

HIGHER EDUCATION INSTITUTIONS AND CAREER CENTERS (Document 2)¹

**1. General findings from the Large-Scale Graduate Survey of the HEGESCO project –
Competencies and Early Labour Market Careers of Higher Education Graduates**

Study programs should be more demanding

One of the prime goals of higher education should be to optimally develop the talents of students. As time on task is the best predictor of learning outcomes, this implies increasing the study load and creating a culture in which hard work and striving for excellence is valued and rewarded. Although a majority of graduates indicated that their programme was (highly) demanding, many graduates reported that this was not the case, especially in some countries. Although both governments and employers have a role to play in shoring up the quality of higher education, it is only the higher education institutions themselves that can implement the necessary changes to make higher education more challenging for students.

Establishing more (or better) links with employers

One of the aspects of higher education that is most valuable to graduates when they enter the world of work is the degree to which links exist between higher education and the world of work. At the same time, this appears to be only weakly related to the degree to which higher education is demanding. This implies that, while it is likely to be beneficial to graduates in the short term if the links between higher education and work are strengthened, in the longer term this is likely to be beneficial to all actors involved – employers, higher education institutes, graduates and ultimately the taxpayers who foot a large part of the bill – if such links are used to make higher education more challenging and fruitful, by involving employers in developing curricula that take account of the latest developments in the world of work, while not losing sight of the importance of imparting competences that will enhance the employability of graduates in the longer term.

Don't overstate the important of modes of teaching and learning

There is a tendency in education to think that knowledge in itself is not important anymore, as technological developments seem to render knowledge and skills obsolete soon after graduates have left higher education. Student-centred methods like project and problem based learning have often been touted as essential for the development of so-called key skills that are important in all areas of work. However, our results indicate that the precise modes of teaching and learning show surprisingly little relation with developing high levels of competence in most areas.

¹ This section is borrowed from the summary on the large scale graduate survey of the HEGESCO project – *Competencies and Early Labour Market Careers of Higher Education Graduates*, HEGESCO PROJECT 2009, (eds. Allen, Velden).

Both traditional and more innovative forms of education appear to be similarly effective when it comes to competence development.

Give credits for relevant work experience

Work experience closely related to the field of study has a positive effect on the development of relevant skills. Higher education institutes could foster this by giving credit points to students who perform such relevant work. This would encourage students to engage in relevant work instead of non-relevant work activities.

Pay more attention to the development of entrepreneurial skills

In most countries graduates are critical about HE program providing a good basis for starting to work or development of entrepreneurial skills. This should be taken seriously.

2. Which are the most important competences of graduates to function well in the workplace and society?

In the graduates' survey in NCMS we have found evidence that the most required competences in tertiary level jobs are ability to use computers and the internet, ability to use time efficiently, ability to work productively with others, ability to make your meaning clear to others and ability to perform well under pressure. When entering the world of work graduates in NCMS in tertiary level jobs lack mastery of own field or discipline, ability to perform well under pressure, ability to use time efficiently, ability to negotiate effectively and ability to assert your authority.

In the survey among HE institutions and employers in NCMS, the most stressed competences were a) mastery and field specific knowledge, b) competences related to learning with the major distinctive subcategories identified as self learning and continuous learning, c) personal proficiency with major distinctive subcategories identified as team work and time management, d) communication skills with foreign language as the main distinctive subcategory and ICT skills. One of the most crucial questions identified during the field work relates to how to balance and integrate professional expertise (mastery and field specific knowledge) with other general competences.

3. How competences can be best developed in HE and the world of work? Findings from the survey among HE institutions

In the survey among HE institutions and employers in NCMS, we found an indication that HE should consider and the balance between various types of teaching and training, among which the most stressed were lectures and classes, discussions/meetings, active learning, laboratory classes, team work, assignments and evaluation, presentations, project work, conferences and seminars, practice classes and practical training and internships. In addition, the HE institutions should consider constant improvements to program creation, forging links with employers, stress lectures with practitioners, implement research projects, strengthen and institutionalise their informal contacts with the world of work and involve practitioners in final theses and common bodies and further develop career centres.

4. Which aspects of study curricula should HE institutions consider and contextualise in developmental tools? [In brackets we provide some relevant data at the general EU level, while the same issues could be considered at the individual institution (e.g. Faculty) or study program level.]

Study program characteristics²

Which fields of study are the most demanding? [These fields are related to science, mathematics and computing.]

Which fields of study are employers the most familiar with? [These fields are related to health and welfare.]

Which fields of study allows the most freedom in composing own study programmes? [These fields are related to humanities and arts.]

Which fields of study are the most vocationally oriented? [These fields are related to health and welfare.]

Which fields of study are considered academically prestigious? [These fields are related to science, mathematics and computing.]

Modes of teaching and learning³

In which field of study are lectures the most emphasized as a teaching/learning method? [These fields are related to science, mathematics and computing.]

In which field of study are group assignments the most emphasized as a teaching/learning method? [These fields are related to health and welfare.]

In which field of study are teachers as the main source of information the most emphasized as a teaching/learning method? [These fields are related to engineering, manufacturing and construction.]

In which field of study are problem and/or project-based learning the most emphasized as a teaching/learning method? [These fields are related to engineering, manufacturing and construction.]

In which field of study are theories or paradigms the most emphasized as a teaching/learning method? [These fields are related to social sciences, business and law.]

In which field of study is participation in research projects the most emphasized as a teaching/learning method? [These fields are related to agriculture and veterinary.]

² Illustrative examples from EU level are given for first level programmes.

³ Illustrative examples from EU level are given for first level programmes.

In which field of study are internships and/or work placements the most emphasized as a teaching/learning method?

[This is the field of education.]

In which field of study are written assignments the most emphasized as a teaching/learning method?

[These fields are related to humanities and arts.]

In which field of study are multiple choice exams the most emphasised as a teaching/learning method?

[These fields are related to social sciences, business and law.]

In which field of study are oral presentations by students the most emphasized as a teaching/learning method?

[These fields are related to humanities and arts.]

Work experiences acquired during higher education

In which fields of study do students acquire the most study-related work experience? [This is reported most in fields related to health and welfare.]

In which fields of study do students acquire the most non study-related work experience during higher education? [This is reported most in fields related to humanities and arts.]

In which fields of study do students most commonly hold positions in student or other voluntary organisations? [This is reported most in fields related to agriculture and veterinary.]

In which fields of study do students most commonly acquire experience abroad? [This is reported most in fields related to humanities and arts.]

Evaluation of study programme as a basis for work, career and everyday life

Which fields of study do graduates evaluate to be a good basis for starting work and their future careers? [Graduates in the field of health and welfare most often evaluate their programme as a good basis for starting work and their future careers.]

Which fields of study do graduates evaluate to be a good basis for further learning on the job and their personal development? [Graduates in the field of health and welfare most often evaluate their programme as a good basis for further learning on the job and their personal development.]

Which fields of study do graduates evaluate to be a good basis for performing current work tasks? [Graduates from the field of health and welfare most often evaluate their programmes as a good basis for performing current work tasks.]

Effect of modes of teaching and learning on selected competencies

Which mode of teaching and learning has the greatest impact on the ability to use time efficiently? [These are 'facts and practical knowledge', 'lectures' and 'multiple choice exams'.]

Which mode of teaching and learning has the greatest impact of the ability to work productively with others? [These are 'group assignments' and 'facts and practical knowledge' and 'oral presentations by students'.]

Which mode of teaching and learning has the greatest impact of the ability to perform well under pressure? [These are 'theories and paradigms', 'teacher as a source of information' and 'oral presentations by students'.]

Which mode of teaching and learning has the greatest impact on the mastery of one's own field or discipline? [These are 'written assignments', 'facts and practical knowledge' and 'lectures'.]

Which determinant of study behaviour has the greatest impact on the most important competences?

[The determinant that has the greatest impact on the most important competences is 'strived for the highest possible mark'.]

5. Balancing, adjusting or strengthening the study program features

Competence development in HE can be considered by looking at the ratio between factors that are usually in relation. In the process of piloting the HEGESCO report we have considered some of most relevant aspects, which are presented below, and these are those which should be considered in development of career activities.

1) Program characteristics

- *Ratio between the demand of the study programme and the level of the academic institution's prestige*
- *Ratio between the vocational orientation of the study programme and employers' familiarity with programme content*
- *Ratio between the freedom to compose one's own study programme and the breadth of the study programme's focus*

2) Modes of teaching and learning

- *Ratio between lectures and group assignments*
- *Ratio between the teacher as the main source of information and project- and/or problem-based learning*
- *Ratio between theories and paradigms and facts and practical knowledge*
- *Ratio between participation in research projects and work placements or internships*
- *Ratio between written assignments and multiple choice exams*
- *Ratio between study hours per week and the intrinsic motivation of students*
- *Ratio between the extrinsic and intrinsic motivation of students*

3) Experiences acquired during higher education

- *Ratio between study-related and non study-related work experience during higher education*

4) Required and acquired competences

- *Ratio between required and acquired competences*
- *Ratio between shortages and surpluses of competences*

In addition, it is important to know which the most important determinants for competence development are. Examples are given below.

5) Determinants of competencies

- *Effect of programme characteristics on the most important competencies*
- *Effect of modes of teaching and learning on the most important competencies*
- *Effect of study behaviour and performance on the most important competencies*
- *Effect of experiences during higher education on the most important competencies*
- *Effect of personal and background characteristics on the most important competencies*
- *Effect of programme level (first versus second level) on the most important competencies*
- *Effect of field of study on the most important competencies*