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Attaining Employability skills by focusing on information competencies: How far are we?

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Abstract: In the employment context, employers give more and more priority to candidates with generic competencies. Numerous studies suggest that information competencies have an important role in generic competencies. However, studies performed in Croatia indicate unsystematic and sporadic presence of information competencies in curricula. The aim of this paper is to analyze the information competencies in graduate study programs at the University of Zagreb. In order to cover the largest number of enrolled students, as the sample for analysis 20% of graduate programs with the largest number of enrolled students were selected from each scientific field (biomedicine, biotechnology, engineering, humanities, natural sciences and social sciences) with the exception of arts study program. These top 20% of graduate programs enroll a total of 41% of the students' quota for the entire University of Zagreb. A total of 27 master study programs were analyzed with a total of 2735 courses. The research results provide a presentation of the current situation and recommendations for the optimization of information competencies in the graduate curriculum at the university level.

Keywords: information literacy, generic competencies, University of Zagreb, information competencies

1. Introduction

Raising complexities of information environments and advancements of information technologies affect information handling requirements, commonly recognized as information literacy, which has been widely and increasingly cited as essential for educational success, for the workplace, and for life. However, as indicated by several authors (Rader, 2002; Lloyd and Williamson, 2008; Hepworth and Smith, 2008) the majority of studies investigating IL have been conducted in educational contexts. This seems surprising, at least in the

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light of the fact that the very coining of the term *information literacy* in 1974 by Zurkowski (Zurkowski, 1974) was accompanied by the highlighting of its importance for the attainment of economic and workplace-related goals. Although the majority of subsequent IL definitions primarily pertained to educational contexts, its relations to workplace matters were at the same time continuously emphasized in many documents (American Library Association, 1989; Beacons of the Information Society, 2005); the statements have been more declarative in nature and rarely reflected in research. This has begun to change recently with a growing interest in workplace IL (Hepworth and Smith, 2008) Research has shown that IL at workplaces is much less structured and less oriented at textual but more on social sources of information (Lloyd 2005; 2008), and that experience of information literacy in the workplace was more fragmented than in the academic context.

The heightened research interest in IL in workplace context parallels strategies and policies in tertiary education, where a growing emphasis on generic and employability attributes such as information literacy, and other attributes critical to a capacity for lifelong learning became evident. Recent shifts in education and labor market policy have resulted in universities being placed under increasing pressure to produce employable graduates, although contention exists regarding exactly what constitutes employability and which graduate attributes are required to foster employability in tertiary students. (Bridgstock, 2009).

There is no doubt that contemporary information-saturated workplaces require information competencies. Still, despite the importance of information competencies in the employability agenda, it remains questionable whether and how well the educational systems prepares students for finding, evaluating, and using information once they graduate and join the workplace (Head, 2013)

In this paper, this question will be analyzed in the context of a particular university, the University of Zagreb, Croatia. The main aim of the conducted research was to determine whether information competencies are embedded within study program syllabuses and what competencies prevail. The aim was also to determine whether specific disciplines are focused on generic information competencies to a higher extent than other disciplines. These kinds of data are crucial for devising and proposing further steps in promoting and embedding information competencies as employability skills in curricula at university level.

2. Sample and methodology

The aim of this paper was to analyze the presence of generic information competencies (GIC) across university graduate programs ( ) at the University of Zagreb. As a comprehensive public university, University of Zagreb offers education and research and in all scientific fields (arts, biomedicine, biotechnology, engineering, humanities, natural sciences and social sciences) and a broad spectrum of courses at all study levels, from

undergraduate to postgraduate. With 29 Faculties, 3 Art Academies and the University Centre for Croatian Studies it is the largest educational institution in the country, with a total of 205 different masters programs available to over 72,000 enrolled students.

In order to cover the largest number of enrolled students, as the sample for analysis 20% of graduate programs with the largest number of enrolled students were selected from each scientific field (biomedicine, biotechnology, engineering, humanities, natural sciences and social sciences) with the exception of arts study program. These top 20% of graduate programs enroll a total of 41% of the students' quota for the entire University of Zagreb. A total of 27 master study programs were analyzed with a total of 2735 courses. Each course description and outcomes were analyzed and investigated for potential inclusion of GIC in its curricula.

3. Results and analysis

Out of 27 master programs analyzed, in 5 of them no generic information competencies were found. Out of the 2735 courses analyzed, in 90 of them (3.3%) generic competencies were identified which makes an average of 3.4 courses per study. Further analysis of generic information competencies was based on those 90 courses in which they were found.

The presence of generic information competencies (GIC) in different scientific fields

The analysis showed different coverage of GIC in different scientific fields. The smallest number of courses teaching GIC was found in biotechnical sciences (8 out of 178), biomedicine (5 out of 101) and social sciences (10 out of 216). The largest number of GIC courses was found in humanities (36 out of 825), natural sciences (17 out of 369) and technical sciences (15 out of 266).

Figure 1 shows a detailed distribution of total number of courses per study, number of course with generic information competencies (GIC) and percentage of courses with generic information competencies (GIC) out of a total number of courses in study.

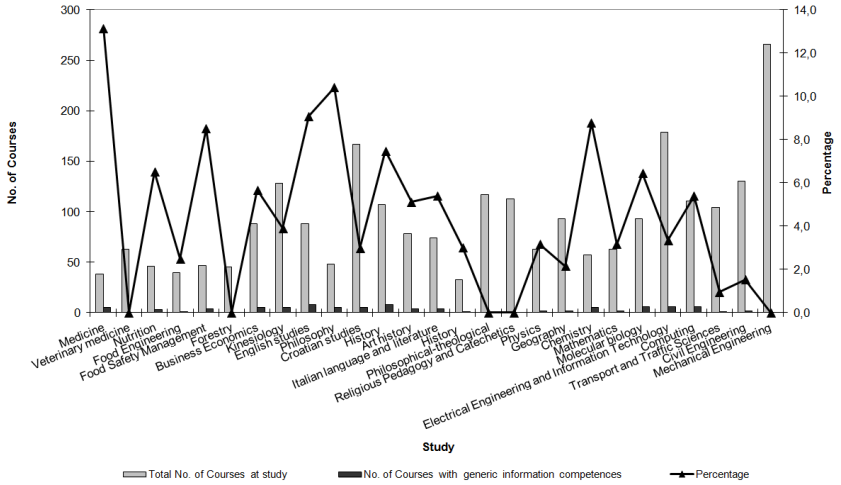

Figure 1. Distribution of courses with GIC by studies.

We can see form Figure 1 that not only there is different coverage of GIC in different scientific fields but also within the same scientific field. In the field of biomedicine and health GIC coverage ranges from zero (Faculty of Veterinary Medicine) up to 13% of the courses (School of Medicine). In the field of technical sciences these ranges are from 1.5% (Faculty of Transport and Traffic Sciences, Faculty of Civil Engineering and Faculty of Mechanical Engineering and Naval Architecture) up to 5,4% (Faculty of Electrical Engineering and Computing). In the field of biotechnical sciences the coverage ranges from zero (Faculty of Forestry), up to 8.5% (Faculty of Food Technology and Biotechnology. In the field of natural sciences (Faculty of Science) the coverage ranges from 2.2% up to 8.8%. In the field of social sciences (Faculty of Economics and Business and Faculty of Kinesiology) these ranges are from 3.9% up to 5.7%. At the faculty of Humanities and Social Sciences students can study 4 master studies from the area of Social Sciences (Information and Communication Sciences, Pedagogy, Psychology, Sociology) and 30 master studies from the area of Humanities. Number of courses GIC in Social science was 31 (13%) out of a total of 236, while that number was in the area of Humanities was 97 (6.4%) out of total number of 1506.

When summarizing the data for the entire field of humanities, there is a total of 36 courses (4.4%) covering GIC and from that number 34 of them is from the Faculty of Humanities and Social Sciences which clearly shows the lack of GIC coverage in courses available in faculties other than those from the Faculty of Humanities and Social Sciences

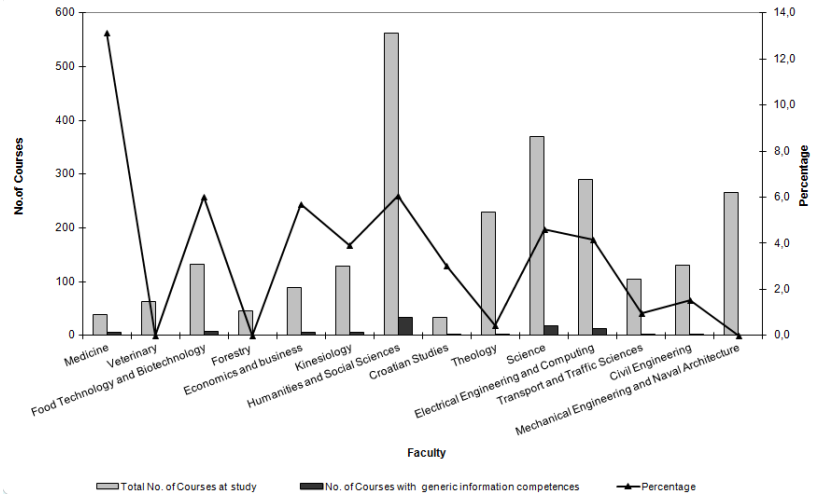

Figure 2. Distribution of courses with GIC by faculties

Figure 2 shows the faculties with the largest coverage of GIC found in their courses. It is clear that the Faculty of Humanities and Social Sciences has the most courses covering GIC, followed by the Faculty of Science. We can see from the data that there is no consistency in implementing GIC within different scientific fields or faculties

Mandatory vs. Elective Courses

Since all of the studies analyzed have mandatory and elective courses, it was important to further analyze the presence of generic competencies based on those criteria. If competencies are present in any of the mandatory courses we can say that all students from that study will be obliged to acquire them. Elective courses, however students can pick and chose, which means that students will adopt those competencies only if they chose to enroll in that course.

Table I. Distribution of courses with GIC within different scientific fields: mandatory vs. elective courses

	Courses		
Area	*Mandatory*	*Elective*	**Total**
Biomedicine and health	5	0	**5**
Biotechnical sciences	4	4	**8**
Humanities	10	25	**35**
Natural sciences	4	13	**17**

	Courses		
Area	*Mandatory*	*Elective*	**Total**
Social sciences	8	2	**10**
Technical sciences	3	12	**15**
Total	**34**	**56**	**90**

Within the fields analyzed, there were only 3 studies with no GIC within the mandatory courses while 4 of them had no elective courses covering GIC.

Out of 90 courses with GIC 34 of them (37.8%) courses were mandatory and 54 (62.2%) courses were elective courses (Table 1). While most scientific fields show a tendency towards elective courses (humanities, natural sciences, technical sciences) where students are offered more elective courses than mandatory there are some exceptions like the field of biomedicine where all the courses are mandatory, the field of social sciences (80% of mandatory courses), or biotechnical sciences with the same number of mandatory and elective courses.

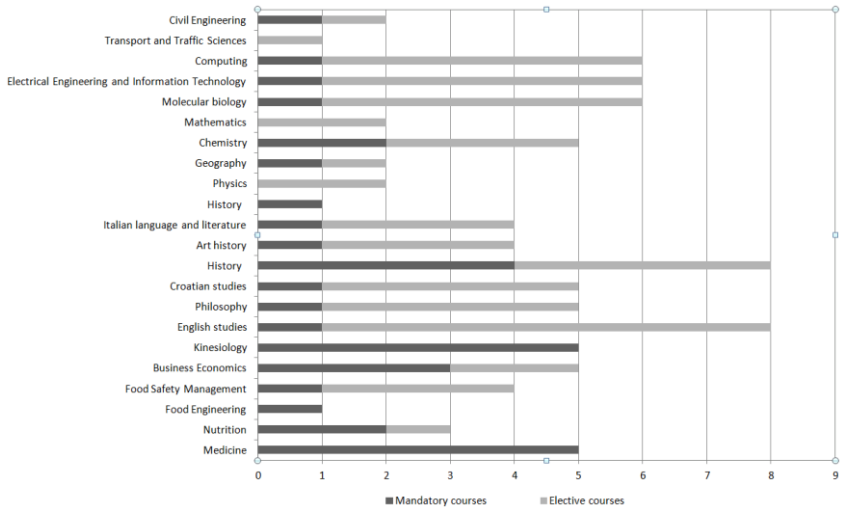

Figure 3. Distribution of courses with GIC within different studies: mandatory vs. elective courses

As we can see from Figure 3, out of the studies that have GIC covered in their curricula, nearly half of them (13 out of 27) have only one mandatory course covering GIC, while other are only elective courses which means that students will adopt those competencies only if they chose to enroll in that course.

From those 27 studies analyzed, 11 of them (37%) had a mandatory course covering the introduction to research methodology from different perspectives, which is the most common way for the students to acquire GIC in their study.

4. Conclusions

The aim of this paper was to analyze the presence of generic information at the University of Zagreb, Croatia as the largest educational institution in the country, with a total of 205 different masters programs available to over 72,000 enrolled students. In order to cover the largest number of enrolled students, as the sample for analysis 20% of graduate programs with the largest number of enrolled students were selected from each scientific field (biomedicine, biotechnology, engineering, humanities, natural sciences and social sciences) with the exception of arts study program. A total of 27 master study programs were analyzed with a total of 2735 courses. Out of the 2735 courses analyzed, in 90 of them (3.3%) generic competencies were identified which makes an average of 3.4 courses per study. Out of 90 courses with GIC 34 of them (37.8%) courses were mandatory and 54 (62.2%) courses were elective courses.

Analysis has shown not only there is different coverage of GIC in different scientific fields but is also within the same scientific field. The Faculty of Humanities and Social Sciences has the most courses covering GIC, followed by the Faculty of Science, but there is no consistency in implementing GIC within different scientific fields or faculties. The most common way for the students to acquire GIC in their study are different courses covering the introduction to research methodology present in most of the study programs.

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