What is the Employers Stand on Information Literacy – Researching Employers on Expected Generic Outcomes of Their Future Employees

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Abstract. The concept of generic information competences is based on the fact that there is a heavy overlapping of the generic competences and information literacy competences identified in the body of literature and research. The individual researches, learns, solves problems, collaborates and makes decisions based on the information gathered from various sources. The key skills of 21 century workers include knowledge of different resources as well as the various ways to access them, setting up and applying efficient research strategies, interpreting found results, synthesizing new knowledge and present knowledge in an ethically correct way taking in the all aspects of the ease of use of digital information (in the sense of copy, transfer, ignoring copyright. Employment sector and workplace research show that there are different generic competences expected from the employees. By interviewing Croatian employers about the generic competences authors have identified generic competences required for the workplace environment which are than mapped with the information literacy competence in order to build a foundation for the development of the taxonomy of generic information competences.

Keywords: Employability, generic competences, information literacy.

1 Introduction

Relevant research, experience and strategies used internationally show that information competencies present a backbone for the development of generic competences. Information literacy prepares learners to connect, interact with, and utilize the accessible wealth of information. Correlation between information use and generic competences [1] is based on the fact that information is the building element of learning, problem solving and decision making. The individual researches, learns, solves problems, collaborates and makes decisions based on the information gathered from various sources. The key skills of 21 century workers [2] include knowledge of different resources as well as the various ways to access them, setting up and applying efficient research strategies, interpreting found results, synthesizing new knowledge

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and present knowledge in an ethically correct way taking in the all aspects of the ease of use of digital information (in the sense of copy, transfer, ignoring copyright).

Modern universities have recognized learning outcomes as a starting point in the enhancement of the curriculum quality and their orientation towards social relevance and employability. As opposite to professional competences which are easy to define, primarily due to their connection to the scientific field and related profession, the generic competences are transferable, multifunctional, un-specific (in the domain sense) and thus hard to define and measure. The employers are interested in generic competences in the employment process and therefore more research should be oriented towards strengthening the generic competences. The generic approach to the defining of the competences is related to the development of highly transferable generic competences required in the professional environments and distinctive from subject-specific or work-related knowledge. Relevant research, experience and strategies of the international universities show that the information competences present a backbone of the development for the generic competences. Information literacy prepares learners to connect, interact and utilize the accessible wealth of information. [3]

Correlation between information and generic competences is based on the fact that information is the building element of learning, problem solving and decision making. The individual researches, learns, solves problems, collaborate and makes decisions based on the information gathered from various sources. Therefore, knowledge of different resources as well as the various ways to access them, development and application of efficient research strategies, interpreting the results, synthesizing new knowledge and present knowledge in an ethically correct way present various aspects of the use of information regardless of media (traditional, digital or newly emerging). Contemporary development of information environments is marked with the growing complexity in both quantitative and qualitative sense which demands additional research of information competences necessary for the successful transformation of individuals from tertiary educational sector to the employment market.

2 Generic Competences Viewed Thorough Different Lenses

The generic qualifications themselves often have descriptors that define the learning outcomes associated with them; these are normally generic in nature and can be applied across subject disciplines and modes of learning. In higher education they are primarily used by: course designers (developing learning outcomes and assessment criteria); those involved in quality assurance (validating, reviewing and approving programs of learning); credential evaluators (nationally and internationally, as reference points to help make accurate recognition judgments) [4]. The term ‘generic’ conveys the inherent nature of the competence: they are not specific to either the education sector or to a particular discipline. The alternative term ‘transferable’ is more a characteristic of generic competences therefore term generic i.e. generic information competences will be used later in the text.

One of the most comprehensive and most frequently quoted approaches to the development of learning outcomes and competences has been designed within the

European project Tuning Educational Structures in Europe [5] whose central assumption is that general and specific competences i.e., learning outcomes should be the central element in the structuring of educational programs. 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.

Croatian qualification framework [6] relates to the EU legislative [7] and incorporates key competences for lifelong learning in the educational standard. These competences are:

- Communication in the mother tongue,
- Communication in foreign languages,
- Mathematical competence and basic competences in science and technology,
- Digital competence,
- Learning to learn,
- Social and civic competences,
- Sense of initiative and entrepreneurship,
- Cultural awareness and expression.

These key competences are all interdependent, and the emphasis in each case is on critical thinking, creativity, initiative, problem solving, risk assessment, decision taking and constructive management of feelings. Generic competences by their nature are transferable and should be considered as ones that are not specific to any subject field but could and should be applied in any fields equally. [3]

Boundaries between occupational categories are becoming more blurred and thus increasing the role of the generic competences in enhancement of future graduates employability. The discipline oriented or specific competences are currently receiving major attention while the generic competences are lacking in study programs integration. When looking at the generic competences and information literacy competences we see an overlap. The generic competences cannot be developed without including information literacy in the curriculum. The employment sector and workplace research show that there are different generic competences expected from the employees. Moy [8] defines key competences as collecting, analyzing and organizing information, communicating ideas and information, planning and organizing activities, working with others and in teams, using mathematical ideas and techniques, problem solving, using technology. Furthermore, Bartram et al. [2] define eight great competences from the employer's point of view:

- Leading and Deciding,
- Supporting and Co-operating,
- Interacting and Presenting,
- Analyzing and Interpreting,
- Creating and Conceptualizing,
- Organizing and Executing,
- Enterprising and Performing.

The National Association of Colleges and Employers [9] investigated relative importance of skills of new recruits offering ranking of 10 skills: ability to work in team structure, ability to verbally communicate with people inside and outside the organization, ability to make decisions and solve problems, ability to obtain and process information, ability to plan, organize and prioritize work, ability to analyses quantitate data, possession of technical knowledge related to the job, proficiency with computer software programs, ability to create and/or edit written reports, and the ability to persuade or influence others.

The research on communication about the competences between the education and economy is presented in the project Higher Education as a Generator of Strategic Competences [10]. In 2009 the project researched the employability of graduate students and their job transitions based on the competences acquired during their study. The 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. Higher education graduates learnt and reflected on their higher education learning experiences and the importance of other determinants of their career success. Employers have been provided with evidence how skills, qualifications and job descriptions are developed, identified, interpreted, adapted, transferred, selected and rewarded. The research has shown in what way the characteristics of jobs and organizations affect the demand for graduates' competences. The results have showed that there is a need for competences of those working in tertiary level jobs in the NCMS (new and candidate member states). These are (importance is in descending order):

- Ability to use computers/Internet,
- Ability to use time efficiently,
- Ability to work produce with others,
- Ability to make meaning clear to others,
- Ability to perform under pressure,
- Mastery of own field or discipline,
- Ability to coordinate activities,
- Ability to rapidly acquire new knowledge,
- Ability to write reports, etc.,
- Ability to come up with ideas/solutions,
- Analytical thinking,
- Ability to assert your authority,
- Alertness to new opportunities,
- Ability to negotiate effectively,
- Ability to mobilize capacities others,
- Ability to present to an audience,
- Willingness to question ideas,
- Ability to write/speak in foreign language,
- Knowledge of other fields/disciplines

Comparing these aforementioned generic competences with the information literacy competences brings a grid of overlapping competences which are named differently but defined in the similar way. Therefore, demonstrating the necessity of information

literacy as a set of generic competences which can be learned and further developed even after the formal education needs to be done in the employers' mindset. Researching information literacy competences in the workplace environment has recently become more popular after the pioneer work from researchers such as highly cited Bruce [11], Lloyd [12] etc. Recent trend in identifying information literacy skills and competences by the employer is result of the growing trend of graduates' employability issues. Projects, such as the iKnow project [13] have tried to identify core information literacy skills areas as relevant to the workplace. The result is 6 core information literacy skills:

- The ability to conduct effective searches for information;
- An understanding of how to locate information quickly and effectively;
- Knowledge of how to measure the quality of the information found;
- The ability to deal with large amounts of information;
- Knowledge of how to manage information in the workplace, in accordance with legislation;
- Knowledge of how to keep up-to-date with information.

From the previously mentioned competences frameworks both from the higher education point of view or the labor market point of view one can see the growing importance of integrating generic competences in study programs. Several new clusters of skills and competencies have emerged with the assumed potential to influence learning processes in diverse environments; Information literacy (IL) is one of them. What becomes common to all the defined generic competences is the information literacy ingredient. Therefore we can conclude that generic competences cannot be developed without including information literacy in the curriculum.

Only an information literate employee is a critical thinker capable to solve problem due to development of competences such as informed decision making based in analysis and synthesis of various information acquired through interaction with different analog and digital items (including objects, documents and people) in the information space.

3 Methodology

Qualitative research was conducted during 2-months period in 2014 among 6 top companies from the private sector. The companies' professional background financial, IT and marketing branch and they were chosen based on their employability record of hiring new workforce. The major criteria in choosing companies for interview were their visibility on international level, regional collaboration and ability to hire new graduates. This enabled us to investigate the importance of the generic competences of current and future employees from the employers stand. Research tried to investigate if generic skills are recognized as a key element of effective working practice in workplace and if employees are demonstrating their competence in generic information skills.

Goal of the research was to investigate employers' perception of information literacy and its relation with generic competences. Recent study by Head et al. [14] on information literacy competences at the workplace and its results were used as a starting point. Intention was to compare the findings and identify competences that employers need and expect from graduates. The problem that we assumed would arise is the lack of understanding of the term information literacy competences by employers outside of the field of information science. Due to the fact that usually information competences are misinterpreted with computer skills research was based on investigating generic competences. By mapping the generic competences with information competences we developed a set of generic information competences to be further explored and promoted as a solution of the current misunderstandings.

The interviews were semi-structured, consisting of set of open-ended questions divided into three subsets: identification of generic competences, evaluation of current employees' generic competences and assessment of job applicants' generic competences. In recorded sessions via skype, interviews were held with company representatives were from the management level or human resource management sector.

4 Discussion

What our research showed is the general misunderstanding of the term generic competences between body of research and literature and employers. Although, they are thought to be crucial for the employability in the end some of the generic competences were associated with the specific work description. Even the employers have identified competences such as leading, deciding, enterprise, management as competences necessary for managerial level and not the entrance level.

Employers were asked to identify the generic competences necessary for their employees. The following competences were identified as generic competences expected in their current and future employees: Computer literacy, Communication and presentation skills, Professional development and acquirement of new knowledge and skills, Team work, Independence, Problem solving.

When further asked what they expect from their employees the following were identified: efficacy, curiosity, creativity and positive thinking. Furthermore, two employers emphasized that there is a growing need for skills of the ethical conduct in the work environment as well as with business procedures and information. On the other hand, one employer named specific competences such as math skills and expertise as required generic competences which bring out the question of setting the clear boundaries and definition of what generic competences are.

What seem indicative is that computer literacy is an unquestionable prerequisite. The majority of the companies were white collar companies involved with marketing, investment or IT and therefore the excellence in computer literacy is for them a compulsory. Still, one of the employers, when asked about the competences of job applicants, said that "competences stated in the job application need to be checked thoroughly" as practice and experience have shown that this is not the case. When asked to elaborate on this Employer gave an example of job applicant stating his

excellence in using office package while when offered an opportunity to show his skills applicant showed lack of deeper knowledge of connecting software options with the work task". Although this is not strongly connected with the information literacy competences it gives an example of the problem educational environment is currently facing. Focus in today's education system is on subject specific competences while generic competences such as information literacy are often ignored. On the other hand these competences are actually crucial for graduates' employability

4.1 Generic Competences of Current Employees

Competency of independent information retrieval and decision making based on data and information retrieved is among all the participant priority competency of their employees. One participant even emphasized that there is a huge demand for "bringing quality information based on processed data and not pure factual information" The other stated that it is crucial that individual "gathers information independently and not by dragging others".

When asked to evaluate generic competences of their current employees all the interviewed participants agreed that even if these were not acquired prior to the employment time these need to be developed very fast. Only one company stated that they are currently defining system of competences on which they will base their professional development and therefore are currently not monitoring generic competences of their employees nor using them as a employability prerequisite. Still, they are experiencing disproportion among different department and teams in generic competencies.

When rating the priority of generic competences they expect from their employees on the scale of 1-5, where 1 was the least important and 5 was crucial, as crucial were identified the following: adaptability and readiness for change, creativity, vision and innovation, customer relation and time management. The less important competences still marked as most important were the: decision making and risk taking (based on data, information knowledge), Personal development, communication skills, problem solving and information management. One of the employers felt the need to emphasize that for information management competence is "something that very few employees have knowledge of".

Although information skills are in the foundation of aforementioned competences it is interesting that when asked to enumerate skills by their importance only one employer felt that the information retrieval and processing skill is the top skill. This can be correlated with the results from The National Association of Colleges and Employers study from 2013 (according [14]) which reports that employers ranked "obtaining and processing information" fifth out of ten skills they considered important during the recruiting process.

4.2 Generic Competences of Job Applicants

When discussing the ways to develop the generic competences and the employers vision on when these should be developed, during or after educational period all the participants answered that it should definitely be acquired during educational period. The majority felt that these should be acquired during secondary or tertiary education while two felt that these should be developed on the primary education level. The general remark is the education is oriented towards subject specific knowledge and competences while generic competences necessary for the smooth transition from educational environment towards workplace and later in the workplace are often ignored due to various reasons.

The employers were unanimous in stating that there is a decline in job applicants emphasizing their generic competences in their application. They are often ignored and in some cases if stated usually hidden and not emphasized as a comparative advantage in the job application. In the words of one employer "We are witnessing decrease in the generic competences on annual level in the last 10 years". The only solution is for employers to try to look and find generic competence from applicant CV or to investigate them during the job interview. One of the employers even commented that in his experience with young graduates "More education brings more subject specific competences and less generic competences"

The recent trend is that some job applicants only emphasize their ability to work in team as their only non-subject specific competence.

5 Development of Generic Information Competences

Information literacy competences when mapped with the generic competences show a huge overlap. When looking historically in the term information literacy the term (coined by Zurkowski in 1974) it originates from the business sector as a response to the urgent need of information handling and distinction between information literate and illiterate professionals. Even after so many years of the original formulation we are still struggling with the recognition of the concept in developing educational policies, curricula and study programs.

The occurring problem today is the mixture of terms in use concerning digital, media and information literacy. This position shows that there is a lack of concept understanding and narrow looking at the concept of information literacy. The change in the information space has created a new viewpoint in the information literacy field incorporating the philosophy and changing anomalies of the web 2.0 environments thus creating the information literacy 2.0 phenomenon. The universe of scholarly information went through a tremendous change in the last decade which has brought changes in how researchers discover and gain access to information resources relevant to their research and how they create and manage information resources of new kinds. It is necessary to focus IL programs on specific aspects such as [15]: Issues of trust and authority, Understanding novel/alternative forms of disseminating information, Managing and communicating research information and data, Alternative forms of

evaluating and pre- reviewing scientific works, Building reputation and research prestige online.

The often ignored part of research on the generic competences is the assessment of these skills. As they are not subject specific and do not relate to discipline-specific set of assessment criteria they are often ignored and incorporated in the study programs to satisfy the theoretical part of curriculum development. Marzal [16] points out that evaluation as a process of improvement and betterment must be linked to quality. It must also have the necessary tools to measure the process of qualification. These tools need to be effective, objective, and useful for statistical processing purposes, enabling results to be effectively interpreted for decision-making processes. The problem arises when evaluation has to be transferred to an object like information literacy, which is generic and competency-based, and does not refer to a knowledge area.

Until we develop a clear set of assessment criteria the generic competences will not be given a required attention during the teaching process and curriculum development. Therefore, building a detailed taxonomy of both competences and its learning outcomes could serve as a viable solution to the explicit assessment of generic skills. A discipline-embedded approach to developing generic skills is favoured, but with explicit assessment and reporting of the outcomes.

6 Conclusion

As the skills boundaries between occupational categories are increasingly blurred creating a framework of generic information competences could enhance the enable future graduates employability. The discipline oriented or specific competences are currently receiving major attention while the generic competences are lacking in study programs integration. When looking at the generic competences and information literacy competences we see an overlap. The generic competences cannot be developed without including information literacy in the curriculum.

By interviewing employers and gathering their insight into the problem we received better scan of the field and employers viewpoint of the emerging problems. We see a growing segment of content analysis applied in the research of competences emerging in the job descriptions. Still, this brings to the problem of lack of communication between educational and work sector. In-depth research of the employers viewpoints of the generic competences, raising awareness of the necessity of generic information competences in both sectors are foundations for improvements of graduate employability.

References

1. Bowman, K.: Background Paper for the AQF Council on Generic Skills, http://www.aqf.edu.au/wp-content/uploads/2013/06/Generic-skills-background-paper-FINAL.pdf
2. Bartram, D.: The Great Eight Competencies: A Criterion-Centric Approach to Validation. J. Appl. Psych. 90(6), 1185–1203 (2005)

3. Banek Zorica, M., Špiranec, S.: Assessment of the Information Competences in the Study Programs at the University of Zagreb. In: 8th International Technology, Education and Development Conference, pp. 4439–4446. IATED Academy, Barcelona (2014)
4. A Framework for Qualifications of the European Higher Education Area: Bologna Working Group on Qualifications Frameworks. Ministry of Science, Technology and Innovation, http://www.ond.vlaanderen.be/hogeronderwijs/bologna/documents/050218_QF_EHEA.pdf
5. Competences. In: TUNING Educational Structures in Europe, http://www.unideusto.org/tuningeu/competences.html
6. Introduction to Qualifications. In: Dzelalija, M. (ed.) Croatian Qualifications Framework. Government of the Republic of Croatia Ministry of Science, Education and Sports, Zagreb (2011)
7. Recommendation 2006/962/EC of the European Parliament and of the Council of 18 December 2006 on Key Competences for Lifelong Learning, http://europa.eu/legislation_summaries/education_training_youth/lifelong_learning/c11090_en.htm
8. Moy, J.: The Impact of Generic Competencies on Workplace Performance. NCVER, Australia (1999)
9. NACE 2013 Job Outlook. National Association of Colleges and Employers, Betlehem, Pa. (2012)
10. The HEGSCO Project, http://www.hegesco.org/
11. Bruce, C.: Workplace Experiences of Information Literacy. Int. J. of Inf. Manag. 19(1), 33–48 (1999)
12. Lloyd, A.: Informing Practice: Information Experiences of Ambulance Officers in Training and On-road Practice. J. of Docum. 65(3), 396–419 (2009)
13. Reedy, K., Mallett, E., Soma, N.: iKnow: Information Skills in the 21st Century Workplace. Lib. and Inf. Res. 37(114), 105–122 (2013)
14. Head, A.J., van Hoeck, M., Eschler, J., Fullerton, S.: What Information Competences Matter in Today's Workplace? Lib. and Inf. Res. 37(114), 74–104 (2013)
15. Špiranec, S., Banek Zorica, M.: Changing Anatomies of Information Literacy at the Postgraduate Level: Refinements of Models and Shifts in Assessment. Nord. J. of Inf. Lit. in H. E. 4(1), 3–15 (2012)
16. Marzal, M.Á.: Evaluation of Information Literacy Programmes in Higher Education: Strategies and Tools. In: Information and Digital Competencies in Higher Education [online monograph]. Revista de Universidad y Sociedad del Conocimiento (RUSC) 7(2) (2010), http://rusc.uoc.edu/ojs/index.php/rusc/article/view/v7n2-marzal/v7n2-marzal-eng