

MATCHING OF GENERIC COMPETENCIES WITH LABOUR MARKET NEEDS: IMPORTANT FACTOR OF QUALITY OF STUDY PROGRAMMES

ABSTRACT

Employment of graduates is reflected as one of the most important factors for the quality of tertiary education. A link which relates study programmes with the labour market needs is relevant learning outcome of curriculum. The aim of paper is to analyse the issue of how curriculum of Lithuanian higher education institutions provide graduates with generic competencies. The empirical research was carried out under the Erasmus programme project “Higher Education as a Generator of Strategic Competencies” (HEGESCO, No.133838-LLP-1-2007-SI-ERASMUS-EMHE) in 2008. The mismatch of generic competencies of Lithuanian graduates (N=1021) with the labour market needs was researched.

To Lithuanian graduates opinion, their mismatch of generic competencies is evident in competencies characterised as functional flexibility and mobilisation of human resources. Over-developed competencies are considered to be in international orientation of graduates. The task for higher education institutions is to offer innovative curriculum designed for the needs of labour market. This research provided with the data necessary for improvement of quality of study programmes in Lithuanian higher education institutions.

Key words: generic competencies, study (learning) outcomes, quality of study programmes

1. EU POLICY: EMPOWERING YOUNG PEOPLE THROUGH EDUCATION

The strategic objectives for education and training by 2010 are set “to provide a comprehensive response to the challenges of the knowledge society, globalisation and the enlargement of the European Union (...) as a whole” (Council of the European Union, 2002, p. C 142/3) The European Commission underlined the task of education to empower people to acquire the knowledge and develop their abilities for active participation in creating welfare of his/her own and society: “it is crucial that every young person is given the possibility to fulfil his or her potential.” (European Commission, 2007, p.2)

It is clear (European Commission, 2003) that higher education institutions are to perform the main role in developing the “Europe of knowledge”. “Young people need to be prepared for entry into the labour market but also to be able to carry on their education throughout their lives, for their personal development and to help them adapt to changing professional circumstances.” (European Commission, 2007, p. 3)

Investing in youth is an investment in the future of ours. In White Paper “A New Impetus for European Youth” the European Commission (2001) states that the quality of education “has to be improved in order to ensure that young people acquire appropriate skills which enable them to become informed, active and responsible citizens and to ensure their social inclusion and readiness

for working life.” (European Commission, 2001, p. 31) The quality of HE institutions’ performance and their outputs has to meet generally agreed standards. Dimensions of higher education quality are measured by graduates’ positions in the world of work. One of the most important issues of the topic is the potential of higher education institutions to develop competencies which are relevant for labour market and societal life. Higher education institutions should be aware of what competencies are needed for successful entry into the labour market, better employability and active citizenship. They have to be able to base study programme on required competencies. The important question of up-to-date curriculum development is the level of required competencies that graduates possess.

The research carried out under Erasmus programme project “Higher Education as a Generator of Strategic Competencies” (Hegesco), No.133838-LLP-1-2007-SI-ERASMUS-EMHE had an attempt to answer this question. The validity of the graduates competencies acquired during the studies in higher education institutions, as well as the competencies which have not been developed to the sufficient level during the studies in higher education institutions but are crucial for development of knowledge-based economy in the EU countries were explored (Figure 1).

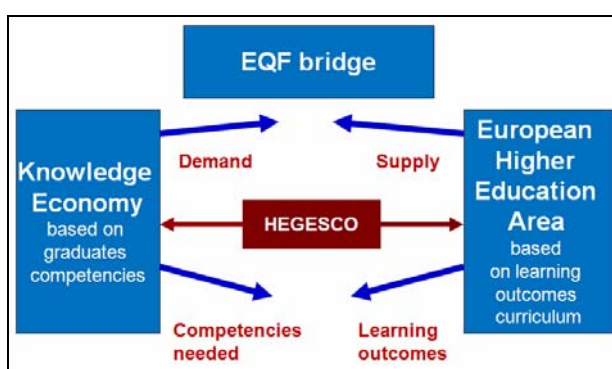


Figure 1: EU strategy for developing knowledge-based economy and Hegesco project

The research carried out on graduates competencies of higher education institutions in Lithuania is the attempt to correspond to the European Commission call of the work programme of Education and Training 2010: “to modernise higher education through changes to governance, funding and curricula” and (...) to avoid mismatches between education outcomes and labour market requirements (...)” (European Commission, 2007, p. 4)

2. GENERIC COMPETENCIES: WHAT’S THE REQUEST?

2.1. Specialized knowledge and flexibility

In business world, “many companies are moving towards customer-oriented working which means that work has to be organised in a way that would allow greater spontaneity and flexibility.” (Arthur, Brennan, Weert de, 2007 p. 44) For this reason, higher education curriculum should be designed so as to equip graduates with the competencies needed for successful performance, or at least to lay the foundation for acquisition of these competencies through work experience. Higher education curriculum designers should balance the contradictory demands such as the need for specialized knowledge and flexibility.

What are the competencies needed for graduate to be prepared for meeting problems which will arise in future job situations? One could state that the concept of competencies provided/ acquired in tertiary education is a problematic issue since the different types of competencies describe different levels of content specificity and functional importance. There is an entire spectrum of

competencies to cover each particular demand that a particular study program is considered to meet. The large number of competencies can be reduced into two types:

- competencies that can be successfully applied across a maximum number of different tasks;
- knowledge, skills and/or strategies that are appropriate to organize available competencies in adaptive and flexible ways. (Weinert, 2003, p.60)

A well-known classification of competencies is built on distinction between generic that are not bound to any given context, and specific competencies that are meaningful only within a particular context. Subject-specific competencies further are refined into competencies that are specific to firms (firm-specificity), tasks (task specificity) and economic sectors (industry specificity) (Gracia-Aracil, van der Velden, 2008 from Nordhaug, 1993).

The match between higher education and world of work can be improved by developing competencies along with the special requirements of the labour market. Nevertheless aiming to achieve flexibility, it is necessary to provide students with a broader education and take time to develop their generic competencies.

2.2. Concept of competency

A clear definition of a concept is to be set, since the research tools as well as methods used to explore the phenomenon depend on the features of the phenomenon. For this reason the concept of competency used in this research is presented in the chapter.

“Competency is person’s ability, formally confirmed by some document, to perform a certain valid (relevant, qualified, at a concrete quality level) and reliable (precise and fast) part or function of occupation.” (Pukelis, 2009, p. 20) Competency (*pl.* competencies) is an element of occupational standard described, following strict rules of description (Moon J., 2002). The competency is ability of a person to solve some part of occupational problem(s) in an unpredictable (in real work) situation. It is important to notice that during the process of education and training a person develops his/her abilities according to competencies defined in the particular occupational standard, but not the competencies themselves. Competency is like a beacon for person’s abilities development that must direct educational and training process. A person develops his/her abilities in fact in the teaching/learning process, based on learning/study outcomes. (Pukelis, 2009)

When describing generic competencies that are to be developed in higher education, various concepts are used in literature: key skills, transferable skills, underpinning skills, employability/work related skills, soft skills and etc. (Bridgstock, 2009; Wats, Wats, 2009; Holmes, Hooper, 2000; Bennett, Dunne, Carre, 1999). To make clear with this wide selection of concepts of generic competencies, R. Bridgstock., 2009 proposes to characterise them by “two main types of attributes: (1) those which pertain to an individual’s capacity for citizenship (including involvement in democratic processes, social cohesion, equity and human rights and ecological sustainability) and thus ability to contribute towards a well-functioning society (*from* Rychen, Salganik, 2005), and (2) those which pertain to an individual’s capacity to obtain and maintain work (*from* Harvey, 2001 and McQuaid, Lindsay, 2005) and thus contribute to economic productivity.” (Bridgstock., 2009, p.32).

Various initiatives and practices for classification of generic (and specific) competencies that are developed in higher education have been put in place. Some of these are national approaches (as the initiative of the Dutch technical universities) whilst others are international (The Joint Quality Initiative known as Dublin descriptors, projects “Tuning Educational Structures in Europe” and “The Flexible Professional in the Knowledge Society”, etc.). They all share a common need to make the structures for higher education graduates qualifications based on required competencies.

The research on competencies of higher education graduates presented bellow in this paper was based on the classification of generic competencies of Jim Allen and Rolf van der Velden (2005).

The authors of the methodology remark that higher education graduates are expected to have developed at least five areas of generic competencies:

1. *Professional expertise*: higher education graduates are to become experts in their professional field.
2. *Functional flexibility*: higher education graduates have to be able to take up challenges and quickly acquire new knowledge. Graduates must possess the ability to cope with various changes in the job content, be mobile within the organization and to other organizations, etc.
3. *Innovation and knowledge management*: higher education graduates are expected to do more than just the prescribed tasks – to create an environment in which knowledge production is effective and manage innovation.
4. *Mobilisation of human resources*: higher education graduates are to be able to mobilize capacities of their own and others, as well as direct one's own others work.
5. *International orientation*: higher education graduate should possess strong international orientation due to globalization processes. (Allen, Velden van der, 2005, p.2-4)

Above mentioned five areas of competencies were listed in 22 competencies and analyzed through empirical research.

3. GENERIC COMPETENCIES IN CURRICULUM OF HIGHER EDUCATION

The emphasis on generic competencies developed in higher education has gained the importance over the last years in educational research (Bridgstock, 2009; Barth et al., 2007; Canto-Sperber, Dupuy, 2001; Holmes, Hooper, 2000; Bennett et al., 1999). One of the most important reasons for development of the research into higher education graduates' competencies developed in study programmes is to maintain or improve the learning outcomes of study programmes of higher education institutions. "The goal in this case, in addition to professional training, is to promote personality development, enabling a person to be able to cope with complex situations, to be able to act upon reflection and to make decisions. It is also about being able to take on responsibility, to consider ethical standards when acting and to be able to judge consequences." (Barth, Godemann, Rieckmann, Stoltenberg, 2007, p. 421)

The question of whether a study programme merits the requirements depends on the learning outcomes of it. The concept of learning outcomes implementation in teaching/learning process provides human resources with more appropriate qualifications for knowledge based society development. Competencies are linked with job practice in a labour market, while learning outcomes are linked with teaching/learning environment, i.e. an attempt to simulate real job situations. For this reason higher education institutions' stakeholders such as graduates, employers are able to judge if competencies required in labour market were provided in higher education, i.e. if study programmes were composed of relevant learning outcomes.

Aiming at the development of competencies in higher education institutions, strategies of study process realization have to be based on certain principles of students' self-organization. Competency-based curriculum "affects the approach to educational activities and the organisation of learning, which shifts to being guided by what the learner wants to achieve. It also affects assessment in terms of shifting from input to output and to the processes and the contexts of the learner." (Vught van et al., 2005, p.29) In this methodology the characteristics of a student is such as active, autonomous, curious and responsible for his/ her future career. The duty of teachers is to develop curriculum in appropriate way, i.e. to support and guide learning of students using appropriate teaching methods. Most common and effective methods are such as problem-based learning, which "engages young learners in exploring important and meaningful questions through a process of investigation and collaboration" (from Krajcik et al., 1999, p. 4)" (Deboer, 2002, p. 407), project-orientated studies where teacher coaches students and guide their performance if needed while students are free in their task which they plan, investigate and move towards the

interdisciplinary goal. In group work method students are encouraged to think critically, to debate, and etc. The advantage of the use of above mentioned methods is that students, working on a single task, get the possibility to acquire different types of knowledge and develop not only specific but generic competencies as well.

4. RESEARCH ON COHERENCE OF GENERIC COMPETENCIES OF LITHUANIAN HIGHER EDUCATION GRADUATES WITH LABAOUR MARKET REQUIREMENTS

4.1. Methodology of the research

Stepping on J. Allen ir R. van der Velden (2005) classification of generic competencies (presented in the 2.2 chapter of the paper), the quantitative research on the match of generic competencies of Lithuanian higher education institutions' graduates to labour market needs was carried out in May – October, 2008 under Erasmus programme project “Higher Education as a Generator of Strategic Competencies – Hegesco”.

The population of respondents was composed of graduates of ISCEAD 5A: university graduates of first and second cycles as well as colleges (non-university higher education institutions) graduates (in Lithuania colleges develop first cycle studies only). The graduates were approached after 5 years of graduation (in 2003) of higher education institutions.

In 2003 there was no regulation for higher education institutions to announce publicly the numbers of graduates. For this reason 26 out of 48 higher education institutions of Lithuania officially presented the numbers; the sample of respondents consisted of graduates of these 26 institutions (17 universities and 9 colleges).

Method used for composing research sample was random. The cohort of respondents of research was 6000 in numbers. It was composed of 84, 11 % of universities' graduates (out of them 66, 48 % were awarded of bachelor degree and 33, 52 % of master) and 15, 89 % colleges graduates (awarded of professional bachelor degree).

Questionnaires were sent to respondents by post. Respondents were asked to reply paper questionnaire since envelop with stamp was added to the package sent, either to fill on-line questionnaire if they found that way more appropriate. 1021 (17 %) respondents replied to research questions.

4.2. Characteristics of respondents

The biggest group of respondents consisted of university graduates that awarded bachelor degree (59, 86 %), one third of the group (31,39 %) were master graduates and the rest awarded professional bachelor degree (8,75 %) in colleges. Mostly (87, 31 %) respondents were in position of full-time students during last years of their studies.

The respondents (82, 16 %) of research were studious; the average mark when they finished studies was 8 and higher in scale of 10. Study achievements of 80,47 % of respondents were higher than the achievements of other students according to self-evaluation of respondents.

Most of respondents (77, 16 %) developed their professional career in the field of study they graduated. Respondents could be treated as qualified staff since they had experience in their jobs: 41, 75 % of respondents worked in the same job that they started before or during their studies and 51, 13 % of respondents started to work just after graduation in the job they were at the moment of

research. Mostly (67, 26 %) respondents were highly satisfied and satisfied with their current job. There were only 8, 67 % of respondents that were unemployed at the moment of research.

Having such an overview of respondents' characteristics, we could state that respondents of research were experienced enough in labour market and able to provide with valid and reliable data for research questions.

4.3. Match of generic competencies of graduates with labour market needs

Having a task to evaluate the quality of learning outcomes of study programmes of Lithuanian higher education institutions, the match between competencies "available" and required in a job place was analysed. Graduates were asked to make self-evaluation in the list of 22 generic competencies: they evaluated their own level of competency and the level required in their current job. The scale of evaluation was from 1 to 7, when 7 was the highest ranking in the scale. In figures and tables of the paper those competencies that differences between supply and demands were the most distinct are presented only.

We presume that the level of competencies that graduates possessed at the moment of the research was the outcome of their studies followed by self-development after studies. We are not able to distinguish those two and we presume that studies have impact to further development of a person; therefore the level of competencies possessed by graduates at the moment of a research we treat as the outcome of studies.

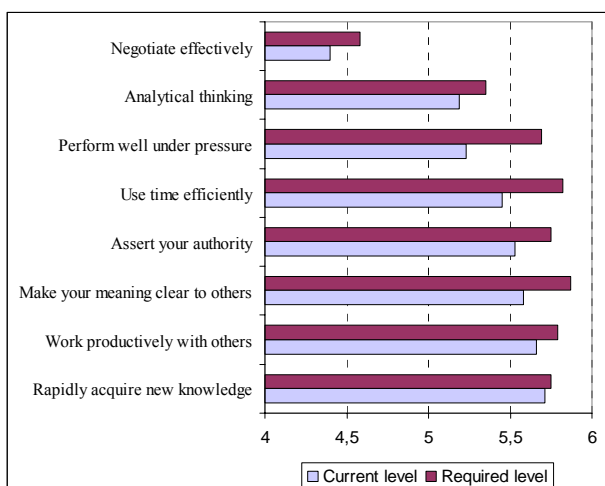


Figure 1: *Competencies in deficit with labour market requirements*

The highest mismatch between competencies required in a job and possessed by graduates is with such competencies as time management and effective performance under stress (see 1 figure). If we compare the two cohorts of graduates, when one is composed of graduates who would choose the same field to study for a second if they were able to, and a second is composed of graduates who would study another field, we have the same results in mismatch of competencies. It shows that motivation of students to learn was not significant factor for those two competencies development.

One can say that it is a challenge for teachers to guide students in development the competency of performance under pressure during the studies since learning outcomes of modules are known in advance, students are able to plan their studies and follow the plan. But, if we take another competency of short development, we argue that teachers have wide range of possibilities in higher education institutions to support students' development of time management skills (at least using innovative teaching/ learning methods). Most probably teachers are not familiar with the need.

Graduates of 4 universities composed 55, 46 % of cohort of respondents; cohort of each four universities graduates differed slightly (less than 2, 5 %). The graduates of these four universities their match between required and possessed generic competencies evaluated differently. Nevertheless the hot points that signal the biggest mismatch between demand and supply remained unaltered: above mentioned competencies of performance under stress and time management.

1 Table. *Mean difference between acquired and required in current work level of abilities of graduates' of certain Lithuanian universities*

<i>Abilities</i>	<i>Mean difference between acquired and required level of abilities</i>				
	<i>Universities</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>D</i>
Perform well under pressure		-0,762	-0,403	-0,328	-0,297
Use time efficiently		-0,326	-0,466	-0,075	-0,620
Assert your authority		-0,260	0,178	-0,641	-0,319
Negotiate effectively		-0,694	-0,225	-0,101	-0,138
Analytical thinking		-0,404	-0,101	0,059	-0,093
Make your meaning clear to others		-0,231	-0,172	-0,189	-0,564
Work productively with others		-0,035	-0,422	-0,052	-0,292
Rapidly acquire new knowledge		-0,242	-0,242	0,236	0,030

In general, the demands for development of competencies differ among universities' graduates (see 1 table). At the moment, Lithuanian universities are not composed to cover wide range of science (research) fields; they have rather narrow specifics as, for example, agriculture (Lithuanian university of Agriculture), medicine (Kaunas Medical University), and etc. Out of four universities that graduates opinion is analysed one develops science, two universities develop research in social sciences and liberal arts, and the fourth university covers all fields of science and research in its study programmes. The difference of graduates' demands for different competencies could be caused by specifics of science (research) of particular university that impact the "selection" of competencies developed in study programmes.

Most active respondents were graduates of social sciences: graduates of study programmes of administration, management and economics made 19, 02 % of cohort, graduates of pedagogic – 14, 04 %, mechanics and engineering – 12,25 %, and liberal arts – 8,37 %.

2 Table. *Mean difference between acquired and required in current work level of abilities of graduates' of certain fields of study*

<i>Abilities</i>	<i>Mean difference between acquired and required level of abilities</i>				
	<i>Fields of study</i>	<i>Management and administration</i>	<i>Pedagogic</i>	<i>Mechanics and engineering</i>	<i>Languages and history</i>
Perform well under pressure		-0,408	-0,436	-0,315	-0,534
Negotiate effectively		-0,199	-0,119	-0,325	-0,420
Use time efficiently		-0,163	-0,602	-0,284	-0,442
Work productively with others		-0,153	-0,443	0,093	-0,229
Analytical thinking		-0,010	-0,207	0,291	-0,396
Coordinate activities		0,115	-0,221	-0,041	-0,382
Make your meaning clear to others		0,040	-0,592	-0,070	-0,251
Assert your authority		-0,116	-0,217	0,022	0,078

The mismatch of generic competencies to labour market needs differs according to the fields of study programmes. The fact gives points to hypothesis that generic competencies are developed better in certain study programmes than in others (see table 2). It could have several causes: either

learning outcomes of study programmes of particular fields of studies are more relevant than others, either students' are more concerned about their self-development personally and put more effort in it than others, either teachers of particular programmes use innovative teaching methods more often than others, and etc. The statistical data show that study programmes of management and administration as well as mechanics and engineering are more popular among Lithuanian students than programmes of liberal arts or pedagogic (source: Education of Lithuania in numbers, 2003). Therefore the students in these programmes are more motivated and have higher achievements than in others, and, most probably, their mismatch between acquired and required competencies is lower.

According to graduates' opinion, during the studies some competencies are developed more than it is required in labour market. Over-development of competencies was considered with competencies that unclosed international orientation of a person (see Figure 3).

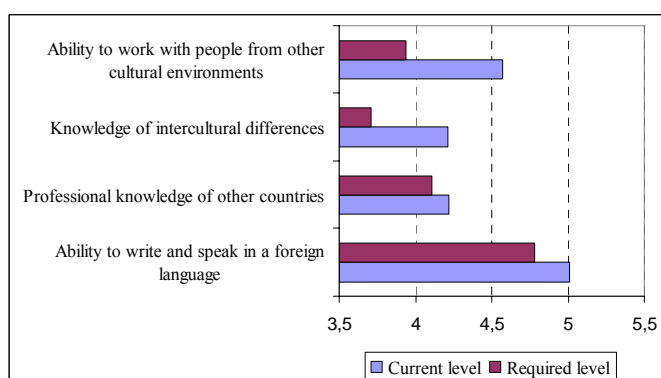


Figure 3: Over-development of competencies

The topic of over-development in education has two sides: positive and negative. To graduates' mind, the over-development of competencies of international orientation is a positive point: these competencies were mentioned as strong points of the study programme of graduation. We could presume that in globalization processes graduates feel safer in labour when they possess these competencies.

CONCLUSIONS

When employers discuss graduate's employment, the decision depends on the graduate's exhibition of his/her competencies which ensure preparedness for the job. In order to support students in their preparation for the work during the studies, higher education institutions should permanently explore the validity of the competencies developed in study programmes, i.e. the validity of learning outcomes. Such a research guides teachers when improving learning outcomes and other elements of curriculum (students' assessment criteria, teaching/ learning methods, etc.).

Curriculum designers and teachers of study programmes of Lithuanian higher education institutions should take into consideration the improvement of development of competencies such as time management and effective performance under stress. The mismatch of other generic competencies of graduates differs among study programmes as well as universities of graduation. An issue could have several causes: a) learning outcomes of study programmes of particular fields of studies are more relevant than others, b) students' are more concerned about their self-development personally and put more effort in it than others, c) teachers of particular programmes use innovative teaching methods more often than others, and d) etc. Therefore teachers of every study programme should individually explore the needs of their students and graduates in order to assure the quality.

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