar with the skills that enable them to succeed in their future study and life. Information literacy is not only necessity for students, but for

all of us as professionals in our workplaces or our personal lives. Information literacy should be a "functional" , respectively to young people and adults as a new tool of expression, communication and learning. Information literacy should be developed at all levels of education, and a goal of our educational institutions should be on education of IT literate professionals prepared for lifelong learning. Society of knowledge require that teachers and educators take over some new roles, including redirecting research towards learning, the use of modern information technology, ability to work, the necessity of cooperation with other educators, collaboration with professional associates, research and evaluating their own work. For successful assumption of all those roles, the transmitters of knowledge must be open for a change and motivated for lifelong learning and continuous professional development. Education needs a new model of learning, which is based on sources of learning that are active and integrated, not passive and fragmented. Textbooks, lectures and scripts must comply with new learning process based on new information sources that will be available for learning and problem solving in future lifetimes. Knowing how to learn is the most important process of education, because students need to know how to choose and from which source to take the right information. And finally, the emphasis is on creative thinking, communication, teamwork and wisdom. These are all integrals towards to information literacy in the educational process.

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