Information Competences – University Professors' Perspective

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Abstract. The constant advancement of information technologies had begun to affect information handling requirements, commonly recognized as information literacy, which has been widely and increasingly cited as an essential competency. This is congruent with tendencies in contemporary educational systems that recognize the need for a harmonious development of the human being characterized by the development of generic as well as specific competences. Capabilities like identifying, finding or using relevant information for critical thinking fall in the spectrum of generic information competencies. We consider that creating an adult information competent person is based on three key factors; university teachers, students and the world of work. The final goal of the higher education system and university teachers is to prepare students for the labor market. This paper represents the views of university professors on the development of student's information competencies during the study itself and the importance of the development of information competencies for future student's professional work.

Keywords: Information competences, higher education, labour market, teacher perspectives.

1 Introduction

Information literacy is an extensively discussed and researched concept, especially in the LIS field. Although it has been conceptualized in a variety of contexts, there is no doubt that systematic IL research prevails in the educational domain. This comes as no surprise since information literacy was, from its very beginnings, defined and promoted by using terminology from pedagogy and education; as visible in the often-cited construct about "information literacy as a prerequisite for lifelong learning".

The focus on the interrelation between IL and lifelong learning reveals the core rationale of integrating IL in education; it is to empower people, not only during formal education, but throughout life and in different "walks of life" [1-2]. However, when analyzing IL research in different contexts and "walks of life", it becomes clear that IL is far less researched in every-day life or the workplace, than in educational contexts. This seems surprising because the interconnectedness of IL and the workplace even has a historical dimension. The very coining of the term *IL* in 1974

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by Zurkowski was accompanied by the highlighting of its importance for the attainment of economic and workplace-related goals [3].

Although IL is still mostly researched in the educational sphere, authors as Lloyd [4-6], Crawford and Irving [7], Kirkton and Barham [8], Hepworth and Smith [9] or Head [10] have begun to change this trend. Lloyd [6] has reviewed the crucial issues that emanate from workplace research: 1. the difference of context (workplace as a different type of setting compared to education), 2, the collective dimension of information use and creation (as opposed to educational settings which focuses on the individual). 3. questionable transferability. Although many of the reviewed sources are motivated by the awareness that IL is context-bound and that it can not be easily transferred generically across the same setting or into new settings, hereto conducted studies focus on IL in a specific workplace setting, aim at characterizations of this setting and lead to conclusions that information literacy skills do not appear to successfully transfer [6]. However, to be able to gain more detailed insights, it is important to focus such studies not only at the setting, but also at the junction of transfer, the point where higher education perspectives and workplace perspectives meet.

There seems to be a significant dismatch between these two worlds, which is visible already at the terminological level. While in the higher education domain and specifically in LIS literature the term „information literacy" dominates discourse, relevant European frameworks aimed at defining workforce-related abilities often use the word competences. One of the most comprehensive and most frequently quoted approaches to the development of competences and learning outcomes has been designed within the European project *Tuning Educational Structures in Europe* [11] whose central assumption is that general and specific competences i.e., learning outcomes should be the central element in the structuring of educational programmes. Competences include knowledge, knowledge application, attitudes and responsibilities, and are divided into general (common for all study programmes) and subject-specific competences. According to the research studies of the project, learning outcomes of undergraduate study should be more related to general competences, while learning outcomes of graduate study should be more related to subject-specific competences. Similar assertions are made in the EU legislative [12] which incorporates key competences for lifelong learning with the emphasis on critical thinking, creativity, initiative, problem solving, risk assessment, decision taking and constructive management of feelings. The more recent research on the transfer of competences between education and economy is presented in the project *Higher Education as a Generator of Strategic Competences* (*HEGESCO*) [13]. In 2009 the project researched the employability of graduate students and their job transitions based on the competences acquired during their study. They have conducted the comprehensive graduate employability surveys in Europe addressing the needs of the main groups of higher education (HE) stakeholders who are interested in the employability of graduates.

In order to improve the quality of their study programs, universities/faculties today are facing increasing demands to include the above mentioned employment skills into their curricula in order to maximize the potential of their students for a successful career. A number of reports issued by employers urged them to make more explicit efforts to develop the "transferable" or "generic" skills needed in many types of high-level

employment. For some employers, even the degree subject studied is not as important as the graduates' ability to handle complex information and communicate it effectively [14-15]. This comes as no surprise, since in an ever increasing world of information and an economy that can be deemed as knowledge-based, the core component of these generic skills are information competencies – the skill set needed for effective gathering, evaluating and communicating information in all its forms and contexts. In the academic, and especially library and information world, the set of abilities focused at dealing with and handling information is well known as information literacy. Although the requirements of the workplace converge, at least on a conceptual level, with IL goals, the language of the academic and workplace culture is quite different.

Key factors that will influence how and what kinds of information competences are instilled in higher education, apart from librarians, are university teachers, students and the world of work. The kinds of competences needed are defined by the world of work, since the ultimate goal of higher educational systems is to prepare students for the labour market. A number of papers portraits research conducted among students in order to define information competences they have developed during their studies [16-18]. A recent interesting study has researched this topic from more balanced perspective combining different views: that of the employers who hire graduates, and that of graduates who have recently started work. [10]. Insights from the perspective of university teachers are however rare, although they are an important agent in the development of information competences in higher education.

As many authors and declarations have stated before [1-3], information competences are relevant in the contemporary world of work. However, these competences are not a permanent or stable set of knowledge, skills or attitudes. The constant reevaluation of characteristics of an information literate person is of utmost importance in the final stages of the formal education, after which they are expected to transfer to the workplace setting. University teachers have a great influence on the development of information literacy of students. The goal of this paper is to examine the attitudes of university teachers with regard to how students develop information competences during the study, and how they estimate the importance of the development of specific competences of information literacy for the student's future professional work. Such perspectives are generally underrepresented in the literature, although beside employers and students perspectives on information competences, the views of university teachers are relevant for creating a holistic frame of interpretation. By triangulating perspectives of these three agents; teachers, students and employers, we would be able to reach more in-depth conclusions about transferability of information competences from stable educational settings into the more fluid and non-predictive world of work.

This particular research is aimed at defining the perspectives of university teachers in the context of the development of information competences among students. This will be achieved by using a list of information competences defined by the Australian and New Zealand Information Literacy Framework [19]. The paper represents the views of university professors on the development of student's information competences during the study itself and the importance of development of information competences for future student's professional work. In this way, it will contribute to more holistic frames for analyzing the problem of IL transferability between tertiary education and workplace.

2 Methodology

The research was conducted by surveying teachers from the Faculty of Humanities and Social Sciences at University of Zagreb. Quantitative statistical methods were used. Data was collected from a non-probabilistic sample. Respondents were asked to rate the level to which information competences are developed during studies at university and how important are certain information competencies for future professional work of their students. The development of information competence is measured on a scale from 1 (not developed) to 5 (maximum development) and the importance for future professional work was rated on a scale from 1 (not important) to 5 (most important). List of information competences defined by Australian and New Zealand Information Literacy Framework [19] was used in this research. A questionnaire was filled out by 27 respondents using Google Forms service. The sample by gender comprised of 18 females (67%) and 9 males (33%). Descriptive statistical measures were used in order to collect, analyze and present data. Analysis of numerical data was based on arithmetic mean and correlative statistics.

3 Results

Average importance of information competencies of 4.25 indicates that university teachers believe that the information competences are extremely important for future professional work. A significant difference between the levels that are achieved during the study (3.17) and the average importance for future work (4.25) are apparent. The results show a significant correlation between the level of development of information competences during the study and the importance of information competences for future professional work ($r = 0.64$).

As the most important information competence for future work teachers have emphasized *2.2. Construct and implement effective search strategies* (4.7) which shows the awareness of teachers about the importance of the proper application of search strategies. The second most important information competency for future work is *1.1. Define and articulate the information need* (4.68). *Use diverse sources of information to inform decisions* (1.4.) is listed as the third most important information competence for future work (4.63). This competence is also listed as the most advanced information competence during the study (3.63), which suggests that most students during the study develop the need to use multiple sources and they start to assess the quality of information sources they use in their research. The second most developed information competence during studies is *5.2. communicate knowledge and new understandings effectively* (3.52) which can be explained by the fact that the Faculty of Humanities and Social Sciences is the largest institution that educates teachers in Croatia, and the study programs are aimed at developing skills of knowledge transfer. It is interesting to note that this competence has an extremely low ranking (14th), according to importance for future professional work. The third most developed information competence during the study is *4.2. organises (orders / classifies / stores) information* (3.35).

Table 1. Information competences and their perceived levels of development during study and importance for future professional work

Source	*Developed*	*Importance*
1.1. Define and articulate the information need	3.33	4.68
1.2. Understands the purpose, scope and appropriateness of a variety of information sources	3.22	4.51
1.3. Re-evaluate the nature and extent of the information need	3.19	4.33
1.4. Use diverse sources of information to inform decisions	3.63	4.63
2.1. Select the most appropriate methods or tools for finding information	3.30	4.41
2.2. Construct and implement effective search strategies	3.26	4.70
2.3. Obtain information using appropriate methods	3.12	4.48
2.4. Keep up to date with information sources, information technologies, information access tools and investigative methods	2.93	4.30
3.1. Assess the usefulness and relevance of the information obtained	3.15	4.63
3.2. Define and apply criteria for evaluating information	2.97	4.07
3.3. reflects on the information seeking process and revises search strategies as necessary	2.63	3.63
4.1. records information and its sources	3.30	4.00
4.2. organises (orders/classifies/stores) information	3.35	4.37
5.1. compares and integrates new understandings with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information	3.03	4.12
5.2. communicate knowledge and new understandings effectively	3.52	4.11
6.1. acknowledge cultural, ethical, and socioeconomic issues related to access to, and use of, information	2.85	3.51
6.2. recognises that information is underpinned by values and beliefs	3.00	3.74
6.3. conforms with conventions and etiquette related to access to, and use of, information	3.17	4.22
6.4. legally obtains, stores, and disseminates text, data, images, or sounds	3.28	4.28
Average	3.17	4.25

The least developed information competence during studies is *3.3. reflects on the information seeking process and revises search strategies as necessary* (2.63), which is least important information competence for future work (3.63). Information competence *6.1. acknowledge cultural, ethical, and socioeconomic issues related to access to, and use of information* is the second least developed information competence during the study (2.85), and it is perceived as the least important information competencies for future professional work (3.51).

It should be noted that the smallest difference between development during the university study and importance for future work (diff = 0.59) is visible in information competence *5.2. communicate knowledge and new understandings effectively which* demonstrates a high level of development during the study (3.52), but relatively low perceived level of significance for future professional work (4.11). The biggest difference between the importance for future professional work and development during the study can be seen in information competence *3.1. Assess the usefulness and relevance of the information obtained* (d = 1.48) which is the 4th most important information competence for future work and it is ranked as 12th by the level of development during university study.

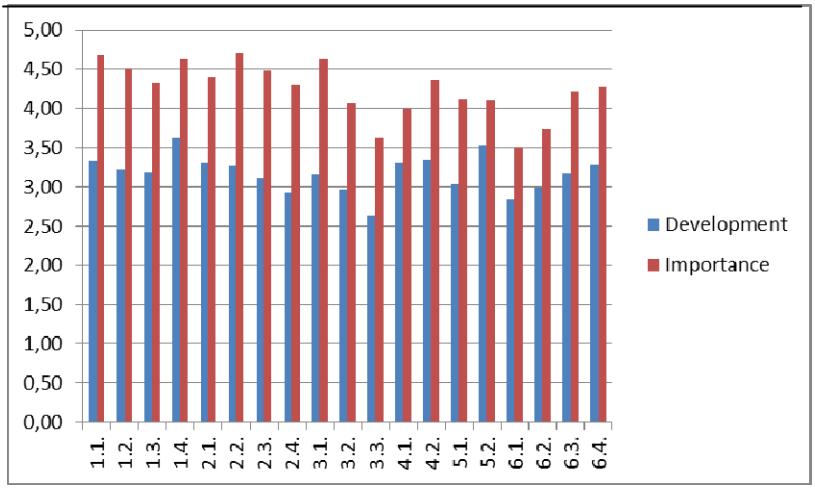

Fig. 1. Development and importance of information competences

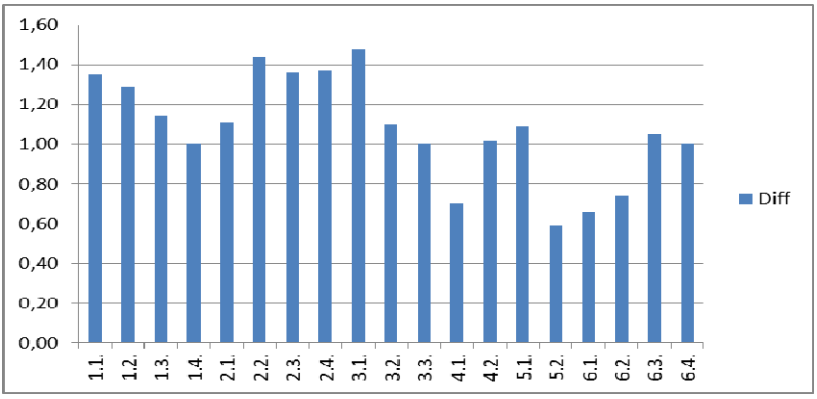

Fig. 2. Difference between develoment and importance of information competences

4 Conclusion

In the wake of a rapidly changing labour market and increasing requirements regarding employee's competencies, universities came under intense pressure to equip graduates with more than just the skills traditionally represented by a subject discipline. Employers needs related to the workforce competencies are increasingly oriented towards generic information handling and information managing abilities. Although these are well known in the higher education and library/information arena under the umbrella term *information literacy*, documents written from employer's standpoint and the workplace setting, prefer the word *competences*. Obviously, more congruence is needed in the language of the academic and workplace culture.

The main point of departure for our study was to complement existing studies mainly focusing on students and/or employers. For a holistic picture, however, it is necessary to analyze viewpoints on information competences of university teachers, who are an important agent of strengthening information competencies in students before they transfer to the workplace. For a better understanding of the transition, it is necessary to gain insight into the point of transition where perspective of students, teachers and the employers meet. The main aim of our paper was to draw attention to this hereto neglected third research string, relevant for gaining a holistic and balanced insight into IL transitions from tertiary education to the workplace. Insights gained from different stakeholders – teachers, employers and students – will provide such a holistic perspective.

Our research has showed that university teachers believe that information competences are extremely important for future professional work (4.25). It is also evident that teachers believe that the level of development of information competences during studies is relatively low (3.17). The result showed that teachers are aware of the importance of information competences, but also think that they need to evolve in a more systematic way and that it is necessary to significantly enrich the content of university courses with additional content that will more intensively develop information competences, thereby enabling students to be as ready as possible for their use in future professional work.

References

1. UNESCO and IFLA.: The Moscow Declaration on Media and Information Literacy (2012), http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/CI/pdf/In_Focus/Moscow_Declaration_on_MIL_eng.pdf
2. Alexandria Proclamation on Information Literacy and Lifelong Learning, http://portal.unesco.org/ci/en/ev.phpURL_ID=20891&URL_DO=DO_TOPIC&URL_SECTION=201.html
3. Zurkowsky, P.G.: The Information Service Environment Relationships and Priorities.Related Paper No.5 (1974)
4. Lloyd, A.: Information Literacy; Different Contexts, Different Concepts, Different Truths? J. of Librarianship and Information Science 37(2), 82–88 (2005)
5. Lloyd, A., Williamson, K.: Towards an Understanding of Information Literacy in Context: Implications for Research. Journal of Librarianship and Information Science 40(1), 3–12
6. Lloyd, A.: Trapped Between a Rock and Hard Place: What Counts as in the Workplace and How is it Conceptualized Library Trends 60(2), 277–296 (2011)
7. Crawford, J., Irving, C.: Information Literacy in the Workplace: A Qualitative Exploratory Study. J. of Librarianship and Information Science 41(1), 29–38 (2009)
8. Kirkton, J., Barham, L.: Understanding and Practice of Information Literacy in Australian Government Libraries. Australian Library Journal 57(3), 237–256 (2008)
9. Hepworth, M., Smith, M.: Workplace Information Literacy for Administrative Staff in Higher Education. Australian Library Journal 57(3), 212–236 (2008)
10. Head, A.J., Van Hoeck, M., Eschler, J., Fullerton, S.: What Information Competencies Matter in Today's Workplace? Library and Information Research 37(114), 74–104 (2013)

11. TUNING Educational Structures in Europe: Competences, http://www.unideusto.org/tuningeu/competences.html
12. Recommendation of the European Parliaments and the Council on Key Competences on Lifelong Learning (2006), http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32006H0962&rid=1
13. Allen, J., van der Velden, R.: Competencies and Early Labour Market Careers of Higher Education Graduates. University of Ljubljana, Faculty of Social Sciences (2009), http://www.decowe.org/static/uploaded/htmlarea/finalreportshegesco/Competencies_and_Early_Labour_Market_Careers_of_HE_Graduates.pdf
14. Harvey, L.: New Realities: The Relationship Between Higher Education and Employment. Tertiary Education and Management 6, 3–17 (2000)
15. Lowden, K., Hall, S., Elliot, D., Lewin, J.: Employers' Perceptions of the Employability Skills of New Graduates. Edge Foundation, University of Glasgow, SCRE Center (2011), http://www.edge.co.uk/media/63412/employability_skills_as_pdf__final_online_version.pdf
16. Travis, T.: The Impact of Information Literacy Instruction on Workplace Research Skills. Education Libraries 34(2), 19–31 (2011)
17. Jeffreys, J., Lafferty, M.: Gauging Workplace Readiness: Assessing the Information Needs of Engineering Co-op Students. Issues in Science and Technology Librarianship (Spring 2012), http://www.istl.org/12-spring/refereed2.html?a_aid=3598aabf
18. Head, A.J.: Learning Curve: How College Graduates Solve Information Problems Once the Join the Workplace. Project Information Literacy. Sonoma, CA (2012), http://projectinfolit.org/pdfs/PIL_fall2012_workplaceStudy_FullReport.pdf
19. Bundy, A. (ed.): Australian and New Zeland Information Literacy Framework: Principles, Standards and Practice. Australian and New Zeland Institute for Information Literacy, Adelaide (2004), http://www.library.unisa.edu.au/learn/infolit/Infolit-2nd-edition.pdf