

## NEW TRENDS IN HIGHER EDUCATION MANAGEMENT: TEACHERS' PERCEPTION OF THE INCLUSION OF LIBRARIES' E-SERVICES INTO LMS

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### Abstract

Integration of academic libraries' e-services into universities' learning management systems (LMS) can be seen as one aspect of advancing the higher education management. Libraries' e-services delivered within a learning context can facilitate the process of teaching and contribute to the quality of students' learning. Academic libraries' e-services integrated into universities' learning management systems demand but at the same time develop information literacy skills of their users - students and teachers. Successful information literacy instruction programs are not only oriented to teaching information literacy skills but also to designing learning environment that demands usage of information literacy skills within the context where these skills are necessary. The research outlined in this paper was conducted to explore the effects of integration of academic libraries' e-services into learning management system at the university and its possible impact on the process of teaching and learning. This paper is focused on the teachers' perception of the effects of such integration and their views on the possible impact on their teaching activities and on students' learning. The results of the interviews with teachers show that teachers' opinions about the integration of libraries' e-services into learning management system are mostly positive. In addition, they report the immediate benefits for their teaching activities as well as for their students which consequently makes academic library more visible and accessible. Teachers pointed out that the major benefit of the integration of library e-services into the learning management system was a better usage of academic library and its resources.

*Keywords: academic libraries, education, students, teachers, learning management system*

## 1. INTRODUCTION

It is obvious that due to information literacy (self)-education has a key role in today's information society because it enables transformation of information into knowledge. According to anthropologist Tomas Hall learning is the basic instinct, it appears before the reproduction instinct and lasts longer and it is not only the key for systematic competitive advantage but it is the key for survival (Fulmer & Gibbs, 1998).

Today we are bombarded by information and in such information compacted environment the selection and evaluation of information have become more difficult than its availability. Although the younger generations tend to be highly computer literate, i.e. they seem to possess a wide spectrum of informatics skills, this does not implicate that they are also information literate. In this respect academic libraries have a great role in spreading information literacy.

Distribution of roles within traditionally organized educational programs is based on the assumption that librarians teach students to find information and university teachers help students to interpret, analyze and implement it. Generally, students' information needs can be categorized in the following way: defining and exploring topic, selection and evaluation of materials, being familiar with the primary sources and being able to find them, prevention of plagiarism, being familiar with citing sources, understanding the nature of scientific research and scientific communication, being familiar with the key journals and sources in the field, developing skills for identifying key authors, conducting detailed literature review, conducting case studies, knowing how and where to publish (Whitehead & Quinlan, 2002). In that regard, the main goal of academic libraries is to support learning and to educate users for usage of information and its transformation into knowledge. It is in the essence of the concept of information literacy.

Information literacy has been the subject of much scientific research of many scientists and it can be approached from different aspects, such as the sociological, individual, technological, etc. All definitions of information literacy consist of the following elements: capability of effective information searching, adeptness in selecting and evaluating information, ease of use of a wide spectrum of media, awareness of the problem of reliability and validity of information and effective transfer of information to others (Candy, 2002). For example, according to the American Library Association - ALA "an information literate person must be capable to recognize information need, to find, evaluate and effective use needed information (American Library Association, Presidential Committee, 1989)". Information literacy is the capability to access, evaluate and systematically use information for learning purpose, solve problems and make decisions in formal and informal context, at work, at home and in educational setting. Information literacy is the key characteristic of a lifelong learner and it is in a strong connection to critical thinking.

Horton (2008) argues that information literacy is one of the so called 21<sup>st</sup> century literacies and that information literacy encompasses some other literacies important in today's society. Namely, according to Horton (2008) family of 21<sup>st</sup> century literacies includes: (1) basic literacy or key competencies for reading, writing, speaking and calculating; (2) computer literacy; (3) media literacy; (4) literacy related to e-learning and distance learning; (5) cultural literacy; (6) information literacy.

Basic literacy competencies are reading, writing, speaking and calculating – without them knowledge construction and usage of other media are not possible. Then follows computer literacy, media literacy etc. These literacies overlap and borders between them are not strict. Computer literacy is partly related to ICT (information and communication technology) literacy and partly to media literacy. Also, computer literacy can be divided into three categories: hardware literacy, software literacy and application literacy. Computer literacy implies set of skills, attitudes and knowledge needed for understanding and use of basic functions of information and communication technology including different devices. Therefore, computer literacy is essential for successful access to information in the digital environment which is a starting point of information literacy.

Media literacy encompasses knowledge needed for use of old and new media technology. Concept of media literacy is used for individual level as well as for social level. Media literacy implies set of skills, attitudes and knowledge needed for understanding and use of different types of media and formats through which information come from sender to receiver in form of image, sound, video etc. (Horton, 2008). According to Bawden media literacy is capability of consuming and critical thinking about

information received through mass media such as television, radio, newspapers and Internet (Špiranec & Banek, 2008). Namely, media literacy implies some competencies which are critical for information literacy – like critical thinking or usage of different media in access to information. Multimedia literacy can be defined as knowledge or competencies needed for understanding different media (Buchanon, Luck & Jones, 2002). Literacy related to e-learning and distance learning is one of literacies which individual should own in today's information society namely individual should own competencies related to computer assisted communication (Špiranec & Banek, 2008). E-learning can be defined as learning based on technology in which teaching materials are delivered in electronic way through computer network to distance learners (Zhang, et al., 2004). New term of 21<sup>st</sup> century literacies implies communication skills, use of contemporary information and communication technology, understanding natural and social happenings, capability of problem solving and decision making, readiness for team work and permanent learning. Concept of information literacy encompasses several forms of literacies. Some of them are already mentioned but information literacy also encompasses library literacy, digital literacy and visual literacy (Špiranec & Banek, 2008). Library literacy is predecessor of information literacy. Library literacy means capability of use of libraries (Špiranec & Banek, 2008). Bawden (2001) defines digital literacy as capability of reading and understanding hypertext or multimedia texts and includes understanding sounds, images and dynamic, no sequential hypertext. Elements of all mentioned literacies can be found in information literacy. Information literacy is more than computer literacy or capability of technology use. Namely, information literacy is capability of finding, evaluating, analyzing, integrating, use of information for problem solving and creating idea. Information literacy encompasses elements of many other literacies and it can be seen in online learning which demands competencies for use of different media, critical thinking, computer skills etc.

Online learning environment has changed and the ways of teaching information literacy have to be changed too. Anderson and May (2010) conducted research about the online, face-to-face and blended methods of information literacy instruction and it showed that all methods can be equally efficient but the contact with librarians within information literacy instruction makes it more efficient. The same authors stated that information literacy decreases information overload in today's information society.

According to Špiranec and Banek (2008) the developments of activities that enable information literacy within different educational settings enrich the understanding of information literacy. Namely, information literacy instruction is more efficient when it happens within subject context. Furthermore, they claimed that without its integration into curriculum information literacy instruction of students is impossible. Therefore, integration of academic libraries' e-services into universities' learning management systems can be seen as one aspect of advancing the higher education management. Namely, academic libraries' e-services integrated into universities' learning management systems demand but at the same time develop information literacy skills of their users, both students and teachers. Such integration enables learning information literacy within the context where these skills are necessary which is a recommended method of efficient information literacy instruction.

## 2. RESEARCH

The users of university learning management systems are students and teachers. This paper is focused on teachers as managers of education at university. The research was conducted at two faculties of the Josip Juraj Strossmayer University of Osijek, Croatia (Papić & Stričević, 2012) and its main goal was to explore teachers' perception of the inclusion of academic libraries' e-services into universities' learning management systems – LMS Moodle<sup>1</sup>.

In particular, it aimed to explore the effects of integration of academic libraries' e-services into learning management system at the university and its possible impact on the process of teaching and learning. Namely, this particular research oriented to teachers perception is part of a wider research in which all participants – students, teachers and librarians were examined as it was important to investigate their information behavior in the context of libraries' e-services integrated in the subject contents in learning management system.

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<sup>1</sup> Moodle - Modular Object - Oriented Dynamic Learning Environment

The first part of the research results oriented to students perception was presented in paper "Integration of academic libraries' e-services into learning management system: students' perception" (Papić & Stričević, 2012).

The second part of the research results is presented in this paper which is focused on the teachers' perception of the effects of such integration i.e. their views on the possible impact on their teaching activities and on students' learning. Therefore, the research was based on the following questions:

- How do teachers perceive the possible benefits of integration of libraries' e-services into online courses within LMS Moodle for their students?;
- How do teachers perceive the impact of integration of libraries' e-services into online courses within LMS Moodle on their particular teaching activities?; and
- How do teachers perceive the possible effects of such integration regarding the role of academic library in the university curriculum?

The research on the inclusion of academic libraries' e-services into learning management systems was conducted during winter semester in 2011/2012 academic year. For the purpose of the research six online courses were selected from the learning management system Moodle at the Faculty of Economics in Osijek, while two online courses were selected from Moodle at the Faculty of Humanities and Social Sciences in Osijek.

The following online courses were selected from the Faculty of Economics: Statistics (first year of undergraduate study), Financial management (third year of undergraduate study), Financial management 2 (first year of graduate study), Business simulations (first year of graduate study), Business intelligence systems (second year of graduate study) and Business finance (second year of undergraduate study). The selected courses from the Faculty of Humanities and Social Sciences were: Translation practice course 1 (first year of undergraduate study) and Databases 1 (second year of undergraduate study). At the beginning of the research the set of academic libraries' e-services in form of HTML block was integrated into selected online courses within LMS Moodle at both faculties.

The set consisted of the links to the selected scientific databases (chosen according to the primary scientific field of a particular university): Academic Search Complete, Business Source Complete, Scopus, Current Contents, Econlit, Web of Science, Emerald and DOAJ-Directory of Open Access Journals; the link to the web site of the faculty library; the link to the online catalog of the faculty library; the link to the online tutorial about information literacy and RSS feed managed by librarians. 904 students in total participated in this research.

Five university teachers involved in the research about integration of library e-services into learning management system were interviewed at the end of the winter semester in 2011/2012 academic year. It should be mentioned that one of the five teachers taught two online courses included in this research.

### 3. RESEARCH RESULTS AND DISCUSSION

Five university teachers, encoded with following symbols T1, T2, T3, T4 and T5, who were involved into research about integration of library e-services into learning management system were interviewed at the end of the winter semester in 2011/2012 academic year.

Teachers pointed out two main reasons for participating in this research: "the wish to popularize usage of scientific databases among students [T1]" and "tendency to support constructive research [T2, T3, T4, T5]".

University teachers' opinions about benefits of integration of academic libraries' e-services into learning management system are mostly positive. In particular, university teachers point out that "it is a good way for students to get the first information about library e-services and eventually continue to use them [T5]" because "library e-services look nice inside learning management system and it is an excellent memo for students to use them [T5]". Teachers think that "library e-services inside learning management system are a strong impulse to use them [T2]" and that "it raises students' library e-services usage [T1]". Also, "it raises quality of term papers and students' projects [T1]". Obviously, teachers think that e-services included into online course raise awareness among students about importance of library. Teachers are aware that students need library for their learning and that library could enhance students' learning. However, librarians often feel that teachers do not support them in

their mission but on the contrary these results show different. Namely, teachers think positive about e-services of library integrated into content of the subject because it could promote these important e-services.

Teachers' attitudes about usefulness of integration of library e-services into learning management system for students can be illustrated by the following: "library e-services into learning management system can only help students [T2]" because of "an easier access to additional readings [T2]", "easier connection to library e-services [T1]" and "fewer clicks when finding information sources [T2]". Teachers' opinions about usefulness of integration of library e-services into learning management system are very positive because "it makes easier to find literature to improve their teaching [T1]".

Teachers' attitudes about the impact of integration of library e-services into learning management system on the perception of academic library within educational process include among others the following statements: "it makes academic library more visible and more accessible [T1, T2, T4, T5]" because of for example "an easier access to library online catalog and databases [T1]". Also, teachers think that the major result of integration of library e-services into learning management system is "a better usage of academic library [T1, T2, T5]".

Teachers' attitudes about the benefit of integration of library e-services into learning management system for students' and teachers' information literacy differ a lot but mostly teachers think that "ex cathedra information literacy instruction is obligatory [T4]". It is obvious that they perceive generic competences of information literacy to be an important prerequisite for higher ordered contextual competences.

According to the teachers' opinions, the benefit of information literacy "depends upon current level of computer literacy and information literacy [T2]", but certainly "enables the development of skills dealing with academic writing and expressing [T1]".

Teachers' attitudes about the benefit of integration of library e-services into learning management system for quality of teaching are extremely positive because "it enables insight into current research and publications in a specific field [T1]". Also, teachers think that "it enables defining students' research interests [T1]", "students' preparations for presenting content to other students [T1]" and "students' general education [T5]". The benefit for the quality of teaching also reflects in "higher quality of analysis of previous research conducted by different authors dealing with a specific topic [T1]", "positive impact for the quality of students' term papers [T1, T5]" and generally in "better students' adaptability in digital environment [T5]". Teachers' opinions about the impact of the integration of library e-services into learning management system on students' learning activities are mostly positive because "citing references in students' term papers is better and does not contain so many popular sources [T5]". Also, teachers think that "it has a positive impact on students' preparations for their conferences [T4]".

Teachers' recommendations for advancement of integration of library e-services into learning management system mostly deal with the necessity of "introducing obligatory information literacy instruction [T1, T4, T5]" and "exploring students' information behavior and students' information literacy skills during a longer period of time as well as conducting comparative studies regarding the students who were not exposed to integration of library e-services into learning management system [T5]".

#### 4. CONCLUSION

According to the research results teachers perceive positive benefits of integration of libraries' e-services into online courses within LMS Moodle for their students because it raises the quality of students' term papers, projects and it makes easier to access additional readings. Furthermore, teachers' attitudes about benefit of such integration for the quality of teaching are very positive because it enables insight into current research and publications in a specific field. Furthermore, the integration facilitates defining students' research interests and their preparation for presenting content to other students. The benefit for the quality of teaching is also reflected in a higher quality of analysis of previous research conducted by different authors dealing a specific topic, a positive impact on quality of students' term papers and generally in a better students' adaptability in digital environment. Teachers' opinions about impact of integration of library e-services into learning management system

on students' learning activities are mostly positive because students' term papers do not contain so many popular sources. Teachers also perceive the positive impact of integration of libraries' e-services into online courses within LMS Moodle on their teaching activities because it helps them find the literature to improve their teaching. With respect to the perception of academic library within educational process, teachers believe that the integration of library e-services into learning management system makes academic library more visible and more accessible because of for instance an easier access to library online catalog and databases. Also, teachers think that the major result of integration of library e-services into learning management system is a better usage of academic library. Integration of academic libraries' e-services into universities' learning management systems can be seen as one aspect of advancing the higher education management. Namely, academic libraries' e-services integrated into universities' learning management systems demand information literacy skills from their users – students and teachers. At the same time, they develop information literacy skills of their users within the subject content of online courses. Successful information literacy instruction programs are not only oriented to teaching information literacy skills but also to designing learning environment that demands usage of information literacy skills within the context where these skills are necessary as in this case. To conclude, learning and teaching in an enriched learning environment as in this case is made easier so the integration of library e-services into learning management system can be a good step forward in the development of contextual information literacy competences.

## REFERENCE LIST

1. American Library Association (ALA) Presidential Committee on Information Literacy. (2013, January 24). Retrieved from <http://www.ala.org/ala/mgrps/divs/acrl/publications/whitepapers/presidential.cfm>
2. Anderson, K., & May, F. A. (2010). Does the Method of Instruction Matter? An Experimental Examination of Information Literacy Instruction in the Online, Blended, and Face-to-Face Classrooms. *The Journal of Academic Librarianship*, 36(6), 495–500.
3. Bawden, D. (2001) Information and digital literacies: a review of concepts. *Journal of Documentation*, 57(2). (2013, January 24). Retrieved from <http://arizona.openrepository.com/arizona/bitstream/10150/105803/1/bawden.pdf>
4. Buchanon, L., Luck, D. & Jones, T. (2002). Integrating Information Literacy into the Virtual University: A Course Model. *Library trends*.
5. Candy, P. C. (2002). Information Literacy and Lifelong Learning. White Paper prepared for UNESCO, the U.S. National Commission on Libraries and Information Science, and the National Forum on Information Literacy, for use at the Information Literacy Meeting of Experts, Prague, The Czech Republic. (2013, January 24). Retrieved from <http://www.nclis.gov/libinter/infolitconf&meet/candy-paper.html>
6. Fulmer, R. M., & Gibbs, P. A. (1998). Lifelong learning at the corporate university. *Career Development International*, 3(5), 177- 184.
7. Horton, F. W. (2008). *Understanding Information Literacy: A Primer*. Pariz: UNESCO.
8. Papić, A., & Stričević, I. (2012). Integration of academic libraries' e-services into learning management system: students' perception. *Proceedings of the Management, Knowledge and Learning International Conference - MakeLearn 2012: Knowledge and Learning; Global Empowerment*. Celje, Slovenija: International School for Social and Business Studies, 239-246.
9. Špiranec, S., & Banek, Z. M. (2008). *Informacijska pismenost: teorijski okvir i polazišta*. Zagreb: Zavod za informacijske studije.
10. Whitehead, M. J., & Quinlan, C. A. (2002). Canada: An Information Literacy Case Study. *International Information and Communication Technologies Literacy Panel*.
11. Zhang, et al. (2004). Can e-learning replace classroom learning? *Communications of the ACM* 47(5), 74-79.