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TUNING RESEACH ON UNIVERSITY-ENTERPRISE PARTNERSHIP IN TRAINING ENTREPRENEURSHIP

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Chapter 1

ENTREPRENEURSHIP IN THE CONTEXT OF THE UNIVERSITY-ENTERPRISE COOPERATION

The wealth of a nation is produced by the economical behavior of its citizens. This is the reason why in many countries around the world a special emphasis is placed on entrepreneurial education. At country level, in a particular social, economic and historic context, the synergic sum of individual behaviors makes the difference between richness and poverty.

The effects of entrepreneurship at company level consist of innovation, strategic renewal, creation of value and wealth. At society level entrepreneurship means job creation, technological progress, and shaping of the global cultures (Ireland & Webb, 2007).

At the level of individual behavior, theorists distinguish between entrepreneurship and self-employment: Entrepreneurship creates opportunities for emerging businesses, new jobs, added value and economic growth while self employment is rather a life-style, focused on autonomy in sustaining a professional activity.

Governments and different organizations involved in education and in employment emphasize the necessity of the development of entrepreneurial competences, viewed as a way of empowering the behavior of the individuals in the prospect of creating new productive activities within the society.

Research on Entrepreneurship

Even if the field of entrepreneurship research is an emerging one, the literature is very rich, diverse, and fast growing, dealing with topics such as: employee entrepreneurship (Franco, 2005), academics' entrepreneurship (Andretsch & Kaylar-Erdem, 2005), entrepreneur-student collaboration (Heimonen, Handelberg, & Narits, 2009), increasing the awareness on entrepreneurial traits (Venesaar et al. 2008), and development of disciplinary scholarship on entrepreneurship (Zahra, 2005). Apart from research on discipline based topics, the research in entrepreneurship is

rather cross disciplinary, with a tendency to establish a field of its own starting with the last decade of the twentieth century.

In the introduction to their research synthesis, Acs & Andretsch (2003) state that: "Entrepreneurship has come to be perceived as an engine of economic and social development throughout the world" (p. 3). The book includes a structured review of the research done on entrepreneurship up until then, from different perspectives: the entrepreneurial process, the opportunity and the nature of exploitation, the emergence of new ventures, financing, the social context, and the economic growth.

Comprehensive reviews on the research in this field are given by Alvarez, Agarwal & Sorensen (2005). Their book is the beginning of a series of synthesis on the research done on entrepreneurship in the field of economy, management (the two largest areas and the initial fields of research on this phenomenon), finance, geography, sociology, anthropology, and psychology. A new entrepreneurship paradigm is being proposed and new qualitative methods (Neergaard & Ulhøi, 2007), such as the ethnographic method, the building of a grounded theory, the techniques used for sampling and collecting data, etc.

A more recent meta-analysis of the research in the field is given by Bouckenooghe, De Clercq, Willem, & Buelens (2007). They attempted to assess the validity of entrepreneurship research by "analyzing relevant articles that were published in the top-rated academic management and entrepreneurship journals from 1999 to 2003" (p. 167). The meta-analysis of the research is a necessary step in order to create confidence in the appropriateness and rigor of research methods used by such an eclectic field and in order to create confidence and credibility.

The contribution of social sciences such as psychology and sociology to the study of entrepreneurship is analyzed in the literature review of Ireland & Webb (2007). Several main topics of contribution are identified: personality traits associated with entrepreneurship; motivation behind entrepreneurial behavior; the way differences in traits affect the entrepreneurial process; social influence on entrepreneurial decisions; top management teams structure that facilitates innovation; entrepreneurship with ethnic minorities; organizational networks and entrepreneurship; innovation diffusion; contextual factors facilitating entrepreneurship; identity construction and entrepreneurship.

The research on all the above mentioned topics intends to explain real life phenomena in entrepreneurship and to provide solutions to practical problems and to educational politics.

Entrepreneurship and Education

The debate between psychologists concerning the nature of the entrepreneurial personality (born–innate or made–trained) is less relevant for the present research. Regardless of the fact that the entrepreneurial personality is considered as born (Fisher & Koch, 2008), or made (Chell, 2008), it is obvious that it can be improved by education and by impetus from the society.

In many countries, such as the United States, the entrepreneurial education is targeted by different educational programs and by projects at all the levels of the educational system, from primary and secondary school to higher education and to adult learning (NEAC, 2004). Entrepreneurship deals not only with someone's own business, but also with innovation in any workplace:

> *"Entrepreneurship is the force that created the strongest economy in the world and needs champions now. The skills connected to making the "right decisions" for entrepreneurial success can and should be experienced and learned throughout education. It must also be recognized that entrepreneurial skills can be used in any workplace, not just when operating one's own business."* (CEE, 2009)

Entrepreneurship education empowers everyone with the capacity to approach his or her own job in an innovative way, to start a new business or to open an individual business when they become unemployed. The educational system can and must reconsider entrepreneurial education at all levels in order to develop useful skills and competences, thus contributing to the economic development of a country.

Competence models for all the levels of entrepreneurship have been developed during the last years, such as the competence model used by the United States Department of Labor (DOL/ETA, 2004), which contains a special area dedicated to entrepreneurship in section 9–management competences. This model is used in designing education programs and syllabi by the Consortium for Entrepreneurship Education (CEE, 2009).

The Oslo Conference on "Entrepreneurship Education in Europe: Fostering Entrepreneurial Mindsets through Education and Learning" lead to the establishment of the "Oslo Agenda for Entrepreneurship Education" which promotes entrepreneurial mindsets in society by means of education and other specific actions. The participant stakeholders stated their willingness to support educational establishments, teachers, and educators to develop entrepreneurship activities in schools and in higher education (EEE, 2006a).

A presidential address of the European Commission's Directorate General for Enterprise and Industry that was delivered at the 11th annual conference of the European Charter for Small Enterprises, 3-5 June 2008, emphasized the idea that the "entrepreneurship mindset" and the entrepreneurship education "could be improved in the wider bid to create a more competitive Europe." The change of the mentality at society level in this respect must shift from pilot projects to more general solutions by systematic development of entrepreneurship education at all levels, consisting mainly in curricula adjustment and in topic trained teachers (ETF, 2008).

Entrepreneurship and Higher Education

Universities traditionally define their mission on three main dimensions: production of knowledge, transmission of knowledge and rendering of services to the community and to society in general. Regarding this third dimension, a new role is emerging in the contemporary society – the entrepreneurial role, which means directly contributing to the economic development of the society.

Several researches address entrepreneurship in the university, such as scientists' entrepreneurship and their role in starting spin-outs based on research results (Andretsch & Kaylar-Erdem, 2005). At the same time we assist in the development of syllabi and even of study programs that aim the development of entrepreneurial competences. Higher education cannot ignore this topic anymore because teaching entrepreneurship in university means enabling graduates with the capability of becoming innovators.

The teaching and learning of entrepreneurship in higher education needs a new educational paradigm, as demonstrated in the book edited by Fayolle (2007), shifting from disciplines limited to business programs to a wider approach, allowing every student, regardless of his or her specialization, to acquire entrepreneurial competences.

The Oslo European Conference on Entrepreneurship mentioned above recommended five main action lines for the contribution of higher education to the development of the entrepreneurial spirit in Europe.

> *"1. Develop shared framework of desired outcomes of entrepreneurship education:*
> - *Developing individual capabilities, attitudes, mindsets.*
> - *Encouraging application of those capabilities.*
> - *Contributing to economy/ society.*
>
> *2. All faculties/ disciplines should develop opportunities for students at every level to experience entrepreneurship.*

3. Engage university leaders in actions to gain their commitment to reshaping the institutional paradigm.
4. Broaden base of entrepreneurship educators develop appropriate incentives and celebrate successes.
5. Engage and exchange with the business community." (EEE, 2006b)

The TUNING Researches on Competences Extended to Entrepreneurship

The initial TUNING research developed by a project coordinated by Gonzales & Wagenaar developed a generic competence profile for higher education degrees – first (bachelor) and second (master) cycle. Apart from this, in 2003 seven subject-specific competence profiles were made for Business Administration, Chemistry, Earth Sciences, Educational Sciences, History, Mathematics, and Physics. This initial stage was followed by Phase 2, which developed another two subject-specific competence profile: European Studies and Nursing (Gonzales, Wagenaar, 2005).

The former EUI-Net project (2005) developed a research on competences required by working in industrial settings, aiming to identify the main generic and specific competences (Luca, 2007a), as well as the practical skills (Luca, 2007b) required by industrial activities. The results of this cross-disciplinary research offered policy makers in higher education from partner countries a comprehensive view on the competence profile in this field, which enabled them to suggest curricular adjustments to study programs.

The entrepreneurial competences were included neither in the original TUNING researches, nor in the above mentioned EUI-Net researches. The present EUE-Net contribution to the study of entrepreneurship development in higher education consists in investigating the way the main stakeholders—academics, employers, students and graduates—view the training of entrepreneurial competences. The practical placement was chosen because of the fact that it is the main ground for collaboration between the university and the enterprise for “adjusting” the theoretical training to the requirements of the practice, and for learning “hands-on” entrepreneurial competences.

Chapter 2

THE METHODOLOGY OF THE RESEARCH

The research presented in this book is a continuation and a development of the first Tuning-type research which took place under the supervision of the European University-Industry Network (EUI-NET) project. The research aimed to define and update the practical competences that are relevant for the industrial sector (Luca, 2007a; Luca, 2007b). Therefore, the present research uses a methodology and respondent groups similar with the previous research, and a descriptive-exploratory approach.

In their benchmark research on the competences relevant for different fields of higher education, Gonzales & Wagenaar (2003) coordinated a team of specialists all around Europe who investigated the list of generic and specific competences in the following areas: business, chemistry, education sciences, geology, history, mathematics and physics. Later, the same authors (Gonzales & Wagenaar, 2005) extended the research to three other fields: European studies, nursing, and business administration.

The methodology used by Gonzales and Wagenaar was the guideline for our research in the previous project, and the approach was cross disciplinary. The aim of our research which was conducted in 2007 was to identify the relevant competences for working in enterprises, regardless of the field of activity. As in the above mentioned researches, we made an interrogation regarding the level of importance and the actual level of achievement of the competences, and we targeted three groups of stakeholders: academics, employers, and graduates. Thus, our research was able to identify the educational and training needs which are important for working in the industrial sector.

As the scope of the network supporting our research extended, we aimed to identify the way entrepreneurial competences are perceived by the three groups of respondents. Entrepreneurial competences became important due to the development of the service sector and to the changes in the structure of employers on the labour market. Each year, more and

more small and medium-sized companies hire graduates from all the fields of higher education.

Entrepreneurship is viewed nowadays not as a rare attribute of the historical founders of big businesses, but as a set of competences which can be taught and learned by anyone, at all levels of education. For the university it becomes more and more evident that aiming to improve the entrepreneurial education is a way of increasing the employability and the economic initiative of the graduates.

Practical placement is the way students come into contact for the first time with the economic sector. Practical placement is a part of the university curriculum which is meant to give students a hands-on learning experience concerning the reality of an enterprise or organization. Enterprises and companies are thus involved in the accomplishment of the educational objectives of the university, being at the same time interested in contributing, as potential employers, to the success of higher education on the job market.

But is this learning experience a profitable one from the point of view of entrepreneurship? Or is it rather a way of increasing the employability? Do the students acquire the competences needed for innovation in economy?

Our present research aims to identify the importance attributed to a list of entrepreneurial competences by the three groups of respondents mentioned above, and to assess the discrepancies between the level of importance of each competence and the level of achievement via practical placement. Besides the quantitative approach of the first part, based on the statistical treatment of the scaled answers, the qualitative approach of the second part aims to describe and interpret the answers to the open questions.

2.1. Participants and Procedure

The participants in this research belong to three categories which are important in the context of the students' education, as they represent suitable future employees or free agents on the economic market. They are members of the academic staff from universities in 18 European countries, employers from sixteen different countries and students and

graduates from 20 countries. The respondents were not selected according to a specific criterion, but they are the ones who were considered important by the project partners from each country, and, besides that, their availability and courtesy to answer the questionnaire made them the subjects of our research.

The respondents were contacted by the members of the project team from each country and asked to fill out a questionnaire, either online at a specified link, or in a ".doc" file format. The questionnaires filled out in the last format were then sent by e-mail to the research team. The dropout rate is not known because those who refused to answer were not counted by the operators. From a total of 197 questionnaires received by e-mail or filled out on-line we retained as valid and complete 182 questionnaires. The distribution of the categories and countries is shown in Table 2.1.

Table 2.1. Valid questionnaires per country and per group of respondents

Country	Academics	Employers	Students and graduates	Total
AT	6	2	1	**9**
BE	1	1	2	**4**
CH	3	3	3	**9**
CY	1	2	4	**7**
DE	-	2	2	**4**
DK	-	-	2	**2**
EE	3	2	1	**6**
ES	6	-	1	**7**
FI	4	2	5	**11**
FR	2	1	1	**4**
GR	6	3	3	**12**
HU	4	3	4	**11**
IT	5	2	4	**11**
LT	2	-	8	**10**
ML	-	-	1	**1**
NL	2	2	2	**6**
PL	1	1	-	**2**
PT	7	1	5	**13**
RO	8	6	11	**25**
SK	1	-	-	**1**
TR	6	4	13	**23**
USA	-	-	1	**1**
Total	**68**	**35**	**79**	**182**

The group of subjects is not very balanced because of the smaller number of employers who participated in the study. This may constitute a weakness of the research; still, the number is over thirty, usually the minimum recommended by experts in statistics when using group comparison.

The Group of Academics

The answers coming from the academics group belong to Romania (8), followed by Portugal (7), and by four countries with six respondents each: Turkey, Greece, Estonia, and Austria. Taking into consideration the domains of activity of the respondents, we separated them into five categories, each category being relevant to teaching students different entrepreneurial skills: engineering, economics and business, education, IT and robotics, and others (including agriculture, tourism and services, biology, etc.). The results are shown in Figure 2.1.

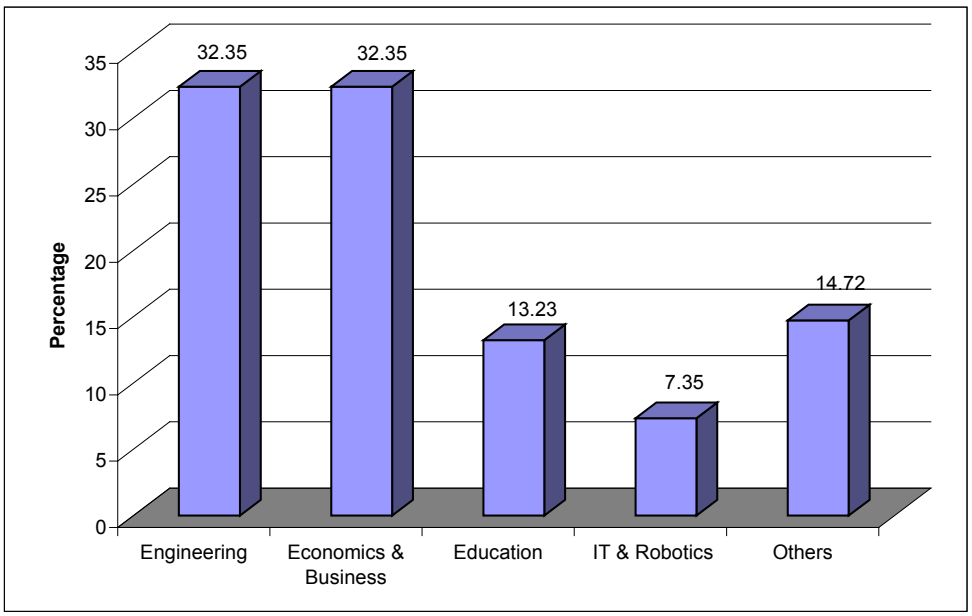


Figure 2.1. Areas of expertise for the academics group

As the graphic indicates, academics who teach in engineering and in economics & business are more numerous, sharing the same percentage – 32.25%, followed by the ones in education – 13.23% of the group.

The Group of Employers

The answers that correspond to the employers group belong to respondents from 16 countries, with a very balanced distribution – around 2 or 3 respondents per country, with some exceptions: from Romania we obtained six questionnaires, from Turkey four and only one from Belgium, France, Poland, and Portugal.

The employers were analyzed according to three different criteria: the position they have in the company, the field the company activates in, and the size of the company. The results are illustrated in Figure 2.2, Figure 2.3, and Figure 2.4, as described below.

Most of the respondents are in a key position such as: manager of the company (57.14%), project manager involved in the money drawing process for investments or for partnerships that include universities (25.73%), managers from the human resources department (11.42%) – some of them responsible for the practical placement, and even owners (5.71%).

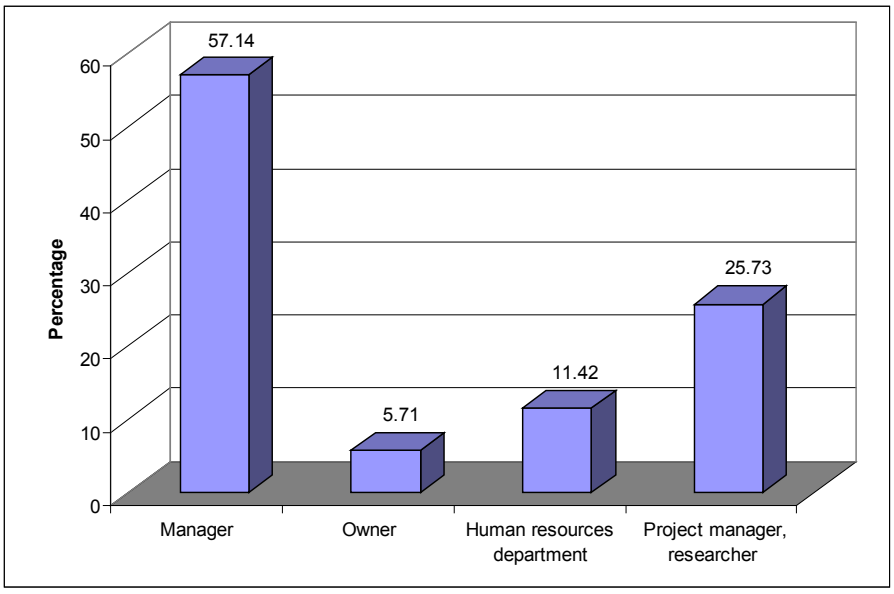


Figure 2.2. Position of the respondents within the company they work for

The employers were grouped in seven categories according to the field of activity: IT (offering IT solution and software), communication services (offering consultancy in project management, public relations, communication training), education (e-learning, continuous education projects, human resources development, including career counseling and placement coordination), economics and business (mainly accounting firms), engineering (mainly construction), manufacturing (production of

finite or intermediate products), and others (law firms, agriculture, biotechnology research).

About a quarter of the respondents (25.72%) work in the IT field, which is perhaps one of the most dynamic and appealing domains at the moment. Close by are the employers in the educational field (22.85%), and they represent an important category for our research due to their involvement in working with students. The third position is occupied by employers in communication services (12.40%), who are also important in the present study due to their expertise (see Figure 2.3).

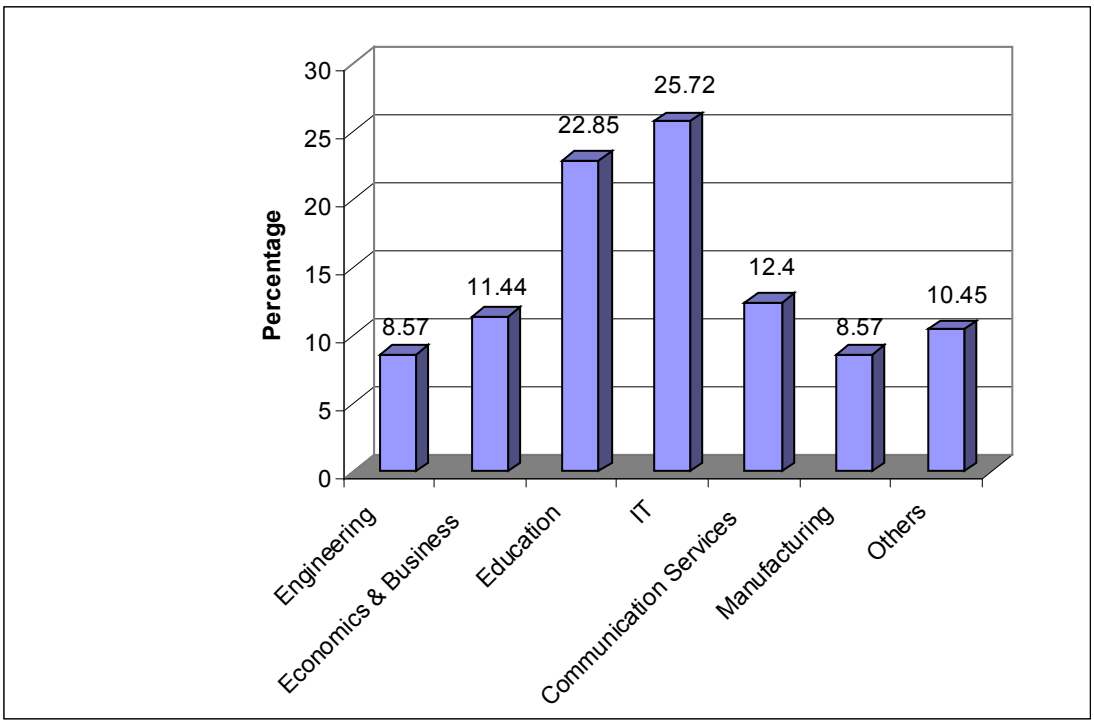


Figure 2.3. Field of activity of the company the respondents work for

The last criterion we used to analyze the population of the research was the size of the company they work for (see Figure 2.4.). Most of the respondents (57.69%) come from small companies which have between 11 and 200 employees, and 30.76% come from very small companies with one to ten employees. Employers coming from big companies with more than a thousand employees are less represented (only 7.69% of the respondents).

We are aware of the fact that after graduation most of the students try to enter big companies, especially multinational ones. As Fraser, Storey and Westhead (2006) noted, large companies have a bigger employability potential and they seem to be more secure for a job seeker, but small companies are becoming year after year important stakeholders within the economy, and they absorb the

graduates especially in the first years after graduation. Furthermore, the practical placement in small companies may shift the graduates' preferences for employability in favor of these work places.

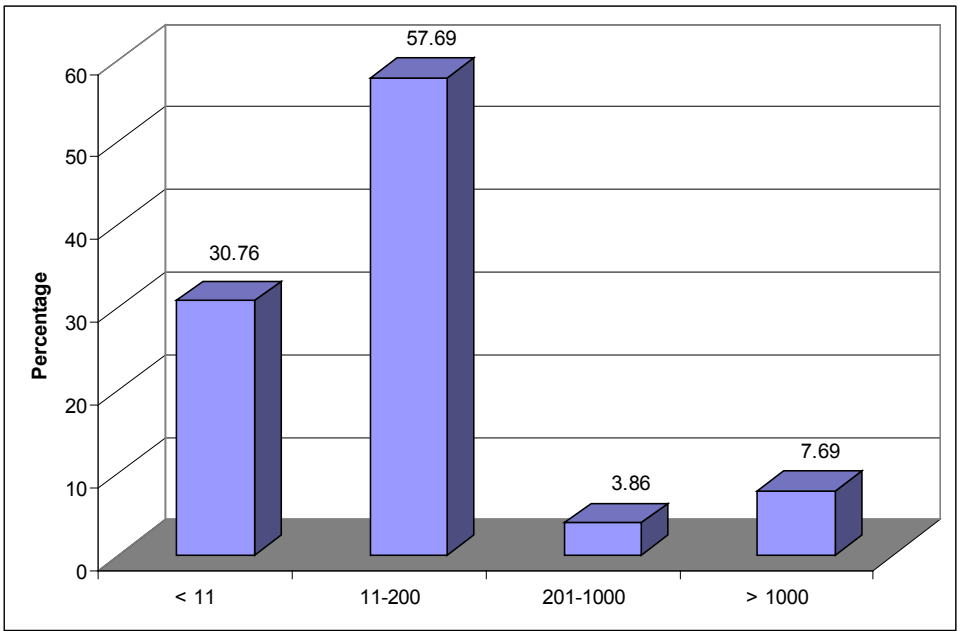


Figure 2.4. Size of enterprise according to the number of employees

The Group of Students and Graduates

The participants representing the group of students and graduates are the most numerous, a total of 79 persons filling in the questionnaires, mainly from Turkey (13), Romania (11), Lithuania (8), Finland (50), and Portugal (5). Female participants exceed male participants only with a few percentages: 56% female and 44% male in the group, the majority of the respondents being under 24 years of age (see Table 2.2).

Table 2.2. Age percentage in the group of students and graduates

Age category	**< 24 years**	**25-27 years**	**28-32 years**	**> 33 years**
Percentage	46.8%	34.2%	15.2%	3.8%

The majority of the respondents graduated before 2010, only 10.2% of them are still attending school, mostly at master level (Figure 2.5). Out of the ones who have already graduated, 57.4% of them have a bachelor's degree and 42.6% a master's degree, which shows a tendency for continuation of study, taking into account the young age of the respondents and the fact that some of them are still attending university.

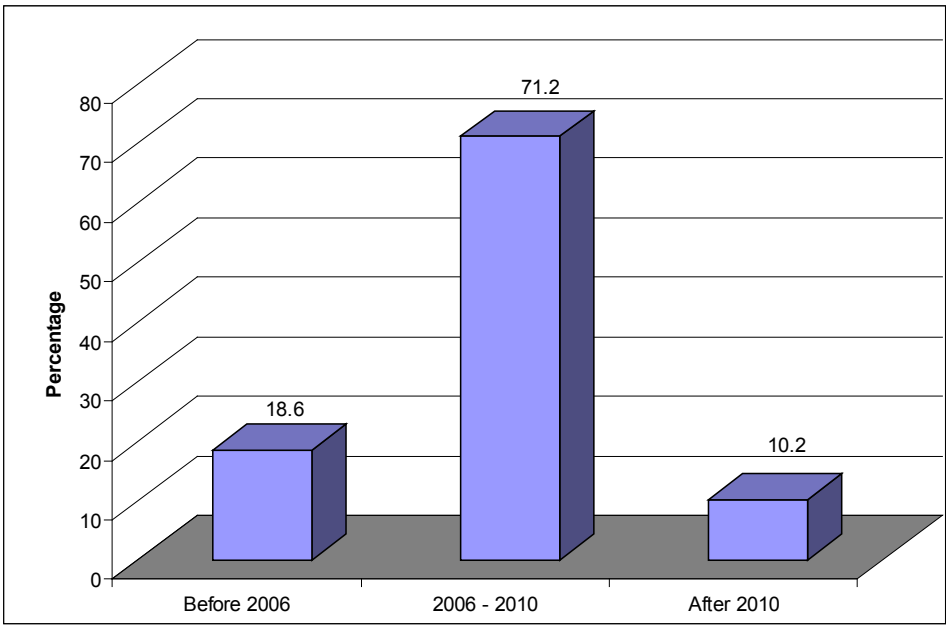


Figure 2.5. Structure of the group of students and graduates according to the year of graduation

Another interesting analysis is the one which focuses on the employment situation of the graduates. The results show that more than half of the participants are working in a field related to their studies, and only a quarter of them are working in a field which is not related to their studies or are still looking for their first job (Figure 2.6). Eleven percent of the participants omitted to select an answer at this item.

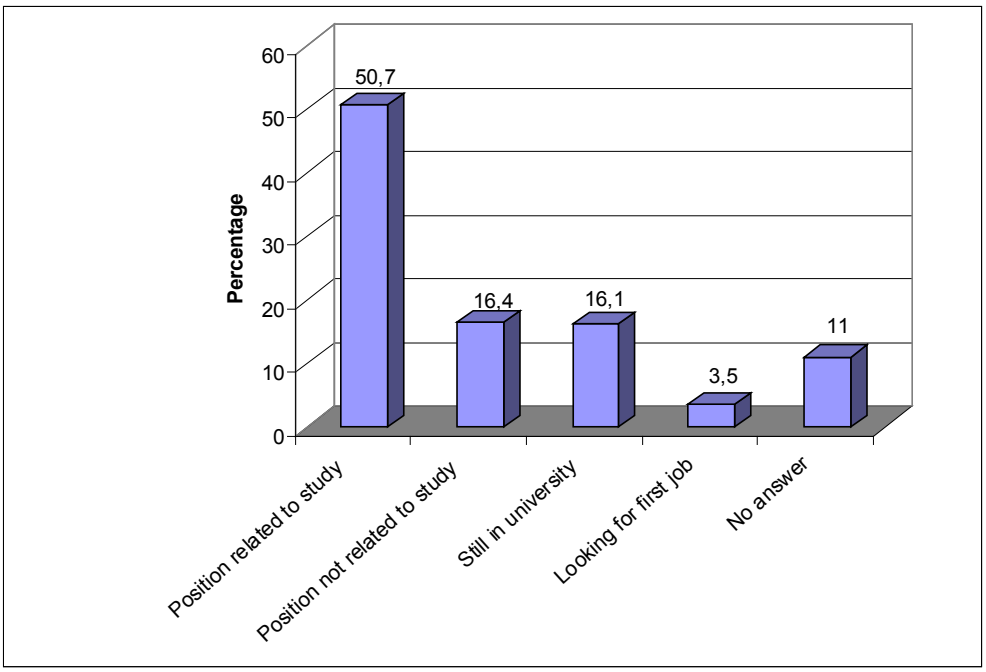


Figure 2.6. Present employment situation of the respondents from the students and graduates group

The field of study of the students and graduates does not entirely match with the one of the academics or of the employers, but it is similar enough in term of ratings. The largest percentage of students and graduates (29.2%) is specialized in economics and business (including finance and business administration), which is similar to the percentage of academics who come from the same field. The second position is occupied by students in engineering and IT & robotics (16.1%, respectively 16.7%), close to the percentage of the academics and the employers who are specialized in the same fields. The third position belongs to students and graduates who work in education (i.e., teaching, being responsible for educational projects, or being involved in activities related to students), this field being also ranked as third in the academics group, while in the employers group it takes second place. The last category presented in Figure 2.7 is named *Others* and it represents 10.9% of the respondents, including fields such as: health, environment, journalism, politics and architecture. For a more detailed presentation see Figure 2.7.

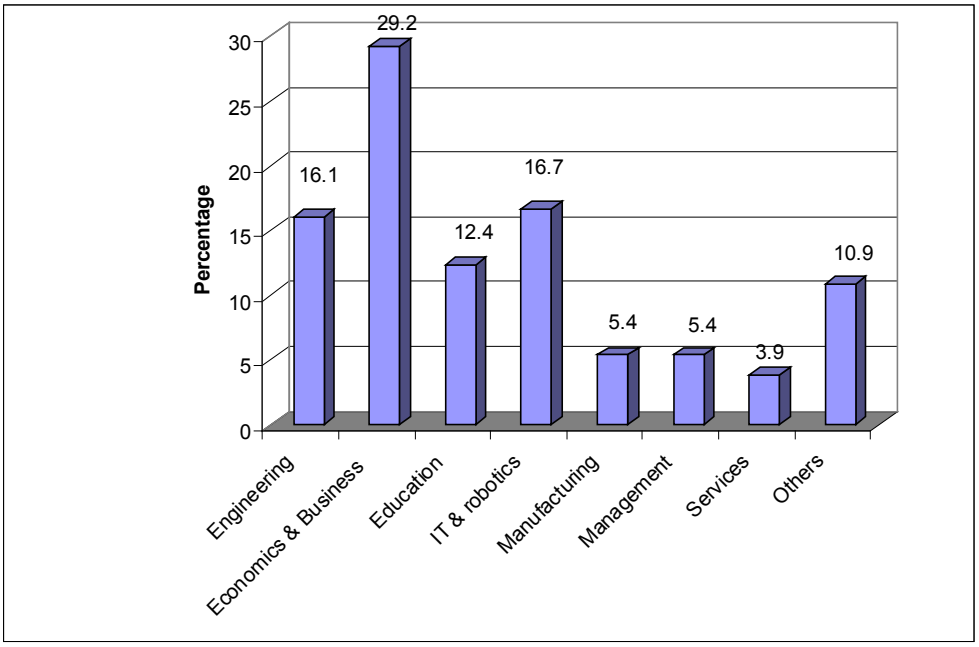


Figure 2.7. Fields of employment for the students and graduates

Two of the respondents gave the name of a company that deals with telecommunications with no exact specification of their field of expertise, and we assimilated them to the engineering domain. However, these two cases don't affect the distribution of the subjects even in case they haven't been correctly assigned.

2.2. Design and Instruments

The questionnaire took around 15 minutes to be filled out, and the partners involved as field operators tried to facilitate as much as possible the collection of the completed questionnaires via electronic messages or, in some situations, in face to face encounters.

The Word format questionnaire could be filled out either in electronic format and sent as an attachment to the research coordinator, or printed, filled out by hand, scanned and sent as an attachment or sent by regular mail. The on-line format was saved automatically after the completion of all fields. The on-line questionnaires which were not fully filled out were not saved by the server.

Content and Structure of the Questionnaires

One of the conclusions drawn from the first Tuning study was that it takes effort in order to cover the existing gaps in the current quality system that functions in the academic world, including with regard to the practical placement of students in enterprises. (Lache & Talaba, 2007). That's why the development of instruments that can measure the indicators of the current situation, followed by actions to improve the results is one of the first steps which need to be taken.

The questionnaire addresses the entrepreneurial competences which are trained via practical placement. The authors of the study considered that it is important that the three groups of respondents share their opinions on this subject, as they represent the main stakeholders in facilitating performance on the labour market.

The list of entrepreneurial competences was established by the research team after consulting the literature in the field. From an initial list of 20 competences, 14 were retained for their relevance to a successful entrepreneur. The participants were asked to rate on two separate 4-point scales the level of importance of these entrepreneurial competences and the extent to which they are developed by the practical placement. Two blank lines were added at the end of the list (items 15 and 16) in order to allow the respondents to fill out other competences which they considered as important.

Besides the 14 scaled competences, seven open questions were asked at the end of the questionnaire. Items 17, 18, and 19 contained questions with yes/no answers and the possibility to give more details in case of a "yes" answer. The last four items (20, 21, 22, and 23) were completely open questions, followed by demographic information at the end. All the answers were confidential and were used only for the purpose stipulated in this research (see Appendices 1.1, 1.2 and 1.3 for the content of the questionnaires).

Metric Qualities of the Scales

We calculated the Cronbach's α coefficients for the ratings collected for the first 14 competences on the two scales mentioned above: the first scale measuring the level of importance and the second scale measuring the level of achievement of the competences, that is, the extent to which they are developed by the practical placement. All the coefficients had good and excellent values, independent of the methods we calculated them with (see Table 2.3).

Table 2.3. Reliability coefficients for the questionnaire

Criterion		**Level of importance**	**Level of achievement**
Cronbach alpha		.88	.90
Split-half alpha	**Part 1 – 7 items**	.80	.82
	Part 2 – 7 items	.78	.83
Correlation between the first and the second half		.76	.79
Spearman-Brown coefficient – equal length		.86	.88
Guttman split-half coefficient		.86	.88

The scale that comprised answers regarding the importance of entrepreneurial competences during the practical placement showed high internal consistency, with a Cronbach's α of 0.88, and for the split half methods it showed a Cronbach's α of 0.80 for the first part and a Cronbach's α of 0.78 for the second part (see Appendix 2.1 for further details). The Guttman split-half coefficient is high – 0.86, and the Spearman-Brown correlation value is also 0.86.

The second scale, which measures the level of achievement of the competences as the respondents perceive it, reflected even higher values. The calculated value of the Cronbach's α coefficient is 0.90 for the 14 items, 0.82 for the first seven items and 0.83 for the last seven items. The correlation between the two parts of the scale is 0.88 and the Guttman split-half coefficient has a value of 0.88 (see Appendix 2.2).

We performed a factor analysis on the data in order to identify the overlapping (i.e., the extent of shared variance) of the items included in each of the two scales: the level of importance and the level of achievement. Two factors resulted for the first scale – the level of importance of the entrepreneurial competences – that cover 40.08 % and respectively 8.67% of the total variance (Appendix 2.3). The first factor refers to the abilities that are necessary in daily activities and it consists of the following items:

Factor 1 – Level of importance of the entrepreneurial competences needed for daily activities:

- CI5 - Capacity to evaluate the external environment.
- CI6 - Capacity to understand customers' needs.
- CI7 - Capacity to make decisions under conditions of uncertainty.
- CI8 - Capacity to establish productive relationships.
- CI11 - Ability to gain social capital (professional networking).
- CI12 - Effective personal entrepreneurial behavior.
- CI13 - Social skills for professional activity in multicultural environments.
- CI14 - Business ethics.

The second factor encompasses more general abilities related to innovation and business development.

Factor 2 – Level of importance of the complex entrepreneurial competences:

- CI1 - Competences to manage small enterprises or individual businesses.
- CI2 - Understanding of market dynamics in a particular field.
- CI3 - Capacity to identify possible opportunities for developing new products, markets, or business models.
- CI4 - Capacity to evaluate perspectives for new ideas.
- CI9 - Skills to develop new business ideas.
- CI10 - Skills to make deals.

The scale that evaluates the opinion of the subjects on the level of achievement of the competences is more homogeneous, and it consists of a single factor that explains 44.75% of the total variance (see Appendix 2.4).

The metric analysis of the scales indicated that we can have confidence in the data collected with this tool, and that the results can be interpreted.

For the analysis of the open questions the respondents were given coded IDs as follows: the first letter is assigned to the group of respondents – A for Academics, E for Employers and GS for Graduates and Students; the second group of two letters represents the country the respondents come from – AT for Austria, EE for Estonia, TR for Turkey (see Appendix 1.4 for the whole list of abbreviations for the participating countries); the third group of two digits stands for the number of the questionnaire on the list of the respective group (A, E, GS). Thus, A-AT 03 – means academic number 3 from Austria, E-AT 01 – means employer number 1 from Austria; GS-AT 02 – means graduate or student number 2 from Austria.

We analyzed the open answers according to the following criteria:

- Hosting companies and enterprises as learning environments for entrepreneurship - question 17, 18, and 19.
- Developing entrepreneurial competences through practical placement - question 20.
- Changes needed in the policies and curricula of the universities in order to improve entrepreneurial training – question 21 and 22.
- The role played by the companies in the development of the entrepreneurial competences of students – question 23.

The results will be presented in three separate chapters: one chapter for the quantitative analysis (statistics) and another two chapters for the qualitative analysis.

Chapter 3

ENTREPRENEURIAL COMPETENCES FROM THE PERSPECTIVE OF UNIVERSITIES AND ENTERPRISES

3.1. Entrepreneurial Competences in the Context of Learning

Learning is a continuous process which takes place in various environments and helps people fulfill the activities they are required to. Knowledge is not only theoretical, but also practical, and one of the most suitable contexts for getting the best of both types of knowledge is during the practical placement period at university. Hager (2004, cited by Tynjälä, 2008) considers learning as performing an action in the world. Learning is contextual, and learning at the workplace combines very effectively the theoretical paradigms which are in "student's head" with the applied form that takes place during the work process. Capabilities, term used by Kember (2009) for competences, develop if the curriculum demands that students practice them. Practical placement is also a time to test existing competences, to check if a job is suitable for a person, to come into contact with some specific situations such as organizational culture, the organization's values, work behavior code, a new type of working relationships, and so on. Some of the characteristics of learning which are provided by the practical placement period are especially important for students to come into contact with on their path of becoming future experts:

- doing a job by himself or herself;
- working in co-operation with colleagues;
- confronting with challenges and tasks that may be completely new;
- reflecting on and evaluating one's work experience;
- planning for future activities;
- being involved in extra work and in an extra study context.

Since the economical world has adopted the globalization trend and since it deals with the requirements to open towards new markets, the need for

employees who are able to adapt globally is of the utmost importance. Universities must prepare graduates who cover that need, meaning that they need to open towards new and diverse learning environments. Scientific literature also made progress in understanding the benefits of real work experience during university studies. Eraut (2004, as cited in Tynjälä, 2008) presented a typology that includes learning outcomes at the workplace:

- ***task performance*** (such as speed and fluency);
- ***awareness and understanding*** (involving understanding of colleagues, contexts and situations);
- ***personal development*** (self-evaluation and management, handling emotions, building relationships, and so on);
- ***team work;***
- ***role performance*** (leadership, supervisory role, delegation, crisis management);
- ***academic knowledge and skills*** (assessing formal knowledge, research based projects);
- ***decision making and problem solving;***
- ***judgment*** (quality of performance, priorities, value issues and risk level).

The author mentions that this typology can be used as a tool to assess the learning outcomes mentioned above, and that the list is still opened for improvements.

There is no restraint in admitting the important role of the interaction between academic education and on-work experience; however, the benefits are not obtained so easily. Being aware of the necessity of collaboration among academics, students, and employers doesn't mean that the path is smooth and that the best results are on hand. As we mentioned earlier, the process involves three different actors, and the win-win-win situation is not always at its best parameters.

3. 2. The Level of Importance of Entrepreneurial Competences

Workplace learning can be analyzed at different levels: the individual level, the team and organization level, and the interrelations level. The present research investigates the individual level, placing itself in the

context of a generic model where work experience is seen as an opportunity for developing and assessing the generic skills needed in work life. Students benefit from a complete professional formation provided that a collaborative approach functions between the university and the enterprises. Three groups of respondents were identified: academics, employers, and students or graduates, whose perspectives on competences are analyzed and compared below.

Table 3.1. The hierarchy of the importance of competences as rated by the three groups together – in descending order of means

	Item	*M* (*SD*)	Rank
CI6	Capacity to understand customers' needs	3.48 (.73)	**1**
CI8	Capacity to establish productive relationships	3.45 (.69)	**2**
CI7	Capacity to make decisions under conditions of uncertainty	3.36 (.68)	**3.5**
CI11	Ability to gain social capital (professional networking)	3.36 (.73)	**3.5**
CI4	Capacity to evaluate perspectives for new ideas	3.34 (.75)	**5**
CI3	Capacity to identify possible opportunities for developing new products, markets, or business models	3.31 (.72)	**6**
CI13	Social skills for professional activity in multicultural environments	3.25 (.74)	**7**
CI14	Business ethics	3.24 (.78)	**8.5**
CI2	Understanding of market dynamics in a particular field	3.24 (.76)	**8.5**
CI9	Skills to develop new business ideas	3.22 (.82)	**10**
CI10	Skills to make deals	3.19 (.82)	**11**
CI5	Capacity to evaluate the external environment	3.18 (.72)	**12**
CI12	Effective personal entrepreneurship behavior	3.14 (.79)	**13**
CI1	Competences to manage small enterprises or individual businesses	3.10 (.87)	**14**

The subjects were asked to rate on a 4-point scale the importance and the level of achievement of 14 entrepreneurial competences as they result from the practical placement stages of the students. The analysis of the

ratings for the level of importance given by the respondents in all three groups, lead to a hierarchy of the competences (see Table 3.1).

The results of the ranking procedure showed that all the 14 competences are perceived as being important since all of them received a mean value above 3 points, when 4 points is the maximum value. Another observation is that the mean values of the choices made by the subjects are close to each other, and the difference between the competence ranked as the most important and the one ranked as the least important is less than the standard deviation of any of the items.

The most important entrepreneurial competence identified by the respondents is the "Capacity to understand customers' needs," with a mean value of 3.48 points, followed by the "Capacity to establish productive relationships," with a mean value of 3.45 points, and by two other competences with the same mean value, 3.36 – the "Capacity to make decisions under conditions of uncertainty" and the "Ability to gain social capital (professional networking)." Looking at the content of the competences we noticed that they refer mostly to professional social skills that help to increase the profitability of work not only in an economic sense, but also in a personal manner, by increasing the individual's satisfaction with the job. On the third position in the hierarchy is placed the decision making ability.

Table 3.2. Differences between the first and the last three positions in the hierarchy of competences

Pair of competences	Wilcoxon test (*Z*)	*p*
CI6 – CI1	4.88	< .001
CI6 – CI 12	5.20	< .001
CI6 – CI5	4.77	< .001
CI8 – CI1	4.64	< .001
CI8 – CI 12	4.69	< .001
CI8 – CI5	4.47	< .001
CI7 – CI1	3.83	< .001
CI7 – CI 12	3.59	< .001
CI7 – CI5	3.16	< .001

On the last three positions of the hierarchy there are competences which are trained in time, usually after employment, and this might be a reason

why they are not considered at the top of the list, but at the bottom of it. For example, the least important competence is to manage small enterprises or individual businesses. As we've mentioned before, the difference between means among the first and the last options in the hierarchy doesn't seem big, so we tested if the difference in rank assigned by the group of respondents is statistically significant by using the Wilcoxon test. As Table 3.2 shows, all the differences are significant.

The data illustrate that our subjects consider as most important the competences related to the establishment of appropriate relationships, followed by the intuition for innovation and mind openness, and finally, by the skills related to business management.

The Evaluations Made by the Group of Academics

Academics are in favor of the "Capacity to understand the clients' needs," followed by the "Ability to make decisions under uncertain circumstances" and the "Ability to form professional relationships" (see Table 3.3 for top five of competences from the academics' point of view).

Table 3.3. Top five entrepreneurial competences which are important during practical placement according to academics – in rank order

	Item	*M* (*SD*)	Rank
CI6	Capacity to understand customers' needs	3.53 (.72)	1
CI7	Capacity to make decisions under conditions of uncertainty	3.51 (.56)	2
CI8	Capacity to establish productive relationships	3.41 (.70)	3
CI14	Business ethics	3.38 (.67)	4
CI4	Capacity to evaluate perspectives for new ideas	3.29 (.77)	5

The entire list of competences is scored above 3 (3 stands for "Considerable" importance and 4 stands for "Strong" importance, as shown in Appendix 2.5). At the end of the hierarchy academics place competences like: "Social skills for professional activity in multicultural environments" (M = 3.15), "Skills to make deals" (M = 3.15), and "Competences to manage small enterprises or individual businesses" (M = 3.11). These abilities require experience and training accumulated in

longer periods of time or in less common situations (e.g., in a multicultural environment).

The Evaluations Made by the Group of Employers

The first choice in the opinion of the employers is identical with the option made by the academics group and by the three groups altogether. They consider the "Capacity to understand customers' needs" as being the most important, with a mean value of 3.63 – the highest value of the three groups (see Table 3.4). Two other options are found in the top five options of employers, and they are similar to the ones in the academics group: "Capacity to evaluate perspectives for new ideas" (M = 3.49) and "Business ethics" (M = 3.46).

The results illustrate that employers place more emphasis on competences related to understanding business in more than one direction: relations with clients, business dynamics, innovation, and business ethics. A difference which opposes the answers of the employers to the ones of the academics is the placement of the "Capacity to make decisions under conditions of uncertainty" (M = 3.14) at the end of the hierarchy by the employers, while the academics placed it on the second position (see Appendix 2.5).

Table 3.4. Top five of the competences important during practical placement according to employers – in rank order

	Item	*M* (*SD*)	Rank
CI6	Capacity to understand customers' needs	3.63 (.55)	1
CI2	Understanding of market dynamics in a particular field	3.46 (.63)	2
CI4	Capacity to evaluate perspectives for new ideas	3.49 (.56)	3
CI14	Business ethics	3.46 (.74)	4.5
CI8	Capacity to establish productive relationships	3.46 (.61)	4.5

The other competences placed at the end of the hierarchy are similar to those selected by academics, one less expected ability being "Effective personal entrepreneurship behavior," (M = 3.14). The last place is taken by "Competences to manage small enterprises or individual businesses," with a mean value of 3.09. Once again, experts do not select competences

that represent the key of a successful entrepreneur as being the most important during practical placement, probably because they don't manifest so early in the process of professional training. Due to the size of the group any comparison within group is less trusted, even if we use nonparametric procedures.

The Evaluations Made by the Group of Students and Graduates

The evaluation of this group of respondents keeps 2 competences common with the group of employers and with the group of academics, with whom they share one more competence (see Table 3.5). The order of the competences established by the mean value of the answers is different, the first position being taken by the "Capacity to establish productive relationships," followed by the "Capacity to identify possible opportunities for developing new products, markets, or business models," and the "Ability to gain social capital (professional networking)." Similarly to the academics group, students and graduates consider as important the "Capacity to make decisions under conditions of uncertainty." Overall, they seem to combine more skills related to interpersonal communication with those related to professional behavior (see Table 3.5).

Table 3.5. Top five entrepreneurial competences important during practical placement according to students and graduates – in rank order

	Item	*M* (*SD*)	Rank
CI8	Capacity to establish productive relationships	3.48 (.71)	1
CI3	Capacity to identify possible opportunities for developing new products, markets, or business models	3.41 (.78)	2
CI11	Ability to gain social capital (professional networking)	3.39 (.77)	3
CI7	Capacity to make decisions under conditions of uncertainty	3.38 (.70)	4
CI6	Capacity to understand customers' needs	3.37 (.80)	5

The smallest values were received by two competences which are found at the end of the list in the previous analysis, namely, "Competences to manage small enterprises or individual businesses" (M = 3.08), and "Effective personal entrepreneurship behavior" (M = 3.09). On the last

position of the list for this group there is a competence which is placed in the top five choices of the other two groups, namely "Business ethics" – M = 3.03 (see Appendix 2.5). This result may signify that the students and graduates don't consider themselves directly responsible for the consequences of any decision involving business management as long as they work as apprentices. However, employers and academics give more importance to this matter and rank competences related to ethics in the first five positions.

We analyzed the existence of possible differences within group using as variables the gender of respondents, their age, and the year of graduation. The tests showed no statistical significance between subjects, with one exception: Students who graduated before 2008 consider "Effective personal entrepreneurship behavior" during practical placement as more important than the ones who graduated after 2008 or are still attending school, $t(57) = 2.49$, $p = .01$.

Similarities and Differences Among Groups

Similarities and differences among groups represent and interesting aspect, therefore a synthetic view of the common options of the groups is presented in Table 3.6.

The academics group and the employers group have in common the fact that they both focus on skills involved in daily activities that contribute to a successful career. Employers, even more than academics, are job oriented and they also place less emphasis on skills that are complex and require expertise. Students, on the other hand, don't place much emphasis on "Business ethics," but they consider as important abilities like making decisions under pressure and identifying opportunities for developing new products, markets, or business models. Entrepreneurial behavior manifested in an effective manner is rated as being of "Considerable importance" by the three groups (score 3), but this competence comes after competences which are less elaborate and easier to put into practice.

The significance of the differences between the ways the three groups perceive the importance of practical competences can be pointed out using the one-way ANOVA analysis. The one-way ANOVA, $F(2, 179) = 5.81$, $p = .004$, demonstrated statistically significant differences between the three groups regarding the way they evaluated the level of importance for "Business ethics."

Table 3.6. Similarities and dissimilarities between the three groups concerning the most important entrepreneurial competences during practical placement

	Entrepreneurial competence	Group
The most important ones	Capacity to understand customers' needs Capacity to establish productive relationships	**Academics, Employers & Students and graduates**
	Business ethics Capacity to evaluate perspectives for new ideas	**Academics & Employers**
	Capacity to make decisions under conditions of uncertainty	**Academics & Students and graduates**
	Understanding of market dynamics in a particular field	**Employers only**
	Capacity to identify possible opportunities for developing new products, markets, or business models	**Students and graduates only**
The least important ones	Competences to manage small enterprises or individual businesses Effective personal entrepreneurship behavior	**Academics, Employers & Students and graduates**
	Social skills for professional activity in multicultural environments Skills to make deals	**Academics only**
	Capacity to make decisions under conditions of uncertainty	**Employers only**
	Business ethics	**Students and graduates only**

A closer analysis was performed by comparing the groups two by two, and the results reflected the following:

- The employers perceive the capacity to understand market dynamics in a particular field as more important than academics do, $t(101) = 2.50$, $p = .01$, and than the students & graduates do, $t(101) = 2.21$, $p = .03$.

- The opposite is true for the "Capacity to make decisions under conditions of uncertainty," academics scoring in its favor, $t(101) = 2.30$, $p = .02$.

3.3. The Level of Achievement of Entrepreneurial Competences

Separately from scoring the level of importance of the entrepreneurial competences, the subjects were asked to evaluate the level of achievement reached by the competences during the practical placement. The answers were analyzed using the same scale (None-1; Weak-2; Considerable-3; Strong-4), and the analysis was performed for all groups together and then separately, showing some interesting results.

The results resemble the ones in the first part of the research and they reflect how the respondents perceive the development of the entrepreneurial competences during the practical placement. Table 3.7 presents a hierarchy of the level of achievement of the competences, and on the same row with each competence (immediately after its description) its rank of importance, as rated by the subjects, is written in parenthesis.

The respondents consider that students develop their competences during the practical placement at a level that ranges between "Weak" (2 points) and "Considerable" (3 points). The first positions in the hierarchy are occupied by social skills and the ability to establish appropriate relationships with clients.

The components of these capacities have two distinct sides. One side refers to sociability, the ability to make social contacts and to communicate, and the other side is professional, referring to relationships that are characterized by proficiency in the field where someone works. The relationships are business relationships and professional networking sustained by adaptability in diverse environments. "Business ethics" is another competence that seems to be developed during the practical placement ($M = 2.82$) and it can be put in connection with professional relationships. The "Capacity to understand customers' needs" ranked first in importance, turning out to be the second best achieved competence during the practical placement ($M = 2.91$).

Table 3.7. The hierarchy of the achievement of entrepreneurial competences as rated by the three groups together – in descending order of means

	Item	*M* (*SD*)	Rank
CA8	Capacity to establish productive relationships (2)	2.99 (.78)	**1**
CA6	Capacity to understand customers' needs (1)	2.91 (.75)	**2**
CA11	Ability to gain social capital (professional networking) (3.5)	2.85 (.85)	**3**
CA14	Business ethics (8.5)	2.82 (.89)	**4**
CA13	Social skills for professional activity in multicultural environments (7)	2.80 (.85)	**5**
CA4	Capacity to evaluate perspectives for new ideas (5)	2.78 (.87)	**6**
CA2	Understanding of market dynamics in a particular field (8.5)	2.74 (.86)	**7**
CA5	Capacity to evaluate the external environment (12)	2.71 (.78)	**8**
CA3	Capacity to identify possible opportunities for developing new products, markets, or business models (6)	2.70 (.86)	**9.5**
CA7	Capacity to make decisions under conditions of uncertainty (3.5)	2.70 (.85)	**9.5**
CA12	Effective personal entrepreneurship behavior (13)	2.56 (.80)	**11**
CA10	Skills to make deals (11)	2.54 (.91)	**12**
CA9	Skills to develop new business ideas (10)	2.53 (.89)	**13**
CA1	Competences to manage small enterprises or individual businesses (14)	2.44 (.86)	**14**

In the middle section of the hierarchy are found competences linked with abilities to manage businesses such as: the "Capacity to evaluate perspectives for new ideas" (rank 6, M = 2.78), the "Understanding of market dynamics in a particular field" (rank 7, M = 2.74), the "Capacity to identify possible opportunities for developing new products, markets, or business models," and the "Capacity to make decisions under conditions of uncertainty" (rank 9.5, M = 2.70).

At the end of the hierarchy there are three complex competences which are less achieved during the practical placement: "Skills to make deals"

(rank 12, *M* = 2.54), "Skills to develop new business ideas" (rank 13, *M* = 2.53), and "Competences to manage small enterprises or individual businesses" (rank 14, *M* = 2.44). The above competences are not formed during any academic class and they are not present in the academic curricula. The employers, as partners of the universities, don't invest too much in developing these skills in students during the practical placement for obvious reasons: the students are in the process of education and they are under-qualified from various points of view, it's too soon and too risky to invest in human capital which does not offer any "paying back" guarantee, and, in addition, these competences require years of training and education. The "Competences to manage small enterprises or individual businesses" are considered not only as less achieved, but also as less important (see Appendix 2.6).

The statistical significance of the difference in rank value among the first and the last position in the hierarchy was another important aspect that needed to be tested. We carried out the Wilcoxon test and the results showed that the differences are not due to chance and that the rank contrast between them is significantly different (see Table 3.8).

Table 3.8. Differences between the first and the last three positions in the hierarchy of the achievement of entrepreneurial competences

Pair of competences	Wilcoxon test (*Z*)	*p*
CA8 – CA1	6.55	< .001
CA8 – CA9	5.90	< .001
CA8 – CA10	6.03	< .001
CA6 – CA1	6.08	< .001
CA6– CA9	5.31	< .001
CA6 – CA10	4.94	< .001
CA11 – CA1	5.33	< .001
CA11 – CA9	4.11	< .001
CA11– CA10	4.59	< .001

The Evaluations Made by the Group of Academics

The group of academics includes seven different competences in the first five positions of the list (see Table 3.9) due to the fact that the mean value for 4 of them is identical. None of their evaluations reaches the significance of 3 points (considerable), as it ranges between 2.85 for the

first position ("Capacity to establish productive relationships") and 2.42 for the last one ("Skills to develop new business ideas").

The evaluation of the academics placed an emphasis on the abilities that have to do with direct work with clients or with concrete job requirements. The first three abilities are similar to those indicated by the global evaluation, but the following three abilities (with equal mean values of 2.70) differ from the options presented earlier. The academics consider that practical placement is a period which offers contact with real work tasks, and opportunities to learn and to apply real work demands. The "Understanding of market dynamics in a particular field" is ranked 5 in the hierarchy, together with the "Capacity to identify possible opportunities for developing new products, markets, or business models" and with the "Capacity to evaluate the external environment." On the same position academics place "Business ethics," followed by the "Capacity to evaluate perspectives for new ideas," a capacity that is not so closely related to professional behavior (see also Appendix 2.6).

Table 3.9. Top five achieved entrepreneurial competences according to academics – in rank order

	Item	*M* (*SD*)	Rank
CA8	Capacity to establish productive relationships (3)	2.85 (.82)	**1**
CA6	Capacity to understand customers' needs (1)	2.81 (.78)	**2**
CA11	Ability to gain social capital (professional networking) (6)	2.76 (.80)	**3**
CA2	Understanding of market dynamics in a particular field (10)	2.70 (.80)	**5**
CA3	Capacity to identify possible opportunities for developing new products, markets, or business models (8.5)	2.70 (.85)	
CA5	Capacity to evaluate the external environment (7)	2.70 (76)	
CA14	Business ethics (4)	2.70 (90)	

The least achieved competences according to the academics' opinion are similar to the least achieved ones according to the general opinion, namely, the "Skills to make deals" (M = 2.46), the "Competences to manage small enterprises or individual businesses" (M = 2.45), and the

"Skills to develop new business ideas" (*M* = 2.42), these three being placed at the bottom of the hierarchy.

The Evaluation Made by the Group of Employers

The scores marked by the employers differ in ranks from those marked by the academics. The employers group considers that during the practical placement students learn more about the professional interrelation and about business ethics. In the opinion of the employers, the students' capacity to understand customers' needs develops to a "considerable" level (*M* = 3.03). The second rank is occupied by "Business ethics," with a mean value very close to the previous rank (*M* = 3.0). Given the multinationality of the group (and implicitly the multiculturality), it seems that the respondents are sensitive to the multicultural factors involved in their work, and they consider that students are able to also take these aspects into consideration (Table 3.10).

Table 3.10. Top five achieved entrepreneurial competences according to employers – in rank order

	Item	*M* (*SD*)	Rank
CA6	Capacity to understand customers' needs (1)	3.03 (.71)	**1**
CA14	Business ethics (4.5)	3.0 (.87)	**2**
CA13	Social skills for professional activity in multicultural environments (7)	2.91 (.82)	**3**
CA11	Ability to gain social capital (professional networking) (6)	2.89 (.80)	**4**
CA4	Capacity to evaluate perspectives for new ideas (3)	2.80 (.72)	**5.5**
CA8	Capacity to establish productive relationships (4.5)	2.80 (84)	

While the social skills are appreciated at a higher level, the "Competences to manage small enterprises or individual businesses" and the "Skills to make deals" are less achieved by the students judging by the way the employers made their selection in the questionnaire. The last positions on the list are similar to the options of all the three groups together and to those of the academics, with one exception: Employers consider that the "Capacity to identify possible opportunities for developing new products,

markets, or business models" is less attained during the practical placement ($M = 2.57$).

The Evaluation Made by the Group of Students and Graduates

Students and graduates are more satisfied with the level of achievement of the "Capacity to establish productive relationships," ranking it with the highest mean score among all three groups ($M = 3.19$). Their selections are also centered on the professional social skills. A more favorable position is obtained by the "Capacity to make decisions under conditions of uncertainty" ($M = 2.90$), which is higher than in the other two groups.

The bottom of the list contains competences that refer to business management and entrepreneurial behavior. However, the mean value for the achievement of these competences seems higher than for those selected by academics group.

Table 3.11 Top five achieved entrepreneurial competences according to students and graduates – in rank order

	Item	*M* (*SD*)	Rank
CA8	Capacity to establish productive relationships (1)	3.19 (.74)	**1**
CA13	Social skills for professional activity in multicultural environments (7)	2.99 (.86)	**2**
CA6	Capacity to understand customers' needs (5)	2.94 (.73)	**3**
CA11	Ability to gain social capital (professional networking) (3)	2.91 (.91)	**4**
CA7	Capacity to make decisions under conditions of uncertainty (4)	2.90 (.91)	**5**

Within the students and graduates group, the t tests revealed some differences:

- Older students score with higher points the level of achievement of the "Capacity to evaluate the external environment," $t(76) = 2.45$, $p = .01$, and the level of achievement of the "Skills to develop new business ideas," $t(77) = 2.92$, $p = .005$.

- Former students who graduated before 2008 also consider the "Capacity to evaluate the external environment" as higher achieved during the practical placement, $t(57) = 2.01$, $p = .04$.
- Students who graduated after 2008 consider that "Business ethics" is better acquired during the practical placement, as compared to those who graduated before 2008, $t(57) = 2.34$, $p = .02$.

Age might be the key factor in the explanation: older students are more prone to initiative and to complex analysis that includes external factors (not only "on hand" factors). As far as the business ethics matter is concerned, it is possible that in recent years the stakeholders have placed emphasis on ethics, and consequently the younger students acknowledge it.

An evaluation of the similarities and differences between the three groups seems interesting to look at, and therefore we carried out the one-way ANOVA and the post hoc Games-Howell tests in order to identify the desired results (see Table 3.12, Figure 3.1, and Appendix 2.7 for the complete data).

Table 3.12. Differences in scoring the level of achievement of entrepreneurial competences among the groups of respondents – the ANOVA test

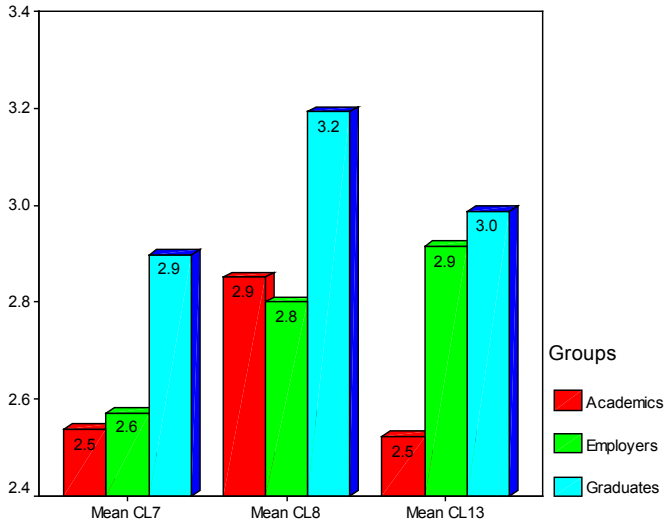
		Sum of Squares	**df**	**Mean Square**	***F***	**Sig.**
CA7	Between Groups	5.392	2	2.696	**3.836**	**.023**
	Within Groups	124.408	177	.703		
	Total	129.800	179			
CA8	Between Groups	5.755	2	2.877	**4.982**	**.008**
	Within Groups	102.223	177	.578		
	Total	107.978	179			
CA13	Between Groups	8.354	2	4.177	**6.038**	**.003**
	Within Groups	122.446	177	.692		
	Total	130.800	179			

The test results demonstrated differences concerning the following competences:

- The "Capacity to make decisions under conditions of uncertainty," $F(2, 177) = 3.833$, $p = .02$: The post hoc analysis showed that the students and graduates scored higher than the academics (Games-Howell difference = .36, $p = .02$).
- The "Capacity to establish productive relationships," $F(2, 177) = 4.98$, $p = .008$: The students and graduates consider this capacity as more highly achieved during practice, as compared to the academics (Games-Howell difference = .34, $p = .02$) and also as compared to the employers (Games-Howell difference = .39, $p = .02$).

The "Social skills for professional activity in multicultural environments" was scored lower by the academics, $F(2, 177) = 6.03$, $p = .003$. The post hoc analysis was near the threshold of significance ($p = .06$) with the employers scoring it with .39 points in average more than the academics, and above significance, the students and graduates scoring it with .46 more points in average (Games-Howell difference = .46, $p = .002$). Beside the items presented in the table, all the other items showed no statistical significance regarding the level at which the three groups appreciated the competences. To sum up, students seem to be more content with the level of achievement of several competences and academics seem to be more reserved in their appreciations (see Figure 3.1).

Figure 3.1. Differences in the level of achievement of entrepreneurial competences



For ranking the competences we used the mean values of the scores, and, the results indicate numerous similarities and differences (see Table 3.13).

Table 3.13. Similarities and dissimilarities between the three groups concerning the level of achievement of entrepreneurial competences during practical placement

Entrepreneurial competence		Group
The most important ones	Capacity to understand customers' needs Capacity to establish productive relationships	**Academics, Employers & Students and graduates**
	Business ethics Capacity to evaluate perspectives for new ideas	**Academics & Employers**
	Capacity to make decisions under conditions of uncertainty	**Academics & Students and graduates**
	Ability to gain social capital (professional networking)	**Employers & Students and graduates**
	Understanding of market dynamics in a particular field	**Employers only**
	Capacity to identify possible opportunities for developing new products, markets, or business models	**Students and graduates only**
The least important ones	Competences to manage small enterprises or individual businesses	**Academics, Employers & Students and graduates**
	Effective personal entrepreneurship behavior	**Employers &Students and graduates**
	Social skills for professional activity in multicultural environments Skills to make deals	**Academics only**
	Capacity to evaluate the external environment Capacity to make decisions under conditions of uncertainty	**Employers only**
	Business ethics	**Students and graduates only**

The analysis of the hierarchy resulted from the answers of the participants indicates that all three groups rank higher the "Capacity to understand customers' needs" and the "Capacity to establish productive relationship," which means that a lot of emphasis is placed upon these competences.

It is important to highlight that the competences presented above are almost identical to those summarized in Table 3.6, which presents the judgment of the respondents regarding the importance of the competences. The responses are consistent and the students benefit from the most important aspects of the practical placement.

3.4. Differences Between the Level of Importance of Entrepreneurial Competences and Their Actual Level of Achievement

The participants in the study were asked to score the importance of the competences and their level of achievement during the practical placement. The differences between the choices of the participants were analyzed using the paired-samples *t* test. All the results were statistically significant, meaning that the degree of development is smaller than the importance each competence has (Appendix 2.8).

Table 3.14. Differences of mean between the level of importance and the level of achievement of entrepreneurial competences according to all respondents

	Item	Mean difference	*SD*	*t*	*p*	Effect size
Pair 1	**CI1 - CA1**	.66	.88	**9.994**	**< .001**	**.76**
Pair 2	**CI2 - CA2**	.51	.81	**8.390**	**< .001**	**.62**
Pair 3	**CI3 - CA3**	.61	.94	**8.761**	**< .001**	**.77**
Pair 4	**CI4 - CA4**	.56	.88	**8.564**	**< .001**	**.69**
Pair 5	**CI5 - CA5**	.47	.84	**7.586**	**< .001**	**.63**
Pair 6	**CI6 - CA6**	.57	.87	**8.871**	**< .001**	**.77**
Pair 7	**CI7 - CA7**	.67	1.00	**8.919**	**< .001**	**.86**
Pair 8	**CI8 - CA8**	.47	.82	**7.710**	**< .001**	**.63**
Pair 9	**CI9 - CA9**	.69	.95	**9.758**	**< .001**	**.81**
Pair 10	**CI10 - CA10**	.66	1.06	**8.384**	**< .001**	**.75**
Pair 11	**CI11 - CA11**	.51	.86	**8.016**	**< .001**	**.65**
Pair 12	**CI12 - CA12**	.58	.89	**8.795**	**< .001**	**.73**
Pair 13	**CI13 - CA13**	.46	.81	**7.571**	**< .001**	**.57**
Pair 14	**CI14 - CA14**	.43	.83	**6.894**	**< .001**	**.50**

Table 3.14 includes the value of the effect size (Cohen's test) that measures how important the differences between the mean values of the variables are. The effect size is symbolized with *d* and it is interpreted as follows: positive values indicate that the first variable has higher scores than the second variable, the values up to .20 indicate a small effect size, values around .50 indicate that the difference between the variables is medium, and values close to .80 indicate that the difference is important.

In our research the effect size takes values between medium and high, with the most significant difference between the importance of the "Capacity to make decisions under conditions of uncertainty" and the level at which this competence is developed during the practical placement (d = .86). The previous analysis determined that this competence is third in the rank of importance and ninth in the rank of achievement.

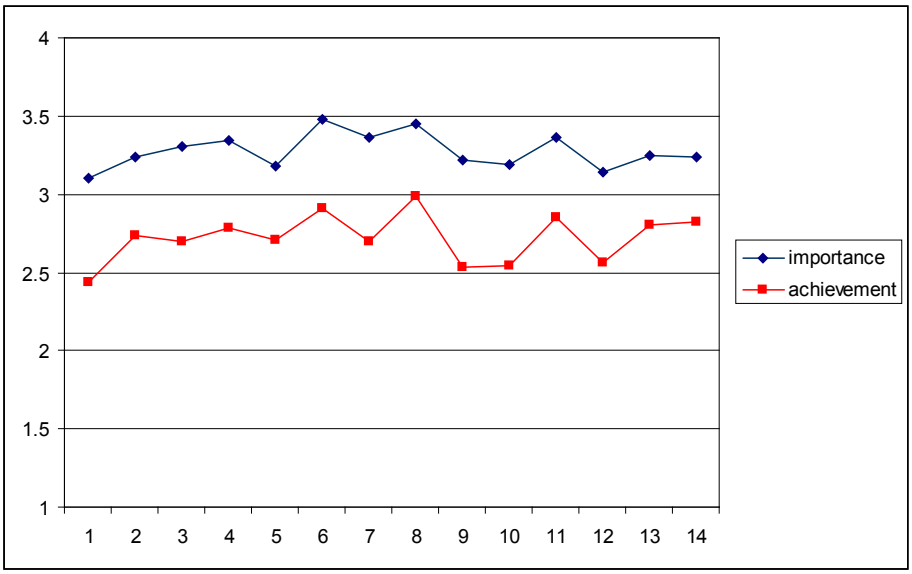


Figure 3.2. The level of importance and the level of achievement of the fourteen entrepreneurial competences

Beside the above example, there are five more competences which show high differences between their perceived importance and their level of improvement during practical placement (pairs 1, 3, 6, 9, and 10). The effect size offers information regarding the relevance of the difference between means, irrespective of the rank of the competence. Figure 3.2 offers a more complete view of the differences between the level of importance and the level of achievement of the fourteen competences. The lines show the mean values of each item, and the higher the value, the higher the rank.

A deeper analysis demonstrated that there are almost no differences between the opinions belonging to the three groups, meaning that, even if we separate the answers given by each group, all the results would reflect the same discrepancy between the level of importance and the level of achievement of the competences. However, there is one exception: The students and graduates group considers that "Business ethics" is achieved at a level that is similar to its importance (with a mean value of 3.03 for its importance and 2.85 for its achievement).

The values of the two assessed parameters vary almost in parallel, which means that there are no important contradictions in terms of the role that the practical placement plays in modeling the proficiency of students. The more important a skill is, the better achieved it seems to be, or at least the discrepancy does not oppose the desired effect.

Chapter 4

OPINIONS OF PARTICIPANTS ON THE UNIVERSITY–ENTERPRISE PARTNERSHIP REGARDING THE TRAINING OF ENTREPRENEURIAL COMPETENCES

The open questions of the questionnaires (questions 17 to 23) aimed to identify the main issues related to the influences of practical placement on the employability of the graduates and on the development of their entrepreneurial spirit. The three groups of respondents expressed freely their opinions on topics related to these influences. All the relevant answers to the open questions are listed in Appendix 3 by group of respondents and by question.

The questions belonging to this part of the questionnaire could be grouped into the following topics:

1. Are the hosting companies places where students can learn "hands-on" the competences which give them the possibility to find a good job easier, or even to develop their own business after they graduate? (Question 17 to 19)
2. In which way do these companies develop entrepreneurial competences during and by means of practical placement? (Question 20)
3. What are the changes that the universities should operate in their policies and in their curricula from the point of view of the three groups of respondents? (Question 21 and 22)
4. What is the future role of the companies in supporting these changes? (Question 23)

In this chapter we will present the relevant answers of the respondents to the first and second topics listed above, with comments on their content.

4.1. Universities and Companies as Learning Environments for Entrepreneurship

Universities have their own culture, more or less entrepreneurial, which is according to the study programs they hold. It seems that most of the respondents, even the employers and the academics, are not completely aware of the fact that organizations are places where culture is transmitted and where personalities and behavioral patterns are shaped. When attending practical placement, students and graduates are confronted with a "cultural shock" that helps them to become more interested in the cultural aspects of the organization.

The main characteristics of the hosting company's culture might not be obvious for a student during his or her practical placement, but they certainly influence the competences he or she learns. Three of the questions were related to this issue: Q 17, Q 18, and Q 19.

Q 17: Do the hosting companies or enterprises promote an entrepreneurial culture?

This question, as well as question 18 and 19, prepares a later question – 20, on whether and how students in practical placement learn something about being an entrepreneur during this period.

Most of the respondents from the three groups answered to this question with "No," or with a simple "Yes," without any further explanation. Some of them answered however with "Yes," and gave explanations for that assertion. After analyzing the answers several issues can be outlined:

- The universities themselves are interested in becoming more entrepreneurial.
- In some universities there are special study programs for entrepreneurship, or special parts in the curriculum dedicated to the development of entrepreneurial competences.
- Most of the companies that host practical placements promote an entrepreneurial culture.

The New Entrepreneurial Spirit in the Universities

Some universities encourage a sort of "internal entrepreneurship" for the academics in order to renew the didactical process, but this doesn't necessarily mean that the students' entrepreneurial spirit will improve as a result. They proudly state their willingness to change the way the practical placement is done, and they have programs which focus on this very aspect.

> *"Our university encourages its academic and support staff to try new ideas linked to: pedagogical methods; content of effective seminars, labs, projects and lectures; thematic of teaching or learning, and research projects and activities."* (A-RO 05, professor, responsible for new practical placement system development)

Special Study Programs for Entrepreneurship

In some universities entrepreneurial culture is taught in dedicated study programs, such as the one from Hungary, or it is aimed at by projects in the last semester, as described by an academic from Portugal:

> *"In our school we have a major called 'Managing Small Enterprises'. On this major this question is strongly emphasized."* (A-HU 02, director, responsible for BSc internships, graduate career planning, and alumni management)

> *"Through the ERASMUS program, and by having entrepreneurship opportunities which are offered in a class or project at the last semester of BSc degree."* (A-PT 04, professor)

Companies as Entrepreneurial Environments

Most of the companies the respondents are referring to do promote an entrepreneurial culture in an explicit way, both to their own employees and to the students in practical placement:

> *"By increasing awareness of the opportunities for new business start-ups amongst employees."* (A-AT 03, tutor, director of department C)

> *"Via entrepreneurial training possibilities."* (A-CY 02, professor, practice coordinator)

Sometimes it is not about developing the entrepreneurial spirit, but rather about "humanizing the management":

> *"We try to promote an entrepreneurial culture by allowing the team of workers and trainees to build itself, to participate in the activities without controlling, and to humanize the management."* (A-AT 01, tutor, director of department A)

> *"Possibilities to make your own decisions, as independent works as possible."* (A-FI 02, mentor)

> *"Yes, by: treating employees with respect, supporting communication between employees for sharing expertise and good practices, maintaining long-term relationships with customers and suppliers."* (A-RO 08, lecturer, tutor for practical placement)

But is this really a way of promoting entrepreneurial culture? Or is it mainly a way of improving productivity, organizational climate, motivation, satisfaction, or well being at work? Does more autonomy in work, even during the study programs at university, automatically lead to the development of the entrepreneurial spirit?

In the opinion of the academics, some companies are preoccupied with developing the independence of the students placed there for internship. However, this seems a way of improving employability rather than entrepreneurship.

> *"The hosting company helps students to become independent by showing them how the job market works."* (A-PT 03, assistant for educational programs)

> *"Students are informed about company business culture,* [thus] *helping the students to understand how to do business."* (A-HU 01, deputy head of department, placement advisor)

Sometimes students are just lucky – they benefit from special situations in which the company's success is related to a recent entrepreneurial endeavor. Being involved with a company which is at the beginning of its activity could be a genuine experience of entrepreneurship in progress. As one of the academics from Austria states:

> *"Students often join start-up companies based on IT. So they can profit from the culture of entrepreneurship inherent to those companies."* (A-DE 01, professor)

The Academics' Perspective

Mainly for the academics, entrepreneurial culture seems to be something vast and not well defined. They consider that entrepreneurial culture means a lot of things, starting with lectures and conferences on entrepreneurship and ending with exhibitions and social events.

> *"Open door days, lectures at universities, conferences."* (A-CZ 02, professor)
>
> *"Continuing education of employees, internal seminars, contacts to universities."* (A-CZ 03, teacher, manager of life-long learning programs, thesis supervisor)
>
> *"Exhibitions, conferences, social events."* (A-CZ 01, senior lecturer, thesis supervisor)

Some employers see this issue in a similar way:

> *"By talking about our experiences with our business."* (E-AT 02, owner of a small company in the field of gastronomy, tutor for practical placement)

The Small Companies' Perspective

When it comes to the employers' perspective, things seem a bit different and more down-to-earth. For the owners of small and medium-sized enterprises the entrepreneurial spirit of the employees is essential to the survival of the enterprise, as it creates a sense of ownership concerning the business, and it also helps them to focus their interests on common goals and on ways of achieving them.

> *"Yes, we do. This is the way how we have founded our company. We always need such a new member who has entrepreneurial ability for our company's future. In this context, he or she can be our partner."* (E-TR 02, CEO in a small-sized hardware and software producing enterprise)
>
> *"Our enterprise promotes an entrepreneurial culture by creating a sense of ownership mentality that creates a powerful incentive for inventive thinking. When an individual is clearly aware of how his or her interests are aligned with those of the company, the employee has a good reason to further the mission."* (E-AT 01, CEO in a medium-sized software development company, tutor for practical placement)

> *"Any entrepreneurial ideas and projects are encouraged by managers and founders. Our company has a supportive atmosphere in which people feel free to express their ideas without the risk of criticism or ridicule."* (E-TR 03, HRM in medium-sized enterprise, organization of the practical placement)

The practical ways of creating such a culture are, obviously, encouraging the employees' initiatives and sharing the benefits of the resulting entrepreneurial endeavors with the employees. Many of the respondents from the employers group described such aspects:

> *"Yes because once you are given general guidelines, the person may act on his own."* (E-IT 01, manager, small enterprise)

> *"Letting room for the initiative of employees."* (E-ES 01, project manager in a medium-sized engineering company, tutor)

> *"Variety of benefits on the base of new ideas, products."* (E-CZ 03, head of the marketing department in a small IT services provider, trainee leadership)

> *"By searching new ideas, forms for motivation of employees to work better, using their inner resources."* (E-LT 01, practice tutor in an insurance company)

> *"Arranging best business idea competitions, supporting start up projects."* (E-TR 04, manager, small-sized enterprise)

The Large Companies' Perspective

Having employees with an entrepreneurial attitude could be a gain for the large companies, too; however, as we will see later on, this is not as important as forming autonomous and productive individuals, which is a larger competence, less focused on entrepreneurship:

> *"Jobs contain a wide range of tasks, responsibility and in general contact with customer. Encourage the employees making mistakes and risk failures. Profit sharing model for employees."* (E-DE 01, HRM in a large software producing company, responsible for supervising the practical placement of students)

It is again about a well defined culture pattern of humanizing management and motivating people to work by using rewards.

Large companies have clear objectives and well established procedures for managing the internship of students. It is embedded in their culture to involve newcomers in doing projects, which means testing their competences that are needed in order to accomplish complex tasks:

> *"With each internship or thesis we give students the responsibility to managing their own projects. They have to learn being on one site, independently, and on the other hand, team oriented. The good students manage the balance between these competences and finish their projects very successful. In the past a lot of students could be employed after their studies, because of their learned skills."* (E-DE 02, head of the employee development department in a large industrial automation company, supervisor for about 50 students in practice each year)

In the end, the good students will learn a lot from being included in the system and from having to do a project independently, and we can imagine that they will be the first ones targeted by the company for hiring. Therefore, for large companies, receiving students in practical placement is a good way of finding future employees.

Practical placement becomes thus a period of reciprocal discovery, in search of a good person-organization fit. The student gets acquainted with the company and has a tangible experience of what working in such a place means and, in turn, the company has a concrete image of what the capabilities of a potential candidate are. The advantage is not the same, however, for the student because he or she has only one longer (and richly informative) placement.

Research companies are one particular case in which entrepreneurship is embedded in the mission of the organization:

> *"Research activities aim in providing technological solutions and products in the area of micro and nanotechnology by exploiting innovative research results to successful market products."* (E-GR 01, research director in a medium-sized research unit in nanotechnologies, practice supervisor)

Transmitting Entrepreneurial Culture

Some companies promote their entrepreneurial culture by means of formal and informal training and by means of systems of motivating the employees:

"Trainings for employees. Sales ranking by products to motivate employees to better performance." (E-HU 01, manager in a large industrial company, practice supervisor)

"In-house training and development of relevant case studies." (E-GR 04, practice tutor)

As for acquainting the students in practical placement with the entrepreneurial culture, some enterprises have specific training methods:

"By participating with the manager in meetings, events etc." (E-IT 02, practice tutor)

"By inviting the training student to contact all the activity sectors of the company to get a bird's eye view." (E-IT 03, owner small business)

"Yes. We emphasize training during practical placement period of students." (E-TR 01, manager, medium-sized enterprise)

"The hosting company feels free to give all detailed information about itself and this promotes entrepreneurial abilities of participants and gives them future ideas to improve their entrepreneurial culture." (GS-TR 03, male, 25, bachelor's degree in metallurgical and materials engineering, 2007)

Some of the students and graduates declare that they distinctly perceived the "touch" of entrepreneurial culture during the practical placement:

"I worked in an IT company, XYZ for over 2 years and it promoted an entrepreneurial culture." (GS-RO 07, male, 24, 1st year student in engineering, master level)

"By giving members of organization trainings, inspiring to take proactive, initiative approach to their daily tasks, providing mentorship and coaching programs." (GS-LT 03, female, 22, bachelor's degree in economics, 2010)

Other students and graduates declare having had an internal training period during the practical placement:

"All interns had a few days workshop." (GS-LT 01, female, 23, bachelor's degree in marketing, unemployed, but having previously been employed)

"Yes, because it was an international research center and the center gave all the opportunities for entrepreneurship."

(GS-NL 00, female, 28, 4th year in bioengineering, doctoral level)

By participating in the company's everyday events and problems, students can learn about the entrepreneurial culture:

> *"They were trying to figure out the existing problems and were listening* [to] *diverse ideas of employees, which are the outcomes of systematic project periods."* (GS-TR 09, male, 22, 4th year student in mechanical engineering, bachelor level)

For one student who answered to this question, the experience of practical placement in a large international company was not at all about entrepreneurial culture:

> *"I had a summer internship (3 months, 2008) at the* [international] *company ZZZ in Bucharest. During this period I did not realize anything special about entrepreneurial culture."* (GS-RO 01, female, 24, 1st year student in engineering and management, master level, in an Erasmus exchange program at a university in Sweden)

Q 18: Do the hosting companies or enterprises encourage employees to try new ideas?

Perspectives From the Outside – The Way Academics See the Enterprises

Consistently with the answers to question 17, some of the respondents said that the hosting companies do not necessarily encourage the employees and the trainees to try new ideas and to be creative on the job. However, most of those who answered "Yes" to the previous question gave details about the ways this happens.

Some universities try to encourage creativity and to renew from the inside, but the Hungarian academic below gives no details:

> *"It is clear from graduate surveys that this* [encouraging employees to try new ideas] *is one of the strongest advantages of our university."* (A-HU 02, director, responsible for BSc internships, graduate career planning, and alumni management)

In a sector with rapid development such as chemical technology, an Austrian academic speaks about the university, which in cooperation with employers encourages trainees to be creative:

> *"We encourage employers and trainees to develop new ideas* [and] *to be able to fulfill the new needs coming from the market. In our sector, chemical technology and analysis, is very important to develop new procedures, according to the new requests."* (A-AT 01, tutor, director of department A)

The academics, being external to enterprises, seem to have a positive opinion about how enterprises foster the creativity of employees and students in practical placement. Several answers point in the same direction: yes, the companies do encourage their employees to try new ideas by using different methods:

> *"Write proposal for projects, try to develop business plans."* (A-CY 01, practice coordinator)
>
> *"By asking them to bring new ideas."* (A-GR 03, practice supervisor)
>
> *"Asking students to develop any strange ideas to increase profits which might be interesting for the company." An outsider may have a different look of business opportunities than the traditional company approach."* (A-HU 01, deputy head of department, placement advisor)
>
> *"By including students in projects to create new products, ideas."* (A-PT 03, assistant for educational programs)
>
> *"With bonus system."* (A-HU, 04, practice advisor)
>
> *"Companies give individual work, projects, challenges to do."* (A-PL 01, coordinator of apprenticeship in the management department)
>
> *"Yes, by: rewarding and disseminating creative ideas of employees, supporting the implementation of valuable new ideas of employees."* (A-RO 08, lecturer, tutor for practical placement)

Perspectives From the Inside – The Way Enterprises See Themselves

The employers and their representatives who answered to this question emphasize the importance of new ideas for the company performance and the focus on using this internal resource:

> *"Yes, our company encourages greater involvement of the employees and make sure that each employee knows how his or her work affects company performance*." (E-AT 01, CEO in a medium-sized software development company, tutor for practical placement)

> *"Promotion of new ideas and concepts is at the heart of our activity."* (E-GR 01, research director in a medium-sized research unit in nanotechnologies, practice supervisor)

> *"By giving the chance to try new things."* (E-AT 02, owner of a small company in the field of gastronomy, tutor for practical placement)

> *"New ideas are evaluated; best are rewarded with extra money or benefits."* (E-CZ 01, product manager in a medium-sized company, trainee leadership)

Sometimes having a valuable idea leads to progress in career and position:

> *"Variety of benefits, change of position."* (E-CZ 03, head of the marketing department in a small IT services provider, trainee leadership)

For larger companies, this is part of company philosophy, something that is "natural" as long as the company defines itself as a learning organization, as an employer from Germany tells:

> *"There is no program for that; it is part of the company philosophy and the leadership model. The individuals are encouraged to suggest new ideas. It is the philosophy of a learning company."* (E-DE 01, HRM in a large software producing company, responsible for supervising the practical placement of students)

For other companies, things are done in a formal way. The participation of any employee in the process of innovation is facilitated by strategies, procedures, and by adapted infrastructure. In this respect, a human resources manager from a medium-sized enterprise gives the details below:

> *"New ideas are very important for companies for the development. Managers or founders emphasize* [the] *importance of the new ideas and everyone can say ideas freely without any fear. According to ideas value and earnings, staffs that create and perform entrepreneurial projects are rewarded with bonus or gifts. As Teknodrom, we developed E-FIKIR (E-IDEA) system in our company to*

share new ideas among the staff. When someone type new ideas to [the] *E-FIKIR program which* [is] *embedded to our server system and all other staff can read the idea and help to improve it. Besides, patent application is the other important subject about new ideas. If companies have patent strategy and explain to employees the importance of patents,* [the] *staff will attach importance to innovation."* (E-TR 03, HRM in a medium-sized enterprise, organization of practical placement)

For other companies, discussing new ideas can be done within a formal frame, via internal competitions or during the regular meetings:

"There is "new project" competition among employees. The new projects (and project leaders) are evaluated by the management board." (E-HU 01, manager in a large industrial company, practice supervisor)

"The regular meetings of the management, where all the heads of the departments of the institute are present are an open forum where the new ideas can be introduced, discussed and evaluated by all the department heads of the institute." (E-HU 03, employee of international relations in a medium-sized agricultural research institute)

"Yes, every employee can suggest new ideas during weekly meetings." (E-IT 01, manager, small enterprise)

"In the frame of existing projects they are encouraged to manifest their own solutions." (E-ES 01, project manager in a medium-sized engineering company, tutor)

"Organization of social research, investigation of public opinion, inclusion of the employees into the process of decision making." (E-LT 01, practice tutor in an insurance company)

For some respondents, the key to promoting innovation in employees is simply money. Financial incentives are useful for motivating people to come up with new ideas:

"By rendering financial benefits." (E-HU 02, CEO in a small investment management company, practice supervisor)

Students in practical placement can also be involved in the process of trying new ideas, and within some companies this is regular practice:

"By involving students in new projects and asking them for new proposals." (E-IT 02, practice tutor)

Coming from outside the organization, the perspective of the students and of the graduates has the advantage of a "fresh eye" that companies can make good use of. Unlike the actual employees, students know only a part of the organizational system; therefore their ideas are sometimes simply not feasible:

> *"By employing students our company tries to get fresh external impulses from students so that we can improve our business, processes, etc. Often new ideas come up, because an external sees or processes differently and gives valuable input for improvements. Sometime the new ideas can not be implemented because of historical requirements which the students do not know. Sometimes it is also difficult convincing employees of new ideas. But this experience is very valuable for students as this shows the reality. Students often come with new ideas, but fail because they can not realize it as some important factors are not considered. So it is a win-win solution, as only the good ideas will be realized."* (E-DE 02, head of the employee development department in a large industrial automation company, supervisor for about 50 students in practice each year)

Even if their fresh ideas are not implemented by the company, the student learns a lot form the process of submitting his or her idea and from trying to convince the others of its value, from trying to fit it in the existing projects or, more generally, within the existing frame. It could be a first contact with real life while in the secure position of being only an intern.

Perspectives From the Students and Graduates

Looking back to the study years, students and graduates answering "Yes" to question 18 confirm the involvement of the hosting companies in stimulating their employees to promote new ideas, mainly in the research areas:

> *"Yes, because it was a research center that has many patents in the field of animal biotechnology."* (GS-ES 06, female, 28, 4th year student in biotechnology, doctoral level, working in research area)
>
> *"Yes, because it was a very successful research place and people working there are expert on their subjects."* (GS-NL 01, female, 28, 4th year in bioengineering, doctoral level)
>
> *"All new ideas based on lab work (I was working in* [a] *molecular biology lab that research new drugs etc) were*

tried or at least discussed with the supervisor. The environment was very innovative." (GS-DK 01, female, 22, bachelor student, 3rd year)

In fields other than related to research, enterprises can also have a positive attitude towards valuing the new ideas coming from the employees and towards using them in the development of their activity:

"The hosting company respects the ideas of employees by implementing the best of them and rewarding those who have had [them]*."* (GS-RO 07, male, 24, 1st year student in engineering, master level)

"Not on a large scale, but management was encouraging new ideas and techniques in order to solve problems." (GS-GR 01, male, 27, master's degree in information technology, 2008, working in a position related to the degree)

"They asked to suggest new ideas about every project and implement them in casual tasks." (GS-LT 02, male, 22, bachelor's degree in international economics, 2010)

"Logically, after a filtering process any "valuable" idea was trying to be put into life." (GS-TR 09, male, 22, 4th year student in mechanical engineering, bachelor level)

Students were also included in this process during their practical placement, having thus the opportunity to practice the development of new ideas in real-life settings. For them the practical placement was stimulating and encouraging as far as the development of creativity and self-confidence is concerned, which are indispensable ingredients of employability and entrepreneurship.

"I had a chance to try new ideas in parallel to our study subject. Sometimes I asked and suggested new trials and after batting around it, if it made sense I was allowed to try." (GS-DE 01, female, 24, 2nd year student in bioengineering, master level, working in a position related to the bachelor degree)

"By giving new tasks, projects and finally if they like those new ideas by implementing them." (GS-LT 01, female, 23, bachelor's degree in marketing, unemployed, but having previously been employed)

"By encouraging us in trying new solutions and fostering us in developing new projects in the sustainability field."

(GS-PT 01, male, 29, master's degree in economics, 2005, unemployed, but having been previously employed)

"During the summer internship at the [international] *company ZZZ in Bucharest, for example, I could come up with new ideas that were taken into consideration: e.g. possibility of writing a report about my work, possibility of doing my bachelor thesis related to the company's field, freedom of choosing my way of solving a problem (it was important the result, not the way of doing it."* (GS-RO 01, female, 24, 1st year student in engineering and management, master level, in an Erasmus exchange program at a university in Sweden)

Q 19: Do the hosting companies or enterprises foster and sustain innovation?

The Shock of the Future: Universities Are Looking Ahead

Fostering, sustaining, and promoting innovation are synonyms for the same process of continual renewal of the activities, processes, and products of an organization. Mainly in the business area, innovation means keeping the pace with the field and staying competitive in a dynamic world. For universities it is important to place students in enterprises that foster innovation, this being part of the process of preparing well trained graduates, and they are happy to find such partners:

"By developing a common sense of purpose, from unleashing the creativity of people throughout our organization and form teaching them how to recognize unconventional opportunities." (A-AT 03, tutor, director of department C)

In the last decades, sustainable development became a prevalent concept and the environmental concern is present in all business fields, as well as in society in general:

"If the company would like to maintain its market position or even to develop it, then innovation in product, technology and organization is needed from time to time." (A-HU 01, deputy head of department, placement advisor)

> *"Of course we have to sustain innovation and to implement environmentally friendly solutions."* (A-AT 01, tutor, director of department A)

Some universities focus their efforts on developing innovation for their employees:

> *"We have courses and competitions, workshops and case study projects in which innovation is encouraged and trained very much."* (A-HU 02, director, responsible for BSc internships, graduate career planning, and alumni management)

> *"Our university supports, in principle and financially, the initiatives, design, and implementation of innovative actions and projects."* (A-RO 05, professor, responsible for new practical placement system development)

> *"It is necessary to us to foster innovation, trying to develop new techniques and processes that are favorable and not damaging for the environment."* (A-AT 04, tutor, director of department D)

For the universities that already collaborate with companies things are easier because innovation is the key link between both parties:

> *"In our department of food engineering it is becoming more common within food companies to apply to university to collaborate in specific areas, especially for support on development of new food products, safe, and with good quality, to increase their business. Through application of hazard analysis and control of critical control points methodology, microbiological analysis, sensory evaluation, physic chemical analysis."* (A-PT 02, lecturer, consultancy and collaboration with companies)

From the outsiders' perspective, such as practical placement tutors from universities, things look nice and progressive, as one of our Romanian academics states:

> *"Yes, by: identifying and supporting innovative employees, encouraging the exchange of creative ideas within* [the] *organization, proving incentives for innovators."* (A-RO 08, lecturer, tutor for practical placement)

As for other academics responding to this question, their opinions are not so positive. A respondent from Poland concludes that the hosting enterprises have no interest in sustaining innovation in students who are in practical placement:

"*Maybe, but very rarely for students who are doing apprenticeship.*" (A-PL 01, coordinator of apprenticeship in the management department)

Another academic, from Romania, is even more radical in evaluating the willingness of enterprises to foster an entrepreneurial culture or to encourage it among the students in practical placement:

> *"At questions 17, 18 and 19 I didn't understand to which company you refer. If you refer to all the companies with which our university is related, then the answers are mixed, of course. In my opinion question 17 has no sense, because a company is not interested to develop the entrepreneurial culture of its employees* [because] *they will leave the company :)."* (A-RO 07, professor, coordinator of foreign students placements)

Companies Have no Choice but to Innovate

On the side of the enterprises there are signs that things go well and smoothly. Innovation is the key to success:

> *"Our company sustains innovation giving each employee a clear sense of mission that empowers them to act on new ideas."* (E-AT 01, CEO in a medium-sized software development company, tutor for practical placement)

For a company committed to development, innovation is the very core of the company philosophy:

> *"There is innovation process in the company; also it is part of the company philosophy and the leadership model. The individuals are encouraged to suggest new ideas. It is the philosophy of a learning company."* (E-DE 01, HRM in a large software producing company, responsible for supervising the practical placement of students)

Employees are considered as valuable resources in which the "wise" company invests training and for which it develops an infrastructure, procedures and uses systems of incentives:

> *"Investment in qualified human resources (further education, seminars, training); innovation of supply and distribution methods; broadening range of products and services."* (E-CZ 01, product manager in a medium-sized company, trainee leadership)

"Internal information bulletin on new products in the field." (E-CZ 03, head of the marketing department in a small IT services provider, trainee leadership)

"By allocating specific activities for research projects." (E-GR 04, practice tutor)

"In our company there is a bottom-up innovation project, which means that all employees can send new ideas or proposals to an innovation team to assess the idea. Best ideas are rewarded." (E-HU 01, manager in a large industrial company, practice supervisor)

"If the management of the institute decides that a new idea is feasible then a responsible person from among the employees of the institute is appointed and the management follows and monitors the development of the innovation and discusses the process at the regular meetings." (E-HU 03, employee of international relations in a medium-sized agricultural research institute)

"Promote openness between individuals and teams. Good ideas and knowledge in one part of our business should be shared with others. Team working, newsletters and intranet help stuff share information and encourage innovation." (E-TR 03, HRM in a medium-sized enterprise, organization of practical placement)

In the business sector innovation is essential for surviving. Big and medium-sized companies can afford to develop legal support for patenting innovations:

"Over the year we have created a portfolio of patented technologies and products available to potential customers through various seems (e.g., licensing, spin-off companies, strategic alliances) for the promotion of tangible and intangible innovative assets." (E-GR 01, research director in a medium-sized research unit in nanotechnologies, practice supervisor)

"Innovation and R&D [research and development] *projects are the way of development for companies. We reward innovation and celebrate success. Appropriate incentives can play a significant role in encouraging staff to think creatively."* (E-TR 03, HRM in a medium-sized enterprise, organization of practical placement)

In some fortunate cases, students are part of the innovation process and learn hands-on how innovation leads to business success and to personal accomplishment:

> *"We have established an own team of lawyers specialized on patents which supports anyone, which come up with an innovative idea. Several students are participants of patents which had been worked out during the internship. Also our group wide process of KAIZEN fosters innovative ideas and changes within the organization."* (E-DE 02, head of the employee development department in a large industrial automation company, supervisor for about 50 students in practice each year)

Even in small enterprises, innovation can be stimulated provided that the hosting company has a receptive attitude towards it:

> *"By encouraging them to propose their ideas to the tutor.*" (E-IT 03, owner, small business)

Students and Graduates – Directly Targeted by Entrepreneurial Training

Students seem to be aware of the ways the hosting companies foster innovation, especially in the research sector:

> *"Yes, innovation and taking new patents are encouraged with the needs of the private sectors."* (GS-ES 06, female, 28, 4th year student in biotechnology, doctoral level, working in research area)

> *"Yes, they do not work only with the known methods; they also encourage students to try new things."* (GS-NL 01, female, 28, 4th year in bioengineering, doctoral level)

Students who are in practical placement in other sectors talk about the existence of specific ways of promoting innovation in the respective companies:

> *"They are actually trying to build a R&D department in which employees that are trained by said company can try to do improvements on the existing projects."* (GS-TR 09, male, 22, 4th year student in mechanical engineering, bachelor level)

> *"*[They have an] *internal information system including news about innovative practice approaches."* (GS-CZ 03, male, 26, student, 2nd year in management and marketing, master level)

The graduates, who already have some experience with working in companies, also give details on how things are done in the workplaces they know:

> *"There are always some new ideas to reduce costs and time spent on unnecessary things, and new technologies to help the employees concentrate on their work, and make it easier. We have instant message programs, video conferences, etc."* (GS-HU 01, male, 22, bachelor's degree, 2010, working in a position not related to the degree)

> *"New ideas were always seriously analyzed and rewarded if approved."* (GS-RO 08, male, 23, engineer, looking for the first job)

> *"Yes, but without a concrete system, just by empowering employees to have their own initiatives realized."* (GS-LT 03, female, 22, bachelor's degree in economics, 2010)

Nevertheless, it seems that sustaining innovation is not always a necessity for companies. One of our respondents from Malta who works in a government agency asserts that the only innovations approved are those in the IT sector:

> *"It is not the company, nor the enterprise, it's almost a governmental institution (powers given by the Ministry of Finance), which functions are important for all people in the country (especially investors, commercial banks). There are not many innovations approved: only those of* [the] *IT sector and those, which are necessary to make services of securities depository, payments and settlement."* (GS-MT 04, female, 23, working student, 4th year in finance, bachelor level)

4.2. Developing Entrepreneurial Competences Within Enterprises

In the university curricula entrepreneurial competences are aimed at in an explicit way, by means of dedicated study programs; disciplines incorporated in the study programs such as economics, business, and administration; specific extracurricular programs financed by the European Commission; workshops organized by the career centers; summer schools, and other activities. However, entrepreneurship can be implicitly developed by subjects included in different study areas and mainly by the practical placement.

Q 20: Please describe the way the company ensures the development of entrepreneurial competences and skills for the students in practical placement.

The answers given to this question can be organized in four main categories:

- Companies explicitly develop entrepreneurial skills.
- Companies implicitly develop entrepreneurial skills.
- Companies don't develop entrepreneurial skills.
- Difficulties.

Explicitly Developing Entrepreneurial Skills

Besides the special disciplines taught at university, the enterprises our respondents are referring to have different ways of developing entrepreneurship, and some of them use a motivational approach which leads to the development of these competences:

> *"By making people willing to contribute to a cause they believe in, and one that recognizes the value of their participation."* (A-AT 03, tutor, director of department C)

Other companies teach the students explicitly how to take risks and how to make decisions regarding daily problems, as well as how to deal with the consequences:

> *"By teaching the students to take manageable risks and sometimes even about failing, but however it is worth trying and taking the risk."* (A-AT 04, tutor, director of department D)

Implicitly Developing Entrepreneurial Skills

During the university studies entrepreneurial skills are trained in a variety of ways, which include working on final evaluation topics for dissertations or for the graduation diploma, work and activities performed during the practical placement.

> *"Providing topics for bachelor and master thesis; company placements for students."* (A-CZ 01, senior lecturer, thesis supervisor)
>
> *"Discussions with the staff of the company."* (A-EE 01, practical placement advisor)
>
> *"Company gives list of topics for BSc and MA thesis, the student can choose one of them; he or she goes to the company where he or she has a supervisor from university and a consultant in the company; the student works out individually the thesis as his or her own project which solves a concrete problem."* (E-CZ 03, head of the marketing department in a small IT services provider, trainee leadership)

Giving students assignments related to the activity of the enterprise is the best way to develop all the competences needed for working in a company:

> *"Each intern has to perform a project proving maturity, independence, intellectual ability, contacts with others."* (E-PL 01, manager in a small IT company, practice supervisor)
>
> *"Students have real challenges and task everyday: contacts with customers on daily basis, projects development and implementation, presentations of some new projects."* (GS-LT 01, female, 23, bachelor's degree in marketing, unemployed, but having previously been employed)
>
> *"My tasks were really challenging ones, a huge range of competences as marketing, HR, events, project management, strategic planning was needed to complete the tasks. The tasks itself and the atmosphere was ensuring my development."* (GS-LT 03, female, 22, bachelor's degree in economics, 2010)

The collaboration between the university and the enterprise allows students to understand the complex organization of innovation, starting from initial ideas and continuing with their practical implementation:

"Students can participate to all stages of the process: from the generation of the knowledge or result up to the final stage of commercialization, gaining valuable experience." (A-GR 01, practice supervisor)

From the perspective of the academics, working with the employees from different companies during the joint university-enterprise projects facilitates a different kind of learning, which is closer to the traditional apprenticeship:

"Students start some individual work or are involved in some organizational projects, where [they] *can work with more experienced employees. Sometimes* [the] *company gives possibility to attend some courses or trainings. Students can visit each department to see the whole production process."* (A-PL 01, coordinator of apprenticeship in the management department)

Working in a company for a period of time gives students the opportunity to learn specific business competences and skills, such as routine decision making and social skills:

"Companies generally include students in control processes associated with buying, storing, producing, logistics and quality. Students [come into] *contact with inputs and outputs associated to these processes, as well with routine decisions, and with competences needed in order to maintain and improve them, namely social and innovation or creativity."* (A-PT 01, member of a committee for practical placement)

[During the practical placement in the enterprise there are] *"Possibilities for:*

- *taking part in preparing reports*
- *preparing analysis*
- *taking part in organization of programs, events, and workshops*
- *synergies with more departments*
- *contact with agencies*
- *preparing competitor analysis*
- *preparing product trainings*
- *taking part in preparation of product launches."*

(E-HU 01, manager in a large industrial company, practice supervisor)

"By encouraging them to take decisions and to stimulate their creativity." (E-AT 01, CEO in a medium-sized

software development company, tutor for practical placement)

Employing students for a temporary period of time in order to replace absent employees is, for many enterprises, a good way to prospect for and recruit future employees after a period of trial useful for both parties. But it seems that the reorganization of higher education according to the Bologna scheme was not favorable to this kind of arrangements:

> *"Through training periods in the company, following their procedures, to substitute their employees who are on holiday (...) and sometimes students are invited to get a placement in their companies. Lately, with 'Bologna scheme,' the training period which was compulsory (4 months) has been lost."* (A-PT 02, lecturer, consultancy and collaboration with companies)

> *"The company encourages the working abilities of the student by giving him or her a place in the work cycle of the company and also it gives responsibility to the participants and teaches them "how to decide" in certain situations, and sometimes "critical" situations. These abilities help the participants to develop their future entrepreneurial competences and skills."* (GS-TR 03, male, 25, bachelor's degree in metallurgical and materials engineering, 2007)

In some countries, such as Germany, it is still possible to hire students for 6 months, a period of time which is sufficient in order to become acquainted with the company. Working on company projects on a daily basis allows students to become creative and productive:

> *"We give them the freedom and support of exploring new ideas. That's why we employ them for 6 months. Additionally they are working on projects which teach them the reality in daily business. Sometimes this also creates new ideas, or they realize that soft skills are very important to drive things through. Of course not every student takes the opportunity to use the freedom."* (E-DE 02, head of the employee development department in a large industrial automation company, supervisor for about 50 students in practice each year)

Having responsibilities on the job is part of autonomy training during the practical placement and some enterprises do this in a very effective way:

> *"They are involved in real projects and not in special trainings task, also they have responsibility for whole part of*

a project, a comprehensive view is important." (E-DE 01, HRM in a large software producing company, responsible for supervising the practical placement of students)

"Students hosted by our company have the possibility to get an insight of business processes and all business areas and we contribute to the preparation of a substantial and well considered dissertation." (E-HU 02, CEO in a small investment management company, practice supervisor)

Rotating students on different jobs gives them a larger view on the activity and on the roles each sector plays in it:

"Placing the students to different sections of the company during placement work helps the students to understand how the company works on an every day base." (A-HU 01, deputy head of department, placement advisor)

Implicit teaching and learning of the competences needed for working in an enterprise and of the entrepreneurial competences become clear when reflecting on the results of activities:

"They give presentations about their thesis and projects mostly every week. It makes students to see what the others had done and to make a decision what they should do more and how they can make it better." (GS-DE 01, female, 24, 2nd year in bioengineering, master level, working in a position related to the bachelor degree)

Entrepreneurial Skills – Lost in the Process

Some respondents consider that practical placement does not always lead to acquiring entrepreneurial competences:

"Most of the placement in companies is aimed at the execution of projects so it is important to resolve problems and execute hard or complex work not necessarily or almost never entrepreneurial." (A-ES 01, professor, tutor)

"During practical placements, development of entrepreneurial competencies is not of primary importance for the companies. Generally they prefer the students to participate in the regular jobs that the company has already undertaken. Some students even cannot find that opportunity." (A-TR 06, teaching assistant, reading the reports of practical placement)

The training of entrepreneurial competences depends on the nature of the enterprise or organization, being more likely in small and medium-sized companies than in large ones:

> *"I think that practical training done in small business ensures the development of those skills. Doing internships at medium or bigger sized businesses or at institutes, NGOs ignore entrepreneurial competences."* (A-HU 02, director, responsible for BSc internships, graduate career planning, and alumni management)

There are some sectors of economy where entrepreneurship is seen as less important, such as the government or the public sector:

> *"PP* [agriculture] *is mainly connected to the governmental sphere where entrepreneurial competences and skills are less important than in the private sector."* (A-HU 03, assistant professor, responsible for the practical placement of BSc students)

Some academics coming from very different countries (Romania, Slovakia and Turkey) complain about the fact that enterprises offering practical placement completely ignore the training of entrepreneurship:

> *"There are little or no efforts arriving from the companies to this goal."* (A-RO 07, professor, coordinator of foreign students placements)

> *"The truth is that the company does not do it. They just accept students as ballast;* [they] *do not pay any attention to raise possible employees."* (A-SK 01, professor)

> *"Unfortunately, the company does not spend too much effort on this."* (A-TR 04, practice advisor)

Two Turkish students share the same opinion:

> *"Unfortunately, the company does not spend time and effort on it* [on the entrepreneurial competence]*."* (GS-TR 07, female, 31, bachelor's degree in agriculture engineering, 2002, working in a position related to her degree)

> *"The students generally are not encouraged to or motivated to develop their skills."* (GS-TR 08, male, 30, master's degree in business administration, 2006, working in a position related to the degree)

An open and honest opinion on this issue is given by a Spanish employer:

> *"Entrepreneurship is not the capacity we look for in students in practical placements but hard work at problem solving."* (E-ES 01, project manager in a medium-sized engineering company, tutor)

One Greek graduate remembers that entrepreneurship was not among the educational objectives of his practical placement:

> *"Students were placed in different divisions of the IT department. They were not coming close to the decision centers, so it wasn't easy to develop entrepreneurship or other management skills. They were focused mostly into technical skills."* (GS-GR 01, male, 27, master's degree in information technology, 2008, working in a position related to the degree)

What interest could employers have in training entrepreneurial skills during practical placement to students who will end up being someone else's employees, or even self-employed? Some employers consider that the enterprises, nevertheless, do this beyond their immediate interest:

> *"We do this by convincing them that they can always create something new if they intent to do so. We let them to try their ideas no matter how silly they look to them."* (E-TR 01, manager, medium-sized electronics company)

Working in a company teaches students a wide range of useful competences and skills, most of them aimed at training good employees, not necessarily entrepreneurial ones. Facing this reality and being aware of the necessity to develop entrepreneurial skills, of the importance of knowing more and of being able to do more, the students decide to do it themselves.

> *"I do not think that the dedicated goal is to develop entrepreneurial competences in practical placements. Usually on practical placements interns are trained to be good employees, and not entrepreneurs. Firms teach skills* [on] *how to work in a multinational and multicultural environment, how to act in a team, how to meet the deadlines, develop business language skills, but they do not teach (...) interns how to lead, how to develop new ideas, how to negotiate etc… My goal is to develop these skills, so I have to pay attention on my leaders, managers, and try to learn. This is not an easy task without direct help."* (GS-HU 01, male, 22, bachelor's degree, 2010, working in a position not related to the degree)

The Difficulties of Training Entrepreneurship

Practical, "hands-on" training of entrepreneurship necessarily involves the university-enterprise cooperation. If the entrepreneurial training given by the university is more homogenous, what happens in each enterprise with the students in practical placement varies from place to place. Sometimes the system of practical placement has some incongruence that impacts on the full development of the entrepreneurial training. One Turkish employer representative believes that the practical placement is too short for teaching students all they need to know about innovation by involving them in real-life projects:

> *"Companies have to give real jobs to the students in practical placement and promote opportunities for new ideas or projects. But it's very hard in the Turkish practical placement system. Practical placement term must be at least one year."* (E-TR 03, HRM in a medium-sized enterprise, organization of practical placement)

Privacy policies in enterprises restrict the access of students to all the relevant information:

> *"Even if it is weak, they (...)* [tried to put] *me into a small project. But (...)* [the information wasn't] *available for me because of the privacy policy. It ended with an accumulation of my own experience and in the end I learned that they were already thought by some other person beforehand. If I were able to reach that schematics and reports I could go further and come up with a product."* (GS-TR 09, male, 22, 4th year student in mechanical engineering, bachelor level)

For some sectors, entrepreneurship is simply not on top of the required competences, so students are not able to learn them:

> *"There are some tasks to be performed individually, needing information and entrepreneurship in gathering information, but working in a mine means rather less entrepreneurship."* (GS-PL 01, male, 21, 3rd year student in a mining engineering program)

As a conclusion, the hosting companies offer students opportunities to learn a lot about the real life of an enterprise, to acquire practical skills that increase their employability. As for the entrepreneurial competences, these are not explicitly aimed by the objectives of the practical placement and often the companies do not spend resources on developing such competences. The students are involved in the daily activities and thus

they can feel the entrepreneurial spirit of the company, if it is the case, but this does not lead automatically to learning entrepreneurship.

Many of the respondents answered to the question 17 with "yes" – the hosting companies do promote an entrepreneurial culture, and alike to the question 18 – yes, these companies encourage their employees to try new ideas, they also foster and sustain innovation (question 19), but this is not necessarily enough to be considered as learning environments for entrepreneurship. The students learn thus competences that allow them to find a good job easier, to be creative and innovative on their workplace, to adapt quickly to a new company, but not to start and independents business activity.

Small and medium size companies seem to be better environments for grasping entrepreneurial competences than larger ones, with deeper work division and vertical organization (question 20). The usefulness of the practical placement is rather related to learning entrepreneurial competences needed for well functioning in an enterprise than creating ones own business.

In the extent to which the company encourages its own employees to innovate and be entrepreneurial, and has procedures for promoting initiatives, the students involved with company activities can learn to try new ideas, to implement innovation related to the company projects. Implicit development of entrepreneurship occurs by the content of the daily activities, such as participating in joint university-enterprise projects, specific on the job assignments which involve complexity, autonomy and responsibility, dissertation works and others.

Chapter 5

OPINIONS OF THE PARTICIPANTS ON THE CHANGES NEEDED TO IMPROVE THE EMPLOYABILITY AND ENTREPRENEURSHIP OF THE GRADUATES

This chapter deals with the third and fourth topic mentioned in Chapter 4, which questions 21, 22, and 23 refer to:

3. What are the changes that the universities should operate in their policies and in their curricula from the point of view of the three groups of respondents? (Question 21 and 22)
4. What is the future role of the companies in supporting these changes? (Question 23)

The open answers to items 21 and 22 of the questionnaires reveal a variety of opinions on the changes that should be made in the study programs in order to facilitate a better employability of the graduates, but also to ensure the acquisition of entrepreneurial competences. The latter are needed mainly by small and medium-sized enterprises and in the prospect of independent professional activities. This chapter also presents the opinions on the role the companies play in the development of these competences.

5.1. Changes Needed in the Universities' Curricula in Order to Improve Entrepreneurial Training

The main changes suggested by our respondents who answered to question 21 are related to several aspects of the university policies, such as:

- Changes in the curricular vision – what the main objectives of higher education are.

- Changes in curricula at different levels: aimed competences; contents, teaching methods, and the role of practical placement in each study program.
- Changes in preparing the students for practical placement and supervising them during this activity.
- Increasing the role of career centers in training employability and entrepreneurial skills.

Q 21: Which changes do you think the universities should operate in their curricula in order to increase the graduates' employability?

Changes in the Curricular Vision

The academics are increasingly aware of the fact that the competences needed in the economic sector are changing rapidly and that the university must adapt the study programs to these changes. New fields of activity are emerging and they require new competences. Constantly following these changes should lead the universities to adapt their educational offer to the market demands and to promote bachelor's and master's degrees relevant for the business sector.

> *"Universities should have a look at the market demand in order to slightly tailor their offer accordingly."* (A-AT 01, tutor, director of department A)
>
> *"Degrees relevant to the business environment."* (A-ES 01, professor, tutor)

Sometimes the changes are so rapid, that the solution can only be the development of short and flexible courses.

> *"Paying attention for the continuous needs and signs coming from employers and not only saying, but doing the flexible short courses."* (A-HU 02, director, responsible for BSc internships, graduate career planning, and alumni management)

Increasing employability means following the demands of the labour market.

> *"Universities, faculties and specializations should be in line with the continuous changes within the labour market."* (GS-IT 01, female, 27, bachelor's degree in tourism management, working in a position related to the degree)

> *"In order to increase graduates' employability, universities curricula must be adapted to fulfill employers' needs."* (A-RO 08, lecturer, tutor for practical placement)

Changes in Curricula – Aimed Competences and Contents

Following the needs of the labour market means not only reacting to the demands, but also anticipating future developments and training the students accordingly.

> *"Universities must create skills or competences of graduates which are directly connected to the actual society and economy and close* [to the] *future needs, through specific curricula components: subjects, chapters, applications, invited lectures, practical placements."* (A-RO 05, professor, responsible for new practical placement system development)

Multi-disciplinary approaches are important for developing these needed competences because the reality of professional life is quite complex and topic-limited competences are simply not enough.

> *"Students should be able to operate and understand concepts and ideas in a multi-disciplinary environment, which sometimes exceeds their main background. Moreover, they should learn to provide solutions to specific problems."* (A-GR 01, practice supervisor)

> *"Promoting interdisciplinary abilities and capacity to get an overall vision of the professional activities."* (E-IT 03, owner, small business)

> *"Students should be able to operate and understand concepts and ideas in a multi-disciplinary environment, which in most cases exceeds their main background. Moreover, they should learn to provide solutions to specific problems."* (E-GR 01, research director in a medium-sized research unit in nanotechnologies, practice supervisor)

Students realise that studying at university level involves a lot of individual work and that it develops correspondingly individual competences. However, working in an enterprise means not only having "technical competences" in the field, but also being able to function as a productive team member.

> *"More group-work for sure, and teachers have to emphasize it so that students understand why it is needed. Ability to work as a group – share ideas and gain ideas from others –*

is in my mind more important than individual skills." (GS-DK 01, female, 22, bachelor student, 3rd year)

Project management skills are also too important to be studied only in the last year, when preparing the dissertation.

> *"For engineering departments, project management is an important skill and this should be started to be imposed far before the last year, in a longer period of time."* (GS-TR 09, male, 22, 4th year student in mechanical engineering, bachelor level)

For the university, the obvious way for achieving this is the development of a close cooperation with the enterprises, not only by means of practical placement, but also by developing projects that include practical problems into the learning assignments.

> *"The universities' top priority is to "increase" the amount of time students spare in companies or enterprises. This can be done in forms of "lesson ending" projects and these projects should become a necessity for the students and their performances should be followed carefully as a part of university politics."* (GS-TR 03, male, 25, bachelor's degree in metallurgical and materials engineering, 2007)

Some of the teaching strategies which could help students in this respect are real life examples, problem solving, and case-studies.

> *"I think the necessary changes that should be brought to the curricula are: the use of practical examples and past experiences when teaching a subject and the introduction of mandatory practical placement."* (GS-RO 06, male, 24, 1st year student in industrial engineering, master level)

> *"More practical training, practical real life cases to be discussed, more stress on foreign languages and teamwork."* (E-PL 01, manager in a small IT company, practice supervisor)

> *"More importance to the practical side of the disciplines of the curriculum."* (A-RO 09, associate professor, practical placement coordinator)

Special syllabi could be introduced in the curriculum in order to prepare students for working in entrepreneurial settings, such as management and other subjects related to research and innovation.

> *"In my opinion, they have to take applicable courses in business, like: programming, management, and present*

technology research." (E-TR 02, CEO in a small-sized hardware and software producing enterprise)

"Include subjects mores related with the research and innovation." (GS-ES 05, female, 26, master's degree in industrial engineering, working in a position related to the degree and doing post graduate study)

"Offer courses that are based on case studying and team working. Develop presentation, communication and time management skills of the students." (GS-GR 01, male, 27, master's degree in information technology, 2008, working in a position related to the degree)

Besides knowledge and skills, attitudes and values are of equal importance. For a Portuguese academic, the best way to increase the graduate's employability is to teach "soft skills" that are required in any workplace:

"Provide more confidence, more autonomy and better relationship skills for students to work in entrepreneurial settings through soft skills courses." (A-PT 03, assistant for educational programs)

"The most important skill that a student must be given is the creativity. This is as important as the accumulation of theoretical knowledge. Another most important skill is the ability to communicate with other people." (E-TR 01, manager, medium-sized electronics company)

The importance of the practical training involved in the university-enterprise cooperation is again emphasized:

"Universities should offer a compulsory training period done within a company dealing with the sector of specialization of the student." (E-AT 01, CEO in a medium-sized software development company, tutor for practical placement)

"Cooperation with enterprises (members of scientific board, BSc and MA thesis, practical placement) and on these bases modifying curricula." (E-CZ 03, head of the marketing department in a small IT services provider, trainee leadership)

The relationship between the students and the companies should be reciprocally beneficial. Employers expect to receive something valuable, as well, in exchange for their receptivity for hosting practical placements. At this point, some of them seem a bit disappointed because students do not have "enough idea" about real business life and therefore cannot

contribute to the company's activity, getting in turn valuable experience. From the employers' perspective, one of the most important roles of the university is to train students some generic skills such as the basics of business: market structure, work style (!) and business ethics:

> *"Students haven't got enough idea about real business life. First of all, university has to teach them business ethics, market structure, work style. But the problem is not just students or curricula. If students can take an important role at company's project they can get serious experiences."* (E-TR 03, HRM in a medium-sized enterprise, organization of practical placement)

Changes in Curricula – New Teaching Methods

Especially in the business sector, there are no "general recipes" for solving problems, so it is difficult to teach generic competences in the traditional academic way, without linking the knowledge to specific situations and to specific ways of acting in those situations. The student population is changing as the "digital generation" is now entering university. Teaching methods have to be changed according to the needs and capabilities of students, who are already skilled in searching information on the Internet and who are already autonomous learners.

> *"More practice oriented way of teaching."* (A-HU 03, assistant professor, responsible for the practical placement of BSc students)

Practical applications could be developed through laboratory activities in some disciplines, as well as project based learning using real company problems and projects as topics:

> *"Projects originated from the needs of companies should be involved in the course plans. Realistic laboratory works can be arranged so that students can gain hands-on experience."* (A-TR 06, teaching assistant, reading the reports of practical placement)

For a considerable number of respondents from all the three groups one of the best teaching methods is the case study. Presenting real life cases and analyzing their prototypical value gives students an intuitive insight into the problems of the enterprise and into ways of solving them.

> *"Strengthening practical studies and inclusion of more case studies into curricula."* (E-HU 02, CEO in a small investment management company, practice supervisor)

Case studies also have the role of developing field-specific reasoning and attitudes. Involving companies and older employees in this practice oriented teaching could be a solution for improving the link between theory and practice.

> *"Universities should have more practical exercises like case studies. It is also important to notice that graduates are not ready right away and that the most important thing is the attitude. They can give a lot for the company but also companies and older employees can give a lot for them."* (E-FI 02, training manager)

> *"The universities have to include more practical methods: real challenges for the students, real business experience, contacts with companies or business people."* (GS-LT 01, female, 23, bachelor's degree in marketing, unemployed, but having previously been employed)

For a Belgian graduate, the case study seems to be a very valuable method of teaching and learning because it makes the link between theory and real life.

> *"Theory taught in universities should be combined more with practical examples or case studies. Thus, the students can apply the studied material once before they are supposed to do that in practice. I was in situations whereby I should have known the meaning of certain situations and words from theory but as I had never seen an applied case it took me some time to realize how the theory I learned before could look in the real world."* (GS-BE 02, female, 26, master's degree in agricultural economics, 2009, working in a position related to the degree)

Changes in Curricula – Preparing the Students for Practical Placement

Better structuring the practical placement in order to allow the development of practical skills, as well as motivating students to innovate, is an important part of curriculum change.

> *"Besides giving solid theoretical background and methodological skills it is important to develop practical skills as well. It may happen by using case studies or by organizing the placement work."* (A-HU 01, deputy head of department, placement advisor)

> *"Practical knowledge of the business environment... Encourage, assist and award the students and to take the initiative and to*

innovations." (E-HU 03, employee of international relations in a medium-sized agricultural research institute)

There is also the possibility that the students are not prepared to fully participate in the activities during the practical placement. Consequently, some preparation has to be done before they enter practical placement or professional life.

> *"Workshops and/or case studies should be organized to prepare the students for the business life."* (GS-TR 08, male, 30, master's degree in business administration, 2006, working in a position related to the degree)

The university should prepare students to learn as much as possible from the real-life experience during this period, thus "the readiness for practical placement" could become one objective of the curriculum.

> *"I think universities develop only academic skills. Graduates (...) lack (...) practical skills. They are not able to solve real life problems in their work. They do not know how to use their academic skills in the practice. So I think universities have to start practical education before the placement with guest speakers, on the spot training during site visits. Students should deal* [with] *real life problems in school, and should practice real life situations. Teachers should not explain only theoretical things, but 'how to do this or that' too."* (GS-HU 01, male, 22, bachelor's degree, 2010, working in a position not related to the degree)

Practice reports are not only a way of evaluating the competences gained during the practical placement, but also a method of developing reflective skills, which are important for the continual professional development.

> *"Professional internship is the first step to improve skills and prepare for employment (not only to get specific knowledge, but as a chance to start working in the same place). What is related to* [the] *studies' program, more practical tasks (not only the presentations on Power Point) should be included, for example, real-life situations, imitation in a group, working on solutions in a group. By the way, although the report that a student has to write, is an additional and hard work, it is very positive, because student then is stimulated to gain additional knowledge, ask other workers to explain new things, analyze the accounts, etc."* (GS-MT 04, female, 23, working student, 4th year in finance, bachelor level)

Changes in Curricula – Increasing the Role of Practical Placement

The length of the practical placement varies from country to country and from field to field. Most of the respondents claimed that in the new organization of the study programs according to the Bologna system, the duration of the practical placement became too short – one semester, that is, five months.

> *"Each student should work at least 6 months in a company to see the real working life. We often have students which are brilliant in technical know-how, but are lost with soft skills to manage a project. Each company is different and has hidden* [implicit] *rules. These rules can never be trained in universities. For the companies it also has the advantage that they see the soft skills of the student. With these they can decide much easier if the student fits to the company or not. The reduction of the German internships because of the bachelor or master concept was the biggest mistake. Trainee jobs have to be offered by the companies now, as students with a bachelor or master degree have no clue about working life. These competences must be trained during the studies, so that engineers can be used immediately after the studies, working highly productive. Without an internship this will never be possible. Just copy the old concept of a university for applied technologies, which was the perfect model for the industry. Please believe that nowadays it is not important if a student is one year older than the average starting a job. Most important is, as mentioned before, that the combination of theoretical know-how and soft skills are in a balance, so that the students can work productive from the first second."* (E-DE 02, head of the employee development department in a large industrial automation company, supervisor for about 50 students in practice each year)

In the opinion formulated by the above quoted employer representative the importance of practical training in preparing the graduates for productive professional work is clearly stated: it provides soft skills that enable them to work immediately after hiring, without too long a period of on the job training.

Some employers complain about the lack of preparedness of the graduates for work, and about the fact that they need additional training in order to fit the job requirements. Practical placement during the school

years, especially in the case of university students, seems to be the only way of preventing this situation.

> *"Employers care about the experience generally. That's why the university graduated people could not be hired mostly. Practical training days should be increased."* (GS-TR 27, no demographics, working in the field of machinery)

The respondents agree on the necessity to increase the role of practical placement and to extend its length to at least one semester. Some changes are suggested concerning the period of the academic year when the placement would be more useful.

> *"Elongation of apprenticeship duration, special classes, where students are prepared for apprenticeships."* (A-PL 01, coordinator of apprenticeship in the management department)

> *"To make the students practice more flexible, to change its time, replacing spring semester to autumn."* (E-LT 01, practice tutor in an insurance company)

Increasing the Role of Career Centres

As part of the university, the career centres can help the professional insertion of the graduates by offering relevant information about jobs and about practical placements, and by providing learning opportunities by means of extracurricular activities.

> *"Give more practical and useful information regarding the jobs in real life."* (GS-HU 03, male, 25, master's degree in corporate finance, working in a position related to the degree)

The career centres can contribute to the preparation of the students for the work environment, mainly by developing the network of enterprises hosting practical placement and by centralizing the internship of students.

> *"The career center should organize more events for students, use and build the network of university partners to cooperate in concrete programs with more beneficial for both sides* [of the] *internship program. Career days is not enough, I believe centralized internship programs for students, facilitated by* [the] *career center could be an option."* (GS-LT 03, female, 22, bachelor's degree in economics, 2010)

Increasing the Employability, but not Necessarily the Entrepreneurship

Employability is the main concern of the universities because this is the main indicator of the utility and quality of the study programs, contributing to their prestige and development. Students and graduates are also preoccupied by their own employability and by the factors that influence it.

> *"To increase the graduates' employability the universities should find a better rapport between theory and practice, because in many universities is made too much theory and too little practice."* (GS-RO 07, male, 24, 1st year student in engineering, master level)

> *"Each university should offer a practical placement period in a company in order to increase the graduates' employability."* (A-AT 03, tutor, director of department C)

For the universities, three lines of action are important in order to increase employability: to make marketing research concerning the competences needed on the job market, to adapt the educational offer to these needs, and to teach students career skills, as discussed above in this chapter and as an academic from the Netherlands states:

> *"First they need to gain knowledge about the labour market and its developments. Second they need to share this knowledge with the students in a module where students learn how to enter the labour market in their specific field of interest. The module has to contain role plays for practicing to work in an interdisciplinary team, with (actors that represent) students from a different background. The module also has to contain cases from which students learn to handle conflicts, work in hierarchic organized contexts, work with deadlines, solve problems, analyze pitfalls, etcetera. Practicing the placement and learning to make the right choice for a working field."* (A-NL 01, coordinator of 300 placements a year, 40% abroad)

The same idea is present in the answer given by a student from Spain:

> *"Universities should take into account the demand coming from the market and modify, accordingly to it their offer, in order to fulfill the need and to increase the students' employability."* (GS-ES 04, female, 24, 3rd year student in journalism, bachelor level)

Employability could be enhanced by making changes in the curriculum, as mentioned in the answer above and in the previous pages of this

chapter. One more time, soft skills are claimed to be necessary for a good professional insertion.

> *"By teaching the following skills in order to increase graduates employability: communication and presentation, planning and problem solving, social development and interaction."* (A-AT 04, tutor, director of department D)

In the context of globalization and of the continual economic and cultural integration in Europe, working with people belonging to different cultures becomes an important competence.

> *"Making them more familiar with different cultures and ways (...) things are done. Preparing them to be more open minded."* (E-AT 02, owner of a small company in the field of gastronomy, tutor for practical placement)

As we can see from all the answers quoted in this section, it is rather about increasing the employability of the graduates, which seems to be the first priority, than about increasing the entrepreneurship.

Cooperation With Enterprises

The cooperation with the enterprises can be done in various ways, as the respondents quoted below indicate. One way is by including in the curricula long term common university-enterprise projects.

> *"Curricula should have projects with companies that* [involve] *work at* [the] *university and at the company, on a long term basis. Students should contact "real work" environments since early in their formation at the university. Optional subjects where students work in projects between* [the] *university and companies is one hypothesis, where all the processes associated with the company could or should be covered. Another hypothesis is the cooperation between* [the] *university and entities that provide social support, where students could* [come into] *contact with very different human realities, learn from them, and at the same time apply innovation and creativity skills to improve processes."* (A-PT 01, member of a committee for practical placement)

Another way is by developing projects with professionals from enterprises and from other external organizations as part of the study program.

> *"To encourage more industry partnered projects in the universities, and organize company programs providing*

academic credit for structured job experience." (A-TR 03, assistant professor)

"University – company cooperation extension (thesis, projects, involving external people as a standard part of study program." (A-CZ 03, teacher, manager of life-long learning programs, thesis supervisor)

Bringing the external expertise into the university can be very useful for developing the cooperation. This can be done, among others, by giving non-academic professionals the opportunity to present real-life problems in the classroom.

"More lectures hosted by professionals." (A-CZ 01, senior lecturer, thesis supervisor)

The cooperation should be focused not only on the students, but also on the academic staff, and common research projects with partners from the socio-economic area are very important in this respect.

"The universities and the academic staff should be much more involved in mutual real life projects with professional companies." (A-TR 04, practice advisor)

"Participation with the industry in common (applied) research programs." (E-GR 04, practice coordinator)

Getting out of the ivory tower is also highly profitable for all the parties involved in the cooperation. The university can help the industry by developing not only fundamental research, but also research areas that are important for the industry.

"Have compact relationships with the industry and [be] *aware of the industrial needs."* (GS-ES 06, female, 28, 4th year student in biotechnology, doctoral level, working in research area)

Another way is by improving the format and content of practical placement.

"To get the training period again is essential for future food engineers, as practical work is very important to enable them to get familiar with [new] *technologies, to consolidate and validate the knowledge they receive at the university. To get more involvement with local companies."* (A-PT 02, lecturer, consultancy and collaboration with companies)

"Universities should increase the cooperation with enterprises and allow the students to practice more their skills in the real business world. Universities should increase the cooperation with enterprises and allow the students to

practice more their skills in the real business world." (GS-PT 01, male, 29, master's degree in economics, 2005, unemployed, but having been previously employed)

In some sectors things are going well, the university-industry cooperation being already consolidated, and for the moment no improvements were suggested.

> *"More contacts with the employers, but in our faculty the studies are very practical and developing employability."* (GS-PL 01, male, 21, 3rd year student in a mining engineering program)

5.2. Changes Needed in the Universities' Policies in Order to Improve Entrepreneurial Training

One main change suggested by the respondents addresses the issue of practical placement. Nowadays, this is the main link between universities and enterprises. The answers to question 22 could be grouped according to the following aspects:

- Changes in practical placement policies.
- Creating infrastructure for practical placement in universities.
- Changes in the procedures of practical placement follow-up.
- Improving the pedagogical aspects of practical placement.
- Extension of the support provided by the university for the transitional stage to employment – the role of career centers.

Q 22: What changes do you think the universities should operate in their practical placement policies in order to increase the graduates' employability?

Changes in Practical Placement Policies

One major issue is the necessity to make the practical placement compulsory for each study program.

> *"Implement immediately at least one practical internship of 6 months in companies. The gained know-how of the students after 6 months working in a company is priceless.*

> *Please avoid that the students have to go to exams during this time as it will distract their daily activities at the company."* (E-DE 02, head of the employee development department in a large industrial automation company, supervisor for about 50 students in practice each year)

Besides the opportunity to function for a period of time as a company member, the student is also given the possibility to acquire useful practical competences in a secure and structured environment.

> *"The practical placement should be compulsory in each faculty, in order to give the students the chance to experience his or her potential job and to make them aware of the procedures implemented by the companies."* (A-AT 01, tutor, director of department A)

> *"To take legislative measures making the practical training compulsory for the diploma award and to be incorporated in the (national) social care system."* (E-GR 04, practice coordinator)

> *"More tailored training and practical placements. Maybe they should have compulsory practical placement - many universities and programs do not have it."* (E-FI 02, training manager)

The practical placement should be integrated in the organization of a system in which research made in universities is organically integrated with the education the students get both inside and outside the university, within enterprises, and with innovation and business development, all this leading to entrepreneurship.

> *"Stronger links between universities, research centers and industries, comprising the three poles of the triangle Education, Research and Innovation, should assist in that direction."* (A-GR 01, practice supervisor)

> *"Regular and effective meetings should be organized among the actors of job market, not only networking type events. Long-term thinking from both sides would be wise, too."* (A-HU 02, director, responsible for BSc internships, graduate career planning, and alumni management)

> *"To get the training period again is essential for future food engineers, as practical work is very important to enable them to get familiar with new technologies, to consolidate and validate the knowledge they receive at the university. To*

get more involvement with local companies." (A-PT 02, lecturer, consultancy and collaboration with companies)

Selecting companies from different fields of activity for hosting practical placement and setting up a stable, consistent, and long term partnership is the best way to consolidate the quality of practical training.

> *"To establish a good reliable long term partnership with those companies that are willing to offer placement work for students for years."* (A-HU 01, deputy head of department, placement advisor)

> *"Long-term contracts or agreements with more companies regarding practical placement program."* (E-HU 01, manager in a large industrial company, practice supervisor)

> *"Stronger cooperation with more companies, more practitioner lectures to get students' interest for practical application of theoretic knowledge, models, and solutions."* (A-PL 01, coordinator of apprenticeship in the management department)

> *"I think the change the universities should operate in their practical placement policies is collaborating with different companies from different industries in order to give the students the opportunity to choose the field they want to specialize in."* (GS-RO 06, male, 24, 1st year student in master program in industrial engineering)

Some respondents consider that only top companies should be selected for practical placements.

> *"To increase graduates' employability, universities must use only top employers for practical placement of students."* (A-RO 08, lecturer, tutor for practical placement)

This opinion refers to large companies only, but reducing practical placement to these companies means leaving out the majority of the companies, namely, the small and medium-sized ones, which offer the majority of the jobs for graduates. This could lead to the limitation of the practical training students get and to the decreasing of their actual employability.

A New Organization of the Practical Placement

Being part of the university curriculum, practical placement has to be evaluated and this leads to some distortion of its purpose. Instead of

emphasizing the actual acquired competences, in some cases the evaluation is centered on formalities, as indicated by a Turkish academic:

> *"Practical placements schedules could be reorganized so that students can study in companies for longer periods according to their fields* [of interest]. *Generally the outcome of the practical placement is a report which misleads the student. Most of the students only motivate themselves for satisfying the requirements of the report, part of which requires the student to find information about the structure and history of the company. Report outline should be revised, which will force both the student and company to collaborate for an ongoing project."* (A-TR 06, teaching assistant, reading the reports of practical placement)

One solution to this problem could be a longer and more structured period spent within the enterprise, as we can see both in the answer above and in the one below:

> *"The universities have to change their practical placement rules and system. One or two months are not enough for practical placement. During this short period, students can take a role and get just a few ideas about application which they learned at school. But they don't learn anything about market or business development. Practical placement must be at least one year. During practical placement, university or teachers should control students work and wanted periodical report about practical placement."* (E-TR 03, HRM in a medium-sized enterprise, organization of practical placement)

The university could prepare the students for a relevant practical placement by organizing shorter periods of placement which allow the student to better understand what is important for his or her personal professional project.

> *"Maybe before the real practical placement, there should be more small (2-3 weeks) but mandatory placements (founded and coordinated by the university), so students could meet different companies, and could choose which is the more interesting area for him/her. For example I worked in the public sector and in the private sector too, and I know the differences, I know in which I want to work in the future."* (GS-HU 01, male, 22, bachelor's degree, 2010, working in a position not related to the degree)

Employers can also help – by organizing their own recruitment and selection of students for the practice placements.

> *"Some universities in Germany organize their own little 'application fairs' with companies or institutions relevant to the study area. More universities should do that; also for rather specific study areas (it is already very common for business administration or economics but not so much for regional studies, linguistics or very specific life sciences)."* (GS-BE 02, female, 26, master's degree in agricultural economics, 2009, working in a position related to the degree)

Changes in the Procedures of Practical Placement Supervision

What actually happens when students are in practical placement in an enterprise is controlled by tutors within the enterprise and by supervisors at the university. The job structure for the last ones is one major cause for the partial lack of effectiveness of the practical placement. Having students scattered in many companies makes the task of supervision difficult, especially when the time spent in practical placement is too short. And academic from the Netherlands takes into account the reconsideration of the role of supervising teachers, as well as their special training.

> *"They have to take placements more seriously and value the supervising teachers more. They now get 8 hours for supervision, which is not enough to encourage good quality in supervision. Training for teachers who start placement supervision would be an idea, too."* (A-NL 01, coordinator of 300 placements a year, 40% abroad)

> *"There is a lack of serious control mechanism of practical placement of students in most universities. Practical placement of students is a must in the scope of their education program, but the performance of students is not examined carefully or in a detailed manner. More attention should be paid by university management to this control and performance mechanism. The students should be encouraged in a way that increases their entrepreneurial competences personally by their instructors."* (GS-TR 03, male, 25, bachelor's degree in metallurgical and materials engineering, 2007)

In universities, where there are dedicated structures for facilitating the match between the student's profile and the specificity of the hosting

company, mediation can be done in order to improve the effectiveness of the practical placement.

> *"Practical placement should match* [the] *student's profile with company culture in order to both beneficiate from the process. The committee responsible for practical placement should know students and companies, in order to match profiles correctly. This committee should also be able to advise for social and technical improvement, but also so for seeking opportunities where companies could gain high value from students' work, and students could develop needed or new competences and leverage their profile for employability."* (A-PT 01, member of a committee for practical placement)

The timing of the practical placement period could be important for the student's readiness for internship.

> *"Perhaps the place could be determined a long period before the practice so that the student may have some time for a preparation. This way the student may gain better qualities during the practice period."* (E-TR 01, manager, medium-sized electronics company)

The career centre can help in this respect by providing students with a variety of information about places where they can go for practical placement.

> *"This centralized internship facilitated by university career center would be beneficial for students and companies as there would be only one source to get all needed information, less administration work."* (GS-LT 03, female, 22, bachelor's degree in economics, 2010)

There is no perfect match possible for all cases, but this can be improved by prospecting the offers of the enterprises for practical training.

> *"Meetings of academic staff with employers about the companies' needs and expectancies concerning the students, so that they can assist students to find the right company for each student's capabilities and interests."* (A-TR 03, assistant professor)

> *"Better proactive liaisoning with enterprises and firms, including regular visits of students to enterprises or firms to assess needs and interests."* (A-IT 01, responsible for financing of programs)

> *"Systematic analysis of feedback from students' company placements."* (A-CZ 03, teacher, manager of life-long learning programs, thesis supervisor)

Collecting more data about what actually happened with the students placed in practical placement in the past and their feedback about the quality of learning helps universities to revise their procedures for monitoring the practical placement and to improve its content and formative value.

> *"Universities should monitor the practical placement in a company in order to assess and evaluate the skills and knowledge of the students and to better define his or her potential attitude to a specific job."* (E-AT 01, CEO in a medium-sized software development company, tutor for practical placement)

> *"About their practical placement policies, the universities should increase the awareness on the benefits of these programs because they make efficiently the transition between the studies from* [the] *university and the real job."* (GS-RO 07, male, 24, 1st year student in engineering, master level)

Continually communicating with the hosting companies can improve the university-enterprise "joint venture" and can contribute to forming graduates who are more adaptable to the requirements of future jobs.

> *"Practical placements should be considered seriously as a course, and the company and* [the] *university should be in contact. Leaving a student to a company doesn't solve things. Because no one can know what the other side expects. Universities should focus on needs in market and prepare a solid program for practical placements. In that way, they can manipulate the companies to apply the program and start to graduate "ready-to-work" students. With a good feedback mechanism (not essentially grading) this could work."* (GS-TR 09, male, 22, 4th year student in mechanical engineering, bachelor level)

5.3. Companies' Role in the Development of Entrepreneurial Competences of Students

It is time for employers from different fields to become completely aware of the importance of being involved in the education of their future employees. Under the conditions of change in the occupational structure and the rapid evolution of new fields of expertise, the universities cannot accomplish this difficult task without a close partnership with the enterprises, especially in training entrepreneurial competences.

Several suggestions were made by the respondents concerning the role of the companies in developing these competences:

- involving enterprises or companies in curriculum design;
- increasing the role of companies in students' training;
- acquiring entrepreneurial competences during practical placement;
- bringing specialists from enterprises into universities;
- working together with the university;
- increasing the role of the student in his or her own education.

There are great expectations on the side of the academics towards the enterprises, as well as great expectations on the side of employers and students towards the university and, consequently, some inherent difficulties.

Q 23: Which could be the role of the companies or enterprises in the development of the entrepreneurial competences of students?

Involvement in Curriculum Design

As part of their social responsibility, the companies are interested in influencing and in contributing to the improvement of the future specialists' education. From this perspective, their involvement in defining the study programs according to the present and future requirements of different activity sectors is crucial.

> *"The role of the companies or enterprises is to participate in the curricula design, to support university labs and projects, and to assure the necessary conditions for practical placements activities, based on continuous co-operation with universities."* (A-RO 05, professor, responsible for new practical placement system development)

Some respondents consider that in order to train entrepreneurship completely new study programs are necessary, as well as new kinds of practical placements, as a Hungarian graduate states:

> *"To develop these skills, completely different programs are needed. If we want entrepreneurial skills, we have to put the students near entrepreneurs and other decision makers, managers, leaders. The goal should be to educate a successful entrepreneur, so she or he should be next to a manager all day, and learn. Take part in meetings; learn the way they make the decisions."* (GS-HU 01, male, 22, bachelor's degree, 2010, working in a position not related to the degree)

The measures taken in order to enhance the students' entrepreneurship can go as far as funding startup companies.

> *"Endorse new ideas and students' innovation by funding startup companies and use experienced employees as mentors for the young professionals."* (GS-GR 01, male, 27, master's degree in information technology, 2008, working in a position related to the degree)

Increasing the Role of Companies in the Students' Training

More feasible measures can be taken at university level by introducing entrepreneurship as a "standard part" of any practical placement, as one Dutch academic considers:

> *"It could be a big role, but it might be wise to make entrepreneurial competences a standard part of the undertaking of any placement, starting at the preparatory phase at the university (with the help and counseling of, for instance, an experienced coach that works as an entrepreneur)."* (A-NL 01, coordinator of 300 placements a year, 40% abroad)

The requirements companies impose during the internship should aim at the development of competences that are involved in entrepreneurial behavior.

> *"The companies should encourage responsibility and leadership opportunities, tolerance of learning errors and other practices to promote job ownership."* (A-AT 03, tutor, director of department B)

> *"Companies could be laboratories for the development of the entrepreneurial competences of students."* (A-RO 08, lecturer, tutor for practical placement)

As repeatedly stated by the respondents in the previous pages, internship is considered by many as being too short. However, during this stage, the enterprises can and have to follow educational objectives by giving interns specific long term tasks and by evaluating their performance:

> *"At this system it's very hard to development of the entrepreneurial competences of students. If practical placement is extended, companies can share experience with students and teach them how to develop new ideas and make it real. We can give different roles to students in different departments. So they can understand all factors that influence entrepreneurship."* (E-TR 03, HRM in a medium-sized enterprise, organization of practical placement)

> *"Giving the student individual projects on which they can work before, during, and after the placement. Organizing workshops that improve the given important skills. Giving feedbacks to students at the end of practical training. I mean real performance evaluation!"* (A-HU 02, director, responsible for BSc internships, graduate career planning, and alumni management)

Giving the students autonomy and involving them in the decision making process during the practical placement completes the theoretical education and can contribute to the development of entrepreneurial competences.

> *"Companies should encourage the students to take their decision and to make them understand they are responsible for any future development."* (E-AT 01, CEO in a medium-sized software development company, tutor for practical placement)

> *"The practical placement completes the student's theoretical knowledge… helps students to integrate into organizational environment and to develop entrepreneurship through the opportunities offered."* (GS-RO 02, female, 24, graduated in 2010, working in a position related to the degree)

> *"Give them autonomy but with guidance in their work."* (A-PT 03, assistant for educational programs)

Entrepreneurial Competences to Acquire During the Practical Placement

The most important feature of entrepreneurship is innovation, which means the development of creativity. By giving the students assignments that involve coming up with ideas and implementing them, hosting enterprises can contribute to the development of entrepreneurial competences.

> *"The student could be given the FEELING that he or she can CREATE!"* (E-TR 01, manager, medium-sized electronics company)

Giving the student access to more details about the way the enterprise functions can also help:

> *"Maybe offering them a closer look to the business and management layers of the company's activity and not only involving them in technical aspects."* (A-RO 07, professor, coordinator of foreign students placements)

For a Belgian respondent this is already done in some study programs, and the effects are contributing to the development of the entrepreneurial skills.

> *"Companies could require new recruits to write little reports or give short presentations about their work, so that they can reflect about what they are doing and whether it was successful. Cooperation with universities for case studies already during the study programs would further enhance entrepreneurial skills; e.g. XXX does this with the MSc program "AgriBusiness" of the University of ZZZ."* (GS-BE 02, female, 26, master's degree in agricultural economics, 2009, working in a position related to the degree)

Often, professional skills don't necessarily mean entrepreneurship, but simply professional behavior:

> *"With the allocation of responsibilities and with the right guidance, companies contribute to the development of the students' professional skills."* (E-GR 02, manager in a small-sized food quality control company, supervisor for practical placement)

Bringing Specialists From Enterprises Into Universities

The contribution of the enterprises or companies to the entrepreneurial education can be done either by inviting specialists to lecture on the day-

to-day business issues, or by giving the students the opportunity to have a comprehensive view of how business works by shadowing a manager.

> *"Giving lectures by managers; providing specific topics for diploma thesis."* (E-CZ 01, product manager in a medium-sized company, trainee leadership)

> *"Some business people may have to deliver some lectures at the universities explaining practical things on business planning and running business on domestic and international level. Giving the chance for students during the placement work to work together with the manager of the company for 2-3 days."* (A-HU 01, deputy head of department, placement advisor)

> *"It would be very important to invite company leaders and/or experts during the lectures: They could explain how the problems are faced in their companies and what is the environment the new graduate can find when he finds the first job."* (E-IT 03, owner, small business)

Working Together With the University

The university-enterprise partnership has advantages for both parts: the university benefits by giving students practical training for the professional life and the company benefits by improving aspects of its functioning and by finding future employees.

> *"By collaborating with the university in a model suggested at point 22, companies could improve their work processes and/or products and leverage their technical or human skills by interacting with university actors,* [such] *as professors and students. Companies could also select better future collaborators."* (A-PT 01, member of a committee for practical placement)

The cooperation could be extended to the applied research made by universities to the benefit of the companies.

> *"Universities and companies should work together as frequent as possible. Universities should act as the R&D* [research and development] *divisions of the companies."* (A-TR 04, practice advisor)

The role of the enterprises, as stated by an employer from the Czech Republic, is to cooperate with the universities and to influence the curricula:

> *"Cooperation with university (members of scientific board, BSc and MA thesis) and influence curricula."* (E-CZ 03, head of the marketing department in a small IT services provider, trainee leadership)

The enterprises understand that they need to share responsibilities with the university, but it is obvious that companies are more interested in finding the right person for the right position, than in training entrepreneurship. The employers' representative from Germany states this very clearly below:

> *"The company will guide, support and help students with the daily requirements at the company. Tutors act as a personal coach for the student in terms of practical working experience and soft skills. The responsibility of the university is the training of actual theoretical knowledge. This combination will lead to a successful education which will be very competitive in the world. Please allow me one comment to the questionnaire. Please do not think that companies only want to employ students with good entrepreneurial competences. We also need highly qualified employees which are happy and satisfied with normal positions in production, marketing or R&D. If each new employee would like to become managing director, companies would get huge problems. In my point of view, the questionnaire is too much biased on entrepreneurial competences. As described in answer 21 and 22 it is important finding people for the right position. If companies have to start training students after their studies so that they fit the working place something went wrong. Therefore companies have to cooperate with universities* [for] *finding the best fit student already during the studies. This is only possible during a 6 month internship."* (E-DE 02, head of the employee development department in a large industrial automation company, supervisor for about 50 students in practice each year)

A productive cooperation means a clear definition of the limits of the responsibilities for both parties.

> *"The role of business is to offer internships and apprenticeships in which students can gain experience."* (E-IT 01, manager, small enterprise)

> *"The most important is* [the] *active role of* [the] *university, that not only all companies could give placement for*

> *students, only those who want and can provide challenging job description and time to supervise the student."* (GS-LT 03, female, 22, bachelor's degree in economics, 2010)

The role of the student, as a beneficiary of this partnership, is equally important.

> *"They (not only the coordinator, but also other employees in a host institution) must be willing to give the student the knowledge of all the fields the company is working in. But they should be taking half of a role – other side is upon a student – he must be interested and willing to work on these spheres."* (GS-MT 04, female, 23, working student, 4th year in finance, bachelor level)

In order to adapt to the rapid changes on the labour market, the universities have to change a lot of things in training the new generations of specialists (question 21). They have to change their curricular vision, prioritizing the training of competences needed in present and future time and redefining the objectives of the training in higher education. In this respect, the feedback from the employers and graduates about the pace of the change in different fields is essential. The anticipated competences have to be defined and transposed into new study programs, disciplines, contents and methods that increase the employability of the graduates.

Changes in the objectives and the content of higher education are needed. Multi-disciplinarity seems to be one of the new trends in education: using narrow disciplines does not much help students to adapt to the complexity of the work requirements. Soft skills are also needed to complement the "technical" competences: teamwork, creativity, project management skills and business ethics are as important as the theoretical knowledge. Besides these, new values and attitudes need to be taught in order to increase autonomy and responsibility.

The teaching methods influence the efficiency of the learning and practical laboratory work, problem and project based learning, as well as case studies can help students to understand deeper the realities of the economic life. Good old expositive methods for transmitting theoretical contents are not enough and not appropriate to prepare students for adapting to job requirements. Employability is already paramount objective, but general entrepreneurship should also be.

The policies related to the practical placement and its role must be increased, as a way to improve the entrepreneurial training (question 22). This means that is necessary to make practical placement compulsory for all study programs and to carefully select the hosting companies in order to ensure a fruitful stage in terms of acquired competences. Choosing as

partners only large companies limits the scope of practical experience to the specific of their organization. Small and medium size enterprises, even if not having an appropriate infrastructure for mentoring students, could be very interesting as learning environments closer to actual entrepreneurship.

The way the practical placement is organized, supervised and evaluated contribute to its effectiveness and in this respect some changes are needed too. The placement could be organized using the centralized services of the career centers, more specialized mentors, and the evaluation has to be made in terms of competences. An essential role in matching enterprises' and students' needs is held by the continuing communication between the university and the enterprises, by which the data about the results of previous practical placements are used to improve the system.

The companies could play a crucial role in helping the university to deal with the shuck of the quick changes in competence profiles needed on the labour market (question 23). The companies can contribute to readjusting the structures of the study programs, to the renewal of the teaching methods by participating in the case studies, applied lab works, to the better organization of the placement itself. Even if they interested in increasing rather the employability of the students, they can largely contribute to the development of the general entrepreneurial competences. However this does not exclude the necessity that the university itself rethinks the importance of these competences when defining the educational objectives.

Chapter 6

CONCLUSIONS

Entrepreneurial competences represent a new area of competences to be learned in higher education. Practical placement can be considered as halfway between theoretical and practical education and, from the point of view of entrepreneurial education, it is probably the best way students can learn entrepreneurship.

The main question of the present research is whether or not practical placement contributes to the construction of such competences. Do the students learn anything about being an entrepreneur during the practical placement? What is the opinion of the main stakeholders on this issue? The three groups of respondents in our research were the academics, the employers, and the students and graduates. Each of these groups plays some role in the way the balance between the demand and offer of high level competences on the labor market is dealt with.

The academics, as representatives of the education provider—the university—are responsible for the curriculum design and delivery, as well as for the monitoring of the practical placement. They have the leading role in shaping the competence offer because they explore the competence needs of the employers, they anticipate the evolution of different activity fields, and they try to respond to this anticipated competence demand by constructing study programs to meet these requirements. They are involved in teaching, as well as in ensuring, as much as possible, the link between theoretical knowledge and the practical skills needed for quickly adapting to a workplace. Their interest is in providing the best possible level of the competences needed by the labor market in order to fulfill one of their main social roles—knowledge transmission, and in ensuring a good reputation in this respect on the educational market, as well as on the employment market. At the end of the process, the employability of the graduates is the main indicator of the adequacy of the educational programs to the evolution of the labor market.

The employers are involved in the educational programs as collaborators mainly in the practical training provided via enterprise placement and

they are also beneficiaries of the competences formed during university studies. Their role is a complex one, as they can proactively contribute, by means of the partnership with the universities, to the quality and adequacy of the competences they need in the jobs they offer. The employers considered by the universities as partners for practical placement are large- and medium-sized enterprises and, to a lesser extent, small-sized enterprises. This means that the feedback universities receive from the employers' side refers mainly to the degree of fulfillment of the specific needs of large- and medium-sized employers. However, the employment statistics show that small enterprises are an important player on the job market, as they employ a considerable part of the graduates. Nevertheless, considering their number and diversity, it is rather difficult for universities to take into account their specific competence needs when designing curriculum or when making practical placements.

The graduates are the main beneficiaries of the educational process and the individual holders of the competences provided by the university. After graduation, they enter the labor market and are employed in different activity sectors. The time that passes between the moment of graduation and the moment of employment is one of the most important indicators of their employability—that is, the extent to which their competence profile meets the competence requirements of the employers. Their role is also a complex one, because they are both agents and subjects of their own education, being actively involved in linking the education provided by the university to the concrete needs of the social and economic organizations.

But being employed is not the only way of becoming socially useful after graduation. Every year, the graduates start their own small business, becoming self-employed or creating growing businesses that provide jobs for other people. Sometimes this happens immediately after graduation, sometimes after working for some employer for a while, and other times after a long period of unemployment, as an ultimate solution for survival. Starting an independent professional activity involves a set of competences included in the area of entrepreneurship. Some of the graduates have a specific training for entrepreneurship, others don't. But the majority spent a period of time in practical placement somewhere, mainly in enterprises. Did they learn entrepreneurial competences during the practical placement? Does this experience of real-life learning, practice-oriented settlement help with acquiring entrepreneurial competences?

Entrepreneurship is a much larger set of competences than the one needed by the employers and considered by them as important for employability. Although entrepreneurial behavior is important for every workplace, for

entry level, which is the graduates' case, it is less important in large enterprises as compared to the small ones. But at society level, the impact of entrepreneurship on the economic growth is larger than the academics and employers, for example, estimate, as mentioned in several studies and documents cited in the first chapter (Acs & Andretsch, 2003; NEAC, 2004; EEE, 2006a; EEE, 2006b; ETF, 2008; CEE, 2009).

As feedback providers, the graduates and students offer very useful, first hand information on the formative value of the practical placement for entrepreneurship, either from the point of view of those who have already dealt with the necessity of entrepreneurship in the professional activity (graduates), or from the point of view of those who only anticipate it (students).

The first part of our research aimed to explore the way these three groups see the level of importance and the actual level of achievement of the entrepreneurial competences trained via practical placement. In order to express their opinions on the level of importance and on the level of achievement, the respondents were asked to rate each competence on a 4-point scale for each of the two criteria. The statistical analysis of the quantitative data revealed that there are differences between the level of importance and the level of achievement of the competences considered, as well as differences between groups concerning the ranking of importance and the ranking of achievement of entrepreneurial competences. The results of the statistical analysis were presented in Chapter 3.

The second part of the research, consisting of seven open questions, aimed to explore the opinions of the three groups of respondents on the changes needed in order to improve the learning of entrepreneurial competences during the practical placement. The main themes identified in the answers to the open questions were presented in Chapter 4 and Chapter 5.

The Importance of Entrepreneurial Competences

The average level of importance for the entrepreneurial competences was rated between 3.63 for the first rank in the employers group and 3.03 for the last rank in the students and graduates group. This means that the list of entrepreneurial competences proposed for evaluation was considered as being above the “Considerable” level of importance—3 points on the scale—by all the respondents.

In our design, half of the entrepreneurial competences submitted for the rating of the importance and the achievement were considered as very important for independent entrepreneurship:

- "Competences to manage small enterprises or individual businesses" (Item 1);
- "Capacity to identify possible opportunities for developing new products, markets, or business models" (Item 3);
- "Capacity to evaluate perspectives for new ideas" (Item 4);
- "Capacity to make decisions under conditions of uncertainty" (Item 7);
- "Skills to develop new business ideas" (Item 9);
- "Skills to make deals" (Item 10);
- "Effective personal entrepreneurship behavior" (Item 12).

Most of these competences can be found in Factor 2 resulted from factor analysis – complex entrepreneurial competences, with the exception of item 7 and 12 (see Chapter 2), confirming thus our initial design.

The other half of the competences could be considered as relevant for entrepreneurship in general, as in the case of employee entrepreneurship, for example.

- "Understanding of market dynamics in a particular field" (Item 2);
- "Capacity to evaluate external environment" (Item 5);
- "Capacity to understand customer's needs" (Item 6);
- "Capacity to establish productive relationships" (Item 8);
- "Ability to gain social capital – professional networking" (Item 11);
- "Social skills for professional activity in multicultural environments" (Item 13);
- "Business ethics" (Item 14).

From this category, only item 2 can be found in Factor 2 of the same factor analysis, the other 6 being incorporated in Factor 1 – entrepreneurial competences needed for daily activities.

One of the purposes of our statistical analysis was to see which of these two categories are considered by the respondents as being more important and which as better achieved during the practical placement.

For the three groups considered together, the most important entrepreneurial competences acquired during the practical placement are: "Capacity to understand customers' needs" (Item 6)—rank 1; "Capacity to establish productive relationships" (Item 8)—rank 2; "Capacity to make decisions under conditions of uncertainty" (Item 7) and "Ability to gain social capital – professional networking" (Item 11)—rank 3.5. The

group of academics and the group of employers indicated the “Capacity to understand customers' needs” (Item 6) as the most important entrepreneurial competence, while the students and graduates indicated the “Capacity to establish productive relationships” (Item 8).

Only two of the competences considered as relevant for the independent entrepreneurship are rated as most important by the respondents: the “Capacity to make decisions under conditions of uncertainty” (Item 7), identified in the top 3 by the academics and by the three groups together, and the “Capacity to identify possible opportunities for developing new products, markets, or business models” (Item 3), identified in the top 3 by the students and graduates.

For the academics the less important competences are: “Social skills for professional activity in multicultural environments” (Item 13)—rank 12; “Skills to make deals” (Item 10)—rank 13; “Competences to manage small enterprises or individual businesses” (Item 1)—rank 14.

For the employers the less important competences are: “Effective personal entrepreneurship behavior” (Item 12)—rank 12; “Capacity to make decisions under conditions of uncertainty” (Item 7)—rank 13; “Competences to manage small enterprises or individual businesses” (Item 1)—rank 14.

For the graduates and students the less important competences are: “Effective personal entrepreneurship behavior” (Item 12)—rank 12; “Competences to manage small enterprises or individual businesses” (Item 1)—rank 13; “Business ethics” (Item 14)—rank 14.

A surprising finding is that very specific entrepreneurial competences are rated by the respondents at the bottom of the ranking, as being the least important: “Competences to manage small enterprises or individual businesses” (Item 1)—rank 14 in the general ranking and in the rankings of academics and employers; “Effective personal entrepreneurship behavior” (Item 12)—identified among the three least important competences by the employers, by the students and graduates and by the general ranking of the three groups altogether. Other competences from the same category are also rated at the bottom of the hierarchy (see the tables in Appendix 2.5 for more details). It seems that for the practical placement the independent entrepreneurship is not an important objective, while employee entrepreneurship is.

The Achievement of Entrepreneurial Competences

The average level of achievement for the same competences was rated between 3.18 for the first rank in the students and graduates group and

2.40 for the last rank in the same group. The group of employers rated lower than the students and graduates the level of achievement of the most important competence (3.03). The group of academics rated the best achieved competence under the level of "Considerable", with a value of 2.85. For all the 14 competences on the list, the average level of achievement was scored lower that the level of importance. The differences are highly significant ($p < .001$) and the size effect of the differences is above 0.50. This means that the competences are considered significantly less achieved than their importance.

Considering the results of the ratings for the level of achievement of the entrepreneurial competences, we were interested in finding if the competences relevant for individual entrepreneurship are at the top of the ranking or at the bottom of it. As shown below, none of the competences identified as relevant in this respect are placed in the top 3 of the rankings.

For the three groups considered together, the best achieved entrepreneurial competences during the practical placement are the following: "Capacity to establish productive relationships" (Item 8)—rank 1; "Capacity to understand customers' needs" (Item 6)—rank 2; "Ability to gain social capital – professional networking" (Item 11)—rank 3. These competences are important not only for successful independent entrepreneurship, but also for employee entrepreneurship and for employability. However, the opinions of the three groups concerning the best achieved competences differ when considering the rankings for each group separately.

For the academics, the best achieved entrepreneurial competences are: "Capacity to establish productive relationships" (Item 8)—rank 1; "Capacity to understand customer's needs" (Item 6)—rank 2; "Ability to gain social capital – professional networking" (Item 11)—rank 3.

The employers have rather different ratings for the best achieved competences: "Capacity to understand customers' needs" (Item 6)—rank 1; "Business ethics" (Item 14)—rank 2; "Social skills for professional activity in multicultural environments" (Item 13)—rank 3.

The students and graduates have also different opinions on the competences rated as best achieved: "Capacity to establish productive relationships" (Item 8)—rank 1; "Social skills for professional activity in multicultural environments" (Item 13)—rank 2; "Capacity to understand customers' needs" (Item 6)—rank 3. For more details on the rankings see the tables in Appendix 2.6.

The same as for the level of importance, very specific entrepreneurial competences are rated by the three groups as being the least achieved:

"Skills to make deals" (Item 10)—rank 12; "Skills to develop new business ideas" (Item 9)—rank 13; "Competences to manage small enterprises or individual businesses" (Item 1)—rank 14! Considering the ranking of each group, the Items 1 ("Competences to manage small enterprises or individual businesses"), 9 ("Skills to develop new business ideas"), and 10 ("Skills to make deals") are placed in the last three ranks for at least two of the groups (see below).

For the academics the least achieved competences are: "Skills to make deals" (Item 10)—rank 12; "Competences to manage small enterprises or individual businesses" (Item 1)—rank 13; "Skills to develop new business ideas" (Item 9)—rank 14.

For the employers the least achieved competences are: "Capacity to make decisions under conditions of uncertainty" (Item 7)—rank 12; "Competences to manage small enterprises or individual businesses" (Item 1)—rank 13; "Skills to make deals" (Item 10)—rank 14.

For the students and graduates the least achieved competences are: "Effective personal entrepreneurship behavior" (Item 12)—rank 12; "Skills to develop new business ideas" (Item 9)—rank 13; "Competences to manage small enterprises or individual businesses" (Item 1)—rank 14.

The competences considered as relevant for general entrepreneurship are identified as being the best achieved during the practical placement by all the three groups and by each group separately, which means that the competences the students learn in enterprises are related mostly to well functioning within the organizational context than to initiating independent entrepreneurship after graduation. Competences which ensure the opening of an independent business, such as "Skills to develop new business ideas" (Item 9) and "Competences to manage small enterprises or individual businesses" (Item 1), are not developed during the practical placement.

As in the previous researches (Luca, 2007a; Luca, 2007b), the analysis of the ratings shows that there is a significant discrepancy between the level of importance of the evaluated competences and their actual level of achievement during the practical placement. All three groups of respondents agree that there is still much to be done in order to improve the formative value of the practical placement in this respect.

University-Enterprise Partnership for Developing Entrepreneurial Competences

The questions addressed in the second part of the questionnaire required open answers from the respondents and were grouped into four main

topics: hosting companies as places where students acquire specific competences that increase their employability and entrepreneurship; ways of developing entrepreneurial competences during and by means of practical placement; changes needed in the curricula and in the practical placement policies of the universities in order to develop the entrepreneurial competences; the role of enterprises or companies in supporting these changes.

The respondents from all three groups expressed positive opinions concerning the role of practical placement in developing new skills and competences. At the first open question (Question 17) the respondents answered that the universities are interested in promoting entrepreneurship by dedicated study programs and by practical placement. The hosting companies also promote an entrepreneurial culture, and from this point of view, there are many differences from company to company, depending on the size, the field of activity and the company philosophy. However, some of the features indicated by the respondents as belonging to the entrepreneurial culture are rather measures to improve performance, organizational climate, work satisfaction and the well being of employees. The organizational culture is transmitted to employees and students in practical placement by means of formal and informal training and by other means, such as reinforcement of appropriate behaviors.

The hosting companies encourage the innovative attitudes and behaviors of the employees by means of formal internal procedures and by means of incentive systems (Question 18). In some cases, students in internship are encouraged most of the time to express their new ideas, even if these ideas are not feasible. The process of submitting a new idea is a formative one, even if the finality is not always reached. The students could also be involved in company projects, beside the employees, and they could thus learn directly from the process, becoming more self-confident about being creative.

Nowadays, fostering innovation is vital for the companies and universities faced with the rapid changes. The only way of maintaining their position is by being continually competitive, and in this respect, the employees' entrepreneurship is vital (Question 19). Employees are encouraged to look for new ideas and internal procedures are established to assess and implement the valuable ones. In some companies, a system of innovation, research, and development projects, encouraging patent creation for new products, contributes to the progress of the company. In this context, the students in internship learn entrepreneurship as they can, by participating to the work process. However, in some cases the organizations hosting practical placement, mainly those in the

administration area, are not necessarily innovation oriented and the interns are not stimulated to become entrepreneurial.

Some respondents stated that the enterprises are not necessarily interested in increasing the employees' entrepreneurship because, even though it may be necessary, too much of these competences could lead to situations when entrepreneurial employees leave the company to start their own business.

The answers to Question 20 about the means used by the companies and enterprises in order to develop the entrepreneurial competences of the students in practical placement followed three main directions: explicit development; implicit development of these competences; absence of any measures for development of entrepreneurship. The first line of action is rather rare, because enterprises don't have the necessary time or resources so as to explicitly train entrepreneurship to interns, this being mainly the mission of the university. However, openly motivating interns to innovate and to participate in the company's processes is one way.

Most of the respondents give information about implicit ways of training practice-oriented competences: dissertation projects made in enterprises; specific assignments during the internship; working in joint university-enterprise projects; replacing absent employees; being hired for at least 6 months (in some countries); rotating students on different jobs during the internship; periodical presentations of the progress of the dissertation to the employees. However, all these ways are rather meant to develop competences and skills that increase employability and quick adaptation to a new job, than to develop entrepreneurship.

Despite the good intentions of hosting companies, complex entrepreneurial competences seem lost somewhere in the process of practical placement training. Students have more opportunities to learn entrepreneurship in small enterprises than in large ones, but practical placement occurs mainly in the latter, so what should be done?

Besides the declared mission of contributing to the preparedness of students for the world of work, enterprises have some interest in hosting practical placement, which justifies their willingness to allocate resources for the organization of the process and for the tutoring of students in practical placement. This interest is related to finding the right person for their competence profile needs in a secured context ensured by the practical placement system.

Most of the companies and enterprises chosen by the universities for practical placement are large- and medium-sized enterprises because they are affluent enough to afford the effort to organize practical placement and to supervise interns. The priorities of such enterprises are to increase

the employability of the students in practical placement so that they can choose the right candidates for their needs or for future jobs, and not to necessarily to increase their entrepreneurship. Despite the fact that developing entrepreneurial competences could lead to the benefit of another company or individual, some employers consider that the enterprises, nevertheless, do this beyond their immediate interest.

Teaching entrepreneurship to interns has some difficulties related to the length of the practical placement (always too short, according to the hosting companies and enterprises), and to inherent privacy policies that are vital for companies in a competitive environment. Sometimes entrepreneurship is simply not the hosting company's profile. Other times, companies have to consider their priorities. Their main goal is to find among the interns the appropriate candidate for their job, to achieve a good person-organization fit. "Hard skills" (i.e., technical competences) are not enough; companies are interested in identifying the "soft skills" of a potential candidate for the jobs they are offering.

Not all the university graduates are destined to be hired by the business environment. Some of them are future employees of government institutions or of NGOs. Do they also need entrepreneurial competences? According to the economic and psychological models of entrepreneurship, they do. Entrepreneurship is about being proactive, creative, dynamic, even if you are a simple employee, and this is important for all the sectors of activity.

APPENDICES

Appendices 1

QUESTIONNAIRES USED

A 1.1. Questionnaires on entrepreneurial competences for Academics

A 1.2. Questionnaires on entrepreneurial competences for Employers

A 1.3. Questionnaires on entrepreneurial competences for Graduates and Students

A 1.4. Acronyms of the respondents' countries

Appendix 1.1

QUESTIONNAIRE ON ENTREPRENEURSHIP COMPETENCES TRAINED VIA PRACTICAL PLACEMENT

For academics

Thank you for accepting to participate in our research on the entrepreneurial skills acquired during practical placement. Your opinion as an expert in the academic field is valuable to us in order to have a comprehensive image of what is done and what should be changed in the future in this respect.
This questionnaire presents a series of questions related to the entrepreneurial skills and competences that result from the practical placement of the students.
For the scaled items from 1 to 16, please select the appropriate / best option in your judgment, using the following scale:
1 = none; 2 = weak; 3 = considerable; 4 = strong.
For the open questions from 17 to 23 please answer as you consider appropriate. The more information you give us, the more you help us.
Please answer all the questions.
THE CONFIDENTIALITY OF YOUR ANSWERS IS GUARANTEED.

Skills and competences	**Importance** None-1; Weak-2; Considerable-3; Strong-4	**Level to which developed by practical placement** None-1; Weak-2; Considerable-3; Strong-4
1. Competences to manage small enterprises or individual businesses		
2. Understanding of market dynamics in a particular field		
3. Capacity to identify possible opportunities for developing new products, markets, or business models		
4. Capacity to evaluate perspectives for new ideas		
5. Capacity to evaluate external environment		
6. Capacity to understand customers needs		
7. Capacity to make decisions under conditions of uncertainty		
8. Capacity to establish productive relationships		
9. Skills to develop new business ideas		
10. Skills to make deals		
11. Ability to gain social capital (professional networking)		
12. Effective personal entrepreneurship behavior		
13. Social skills for professional activity in multicultural environments		
14. Business ethics		
15. Other – specify…… (feel free to add new competences)		
16. Other – specify……. (feel free to add new competences)		

17. Do the hosting companies/ enterprises promote an entrepreneurial culture?
    a) Yes b) No
    If "yes", please explain how

18. Do the hosting companies/ enterprises encourage employees to try new ideas?
    a) Yes b) No
    If "yes", please explain how

19. Do the hosting companies/ enterprises foster and sustain innovation?
    a) Yes b) No
    If "yes", please explain how

20. Please describe the way the company ensures the development of entrepreneurial competences and skills for the students in practical placement:

21. What are the changes you consider necessary the universities operate in their curricula in order to increase the graduates' employability?

22. What are the changes you consider necessary the universities operate in their practical placement policies in order to increase the graduates' employability?

23. Which could be the role of the companies/ enterprises in the development of the entrepreneurial competences of students?

Demographics

Country _____
Name of university _____
Field _____ (please specify the area relevant to the enterprise sector you are referring)
Position of the person answering _____
Relation with the practical placement _____

Thank you for filling in the questionnaire!

Appendix 1.2

QUESTIONNAIRE ON ENTREPRENEURSHIP COMPETENCES TRAINED VIA PRACTICAL PLACEMENT

For employers

Thank you for accepting to participate in our research on the entrepreneurial skills acquired during practical placement. Your opinion as the one that is in direct contact with potentials employees is valuable to us in order to have a comprehensive image of what is done and what should be improved in the future in this respect.
This questionnaire presents a series of questions related to the entrepreneurial skills and competences that result from the practical placement of the students.
For the scaled items from 1 to 16, please select the appropriate / best option in your judgment, using the following scale:

1 = none; 2 = weak; 3 = considerable; 4 = strong.

For the open questions from 17 to 23 please answer as you consider appropriate. The more information you give us, the more you help us.
Please answer all the questions.
THE CONFIDENTIALITY OF YOUR ANSWERS IS GUARANTEED.

Skills and competences	**Importance** None-1; Weak-2; Considerable-3; Strong-4	**Level to which developed by practical placement** None-1; Weak-2; Considerable-3; Strong-4
1. Competences to manage small enterprises or individual businesses		
2. Understanding of market dynamics in a particular field		
3. Capacity to identify possible opportunities for developing new products, markets, or business models		
4. Capacity to evaluate perspectives for new ideas		
5. Capacity to evaluate external environment		
6. Capacity to understand customers needs		
7. Capacity to make decisions under conditions of uncertainty		
8. Capacity to establish productive relationships		
9. Skills to develop new business ideas		
10. Skills to make deals		
11. Ability to gain social capital (professional networking)		
12. Effective personal entrepreneurship behavior		
13. Social skills for professional activity in multicultural environments		
14. Business ethics		
15. Other – specify…. …… (feel free to add new competences)		
16. Other – specify……. (feel free to add new competences)		

17. Does your company/ enterprise promote an entrepreneurial culture?
    a) Yes b) No
    If "yes", please explain how

18. Does your company/ enterprise encourage employees to try new ideas?
    a) Yes b) No
    If "yes", please explain how

19. Does your company/ enterprise foster and sustain innovation?
    a) Yes b) No
    If "yes", please explain how

20. Please describe the way the company ensures the development of entrepreneurial competences and skills for the students in practical placement:

21. What are the changes you consider necessary the universities operate in their curricula in order to increase the graduates' employability?

22. What are the changes you consider necessary the universities operate in their practical placement policies in order to increase the graduates' employability?

23. Which could be the role of the companies/ enterprises in the development of the entrepreneurial competences of students?

Demographics

Country _____
Name of organization/ institution hosting practical placement _____
Field _____ (include here the company's field of operations)
Position of the person answering _____
Relation with the practical placement _____
Number of employees _____

Thank you for filling in the questionnaire!

Appendix 1.3

QUESTIONNAIRE ON ENTREPRENEURSHIP COMPETENCES TRAINED VIA PRACTICAL PLACEMENT

For students and graduates

Thank you for accepting to participate in our research on the entrepreneurial skills acquired during practical placement. Your opinion is valuable to us in order to have a comprehensive image of what is done and what should be improved in the future in this respect.
This questionnaire presents a series of questions related to the entrepreneurial skills and competences that result from the practical placement of the students.
For the scaled items from 1 to 16, please select the appropriate / best option in your judgment, using the following scale:

1 = none; 2 = weak; 3 = considerable; 4 = strong.

For the open questions from 17 to 23 please answer as you consider appropriate. The more information you give us, the more you help us.
Please answer all the questions.
THE CONFIDENTIALITY OF YOUR ANSWERS IS GUARANTEED.

Skills and competences	**Importance** None-1; Weak-2; Considerable-3; Strong-4	**Level to which developed by practical placement** None-1; Weak-2; Considerable-3; Strong-4
1. Competences to manage small enterprises or individual businesses		
2. Understanding of market dynamics in a particular field		
3. Capacity to identify possible opportunities for developing new products, markets, or business models		
4. Capacity to evaluate perspectives for new ideas		
5. Capacity to evaluate external environment		
6. Capacity to understand customers needs		
7. Capacity to make decisions under conditions of uncertainty		
8. Capacity to establish productive relationships		
9. Skills to develop new business ideas		
10. Skills to make deals		
11. Ability to gain social capital (professional networking)		
12. Effective personal entrepreneurship behavior		
13. Social skills for professional activity in multicultural environments		
14. Business ethics		
15. Other – specify…….…… (feel free to add new competences)		
16. Other – specify…….. (feel free to add new competences)		

17. Do the hosting companies/ enterprises promote an entrepreneurial culture? (mark with X the appropriate answer)
    a) Yes b) No
    If "yes", please explain how

18. Do the hosting companies/ enterprises encourage employees to try new ideas?
    a) Yes b) No
    If "yes", please explain how

19. Do the hosting companies/ enterprises foster and sustain innovation?
    a) Yes b) No
    If "yes", please explain how

20. Please describe the way the company ensures the development of entrepreneurial competences and skills for the students in practical placement:

21. What are the changes you consider necessary the universities operate in their curricula in order to increase the graduates' employability?

22. What are the changes you consider necessary the universities operate in their practical placement policies in order to increase the graduates' employability?

23. Which could be the role of the companies/ enterprises in the development of the entrepreneurial competences of students?

Demographics

Country _____
Name of organization/ institution _____
Field _____ (please specify the area relevant to the enterprise sector you are referring)
Age (in years) of the person answering_____ Gender: Male ___ Female___
Year of study (if you are a student) _____
Year of your graduation _____ Title of your present degree: _____ (B – bachelor; M – master; D – doctor) in _____ (field)
Present employment situation (if suitable, please mark the appropriate answer with *X*):
____ working in a position related with your degree
____ working in a position not related with your degree
____ further study
____ looking for your first job
____ unemployed, but have previously been employed
____ neither employed nor looking for employment
____ other (please specify) _____

Thank you for filling in the questionnaire!

Appendix 1.4

Acronyms of the respondents' countries

AT	Austria
BE	Belgium
CZ	Czech Republic
CY	Cyprus
DE	Deutschland
DK	Denmark
EE	Estonia
ES	España
GR	Greece
HU	Hungary
IT	Italy
LT	Lithuania
MT	Malta
NL	Nederlands
PL	Polonia
PT	Portugal
RO	Romania
SK	Slovakia
TR	Turkey

Appendices 2

STATISTICS FOR ENTREPRENEURIAL COMPETENCES

A 2.1. Reliability analysis of the Level of importance scale

A 2.2. Reliability analysis of the Level of achievement scale

A 2.3. Factor analysis of the Level of importance scale

A 2.4. Factor analysis of the Level of achievement scale

A 2.5. Ranking the level of importance of entrepreneurial competencies

A 2.6. Ranking the level of achievement of entrepreneurial competencies

A 2.7. ANOVA analysis – for the significance of inter-group differences for the level of achievement of entrepreneurial competencies

A 2.8. Entrepreneurial competences – differences between the levels of importance and achievement according to academics, employers, and students/ graduates

Appendix 2.1.

Reliability analysis of the Level of importance scale of entrepreneurial competencies

Level of importance Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
CI1	42.7637	38.2809	.5386	.4520	.8771
CI2	42.6209	38.7008	.5896	.3888	.8742
CI3	42.5549	39.3202	.5478	.3766	.8762
CI4	42.5220	38.4719	.6175	.4885	.8729
CI5	42.6813	38.9697	.5882	.4085	.8744
CI6	42.3846	38.8347	.5952	.4336	.8740
CI7	42.5000	39.9530	.5105	.3028	.8779
CI8	42.4121	39.6359	.5456	.3429	.8764
CI9	42.6429	38.2198	.5857	.4418	.8744
CI10	42.6703	37.7692	.6369	.4897	.8718
CI11	42.5055	39.7652	.4928	.3520	.8787
CI12	42.7253	38.6092	.5729	.3657	.8750
CI13	42.6099	39.5763	.5062	.3681	.8781
CI14	42.6209	39.7174	.4587	.3226	.8805

Reliability Coefficients 14 items

Alpha = .8837 Standardized item alpha = .8841

R E L I A B I L I T Y A N A L Y S I S - S C A L E (S P L I T)

Correlation between forms = .7615 Equal-length Spearman-Brown = .8646

Guttman Split-half = .8646 Unequal-length Spearman-Brown = .8646

Alpha for part 1 = .8093 Alpha for part 2 = .7863

7 items in part 1 7 items in part 2

Appendix 2.2.

Reliability analysis of the level of achievement scale of entrepreneurial competencies

Level of achievement item-total statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
CA1	35.6222	53.6665	.6217	.4579	.8970
CA2	35.3278	53.4283	.6412	.4801	.8962
CA3	35.3667	53.8872	.5993	.4244	.8979
CA4	35.2889	53.6591	.6150	.4321	.8973
CA5	35.3611	55.0029	.5715	.3547	.8990
CA6	35.1611	55.7002	.5382	.3911	.9002
CA7	35.3667	53.9207	.6074	.4194	.8976
CA8	35.0778	55.1001	.5670	.4008	.8992
CA9	35.5333	52.5296	.6942	.5571	.8939
CA10	35.5278	52.2283	.7025	.5507	.8935
CA11	35.2167	54.0366	.5998	.4346	.8979
CA12	35.5056	54.7653	.5780	.4368	.8988
CA13	35.2667	54.2302	.5783	.4453	.8988
CA14	35.2444	54.7109	.5106	.3606	.9017

Reliability Coefficients 14 items

Alpha = .9044 Standardized item alpha = .9042

R E L I A B I L I T Y A N A L Y S I S - S C A L E (S P L I T)

N of Cases = 180.0 N of Items = 14

Correlation between forms = .7966 Equal-length Spearman-Brown = .8868

Guttman Split-half = .8866 Unequal-length Spearman-Brown = .8868

7 Items in part 1 7 Items in part 2

Alpha for part 1 = .8292 Alpha for part 2 = .8327

Appendix 2.3.

Factor analysis of the level of importance scale of entrepreneurial competencies

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.612	40.085	40.085	5.612	40.085	40.085	3.446	24.615	24.615
2	1.215	8.676	48.761	1.215	8.676	48.761	3.380	24.146	48.761
3	.963	6.879	55.640						
4	.870	6.217	61.858						
5	.787	5.619	67.476						
6	.721	5.151	72.627						
7	.652	4.656	77.283						
8	.605	4.322	81.605						
9	.547	3.906	85.511						
10	.479	3.422	88.933						
11	.421	3.009	91.942						
12	.418	2.986	94.928						
13	.373	2.661	97.589						
14	.338	2.411	100.000						

Extraction Method: Principal Component Analysis.

Rotated Component Matrix

	Component	
	1	2
CI1	5.836E-02	.821
CI2	.443	.496
CI3	.197	.685
CI4	.313	.670
CI5	.631	.308
CI6	.623	.321
CI7	.440	.389
CI8	.544	.334
CI9	.209	.732
CI10	.442	.557
CI11	.608	.190
CI12	.486	.427
CI13	.693	.127
CI14	.714	4.128E-

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a Rotation converged in 3 iterations.

	Component	
	1	2
		02

Appendix 2.4.

Factor analysis of the level of achievement scale of entrepreneurial competencies

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.265	44.750	44.750	6.265	44.750	44.750
2	.995	7.110	51.861			
3	.942	6.727	58.587			
4	.774	5.527	64.115			
5	.765	5.467	69.582			
6	.705	5.033	74.615			
7	.621	4.437	79.052			
8	.542	3.872	82.924			
9	.505	3.609	86.533			
10	.443	3.168	89.701			
11	.429	3.061	92.762			
12	.384	2.741	95.503			
13	.332	2.369	97.872			
14	.298	2.128	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix	**Component**
	1
CL1	.690
CL2	.703
CL3	.667
CL4	.681
CL5	.639
CL6	.603
CL7	.676
CL8	.633
CL9	.755
CL10	.763
CL11	.665
CL12	.645
CL13	.643
CL14	.577

Extraction Method: Principal Component Analysis.
a 1 components extracted.

Appendix 2.5.

Ranking level of importance of entrepreneurial competencies

Tab. 2.5.1. The ranking of the importance of entrepreneurial competencies made by academics, employers, and students/ graduates together – in decreasing order of means

Item	N	Minim	Maxim	Mean	Std.dev.	Rank
CI6	182	1	4	3.48	.73	**1**
CI8	182	1	4	3.45	.69	**2**
CI7	182	1	4	3.36	.68	**3.5**
CI11	182	1	4	3.36	.73	**3.5**
CI4	182	1	4	3.34	.75	**5**
CI3	182	1	4	3.31	.72	**6**
CI13	182	1	4	3.25	.74	**7**
CI14	182	1	4	3.24	.78	**8.5**
CI2	182	1	4	3.24	.76	**8.5**
CI9	182	1	4	3.22	.82	**10**
CI10	182	1	4	3.19	.82	**11**
CI5	182	1	4	3.18	.72	**12**
CI12	182	1	4	3.14	.79	**13**
CI1	182	1	4	3.10	.87	**14**

Tab. 2.5.2. The ranking of the importance of entrepreneurial competencies made by academics, employers, and students/ graduates together – in order of item list

Item	N	Minim	Maxim	Mean	Std.dev.	Rank
CI1	182	1	4	3.10	.87	**14**
CI2	182	1	4	3.24	.76	**8.5**
CI3	182	1	4	3.31	.72	**6**
CI4	182	1	4	3.34	.75	**5**
CI5	182	1	4	3.18	.72	**12**
CI6	182	1	4	3.48	.73	**1**
CI7	182	1	4	3.36	.68	**3.5**
CI8	182	1	4	3.45	.69	**2**
CI9	182	1	4	3.22	.82	**10**
CI10	182	1	4	3.19	.82	**11**
CI11	182	1	4	3.36	.73	**3.5**
CI12	182	1	4	3.14	.79	**13**
CI13	182	1	4	3.25	.74	**7**
CI14	182	1	4	3.24	.78	**8.5**

Tab. 2.5.3. The ranking of the importance of entrepreneurial competencies made by academics – in decreasing order of means

Item	N	Minim	Maxim	Mean	Std.dev.	Rank
CI6	68	1	4	3.53	.72	**1**
CI7	68	1	4	3.46	.63	**2**
CI8	68	2	4	3.41	.70	**3**
CI14	68	1	4	3.38	.67	**4**
CI4	68	1	4	3.29	.77	**5**
CI11	68	1	4	3.28	.73	**6**
CI5	68	2	4	3.26	.68	**7**
CI3	68	2	4	3.22	.67	**8.5**
CI9	68	2	4	3.22	.75	**8.5**
CI2	68	1	4	3.18	.69	**10**
CI12	68	2	4	3.16	.70	**11**
CI13	68	1	4	3.15	.72	**12.5**
CI10	68	1	4	3.15	.82	**12.5**
CI1	68	1	4	3.11	.86	**14**

Tab. 2.5.4. The ranking of the importance of entrepreneurial competencies made by academics – in order of item list

Item	N	Minim	Maxim	Mean	Std.dev.	Rank
CI1	68	1	4	3.11	.86	**14**
CI2	68	1	4	3.18	.69	**10**
CI3	68	2	4	3.22	.67	**8.5**
CI4	68	1	4	3.29	.77	**5**
CI5	68	2	4	3.26	.68	**7**
CI6	68	1	4	3.53	.72	**1**
CI7	68	1	4	3.46	.63	**2**
CI8	68	2	4	3.41	.70	**3**
CI9	68	2	4	3.22	.75	**8.5**
CI10	68	1	4	3.15	.82	**12.5**
CI11	68	1	4	3.28	.73	**6**
CI12	68	2	4	3.16	.70	**11**
CI13	68	1	4	3.15	.72	**12.5**
CI14	68	1	4	3.38	.67	**4**

Tab. 2.5.5. The ranking of the importance of entrepreneurial competencies made by employers – in decreasing order of means

Item	N	Minim	Maxim	Mean	Std.dev.	Rank
CI6	35	2	4	3.63	.55	**1**
CI2	35	2	4	3.51	.56	**2**
CI4	35	2	4	3.49	.56	**3**
CI8	35	2	4	3.46	.61	**4.5**
CI14	35	2	4	3.46	.74	**4.5**
CI11	35	2	4	3.43	.61	**6**
CI13	35	2	4	3.37	.69	**7**
CI9	35	2	4	3.34	.73	**8**
CI10	35	1	4	3.31	.80	**9**
CI3	35	2	4	3.26	.70	**10**
CI5	35	1	4	3.20	.68	**11.5**
CI12	35	1	4	3.20	.69	**11.5**
CI7	35	1	4	3.14	.69	**13**
CI1	35	1	4	3.09	.82	**14**

Tab. 2.5.6. The ranking of the importance of entrepreneurial competencies made by employers – in order of item list

Item	N	Minim	Maxim	Mean	Std.dev.	Rank
CI1	35	1	4	3.09	.82	**14**
CI2	35	2	4	3.51	.56	**2**
CI3	35	2	4	3.26	.70	**10**
CI4	35	2	4	3.49	.56	**3**
CI5	35	1	4	3.20	.68	**11.5**
CI6	35	2	4	3.63	.55	**1**
CI7	35	1	4	3.14	.69	**13**
CI8	35	2	4	3.46	.61	**4.5**
CI9	35	2	4	3.34	.73	**8**
CI10	35	1	4	3.31	.80	**9**
CI11	35	2	4	3.43	.61	**6**
CI12	35	1	4	3.20	.69	**11.5**
CI13	35	2	4	3.37	.69	**7**
CI14	35	2	4	3.46	.74	**4.5**

Tab. 2.5.7. The ranking of the importance of entrepreneurial competencies made by students/ graduates – in decreasing order of means

Item	N	Minim	Maxim	Mean	Std.dev.	Rank
CI8	79	1	4	3.48	.71	**1**
CI3	79	1	4	3.41	.78	**2**
CI11	79	1	4	3.39	.77	**3**
CI7	79	1	4	3.38	.70	**4**
CI6	79	1	4	3.37	.80	**5**
CI4	79	1	4	3.32	.81	**6**
CI13	79	1	4	3.29	.77	**7**
CI2	79	1	4	3.18	.86	**8.5**
CI10	79	1	4	3.18	.83	**8.5**
CI9	79	1	4	3.16	.91	**10**
CI5	79	1	4	3.10	.78	**11**
CI12	79	1	4	3.09	.88	**12**
CI1	79	1	4	3.08	.90	**13**
CI14	79	1	4	3.03	.83	**14**

Tab. 2.5.8. The ranking of the importance of entrepreneurial competencies made by students/ graduates – in order of item list

Item	N	Minim	Maxim	Mean	Std.dev.	Rank
CI1	79	1	4	3.08	.90	**13**
CI2	79	1	4	3.18	.86	**8.5**
CI3	79	1	4	3.41	.78	**2**
CI4	79	1	4	3.32	.81	**6**
CI5	79	1	4	3.10	.78	**11**
CI6	79	1	4	3.37	.80	**5**
CI7	79	1	4	3.38	.70	**4**
CI8	79	1	4	3.48	.71	**1**
CI9	79	1	4	3.16	.91	**10**
CI10	79	1	4	3.18	.83	**8.5**
CI11	79	1	4	3.39	.77	**3**
CI12	79	1	4	3.09	.88	**12**
CI13	79	1	4	3.29	.77	**7**
CI14	79	1	4	3.03	.83	**14**

Appendix 2.6.

Ranking level of achievement of entrepreneurial competencies

Tab. 2.6.1. The ranking of the achievement of entrepreneurial competencies made by academics, employers, and students/ graduates together – in decreasing order of means

Item	N	Minim	Maxim	Mean	Std.dev.	Rank
CA8	180	1	4	2.99	.78	**1**
CA6	180	1	4	2.91	.75	**2**
CA11	180	1	4	2.85	.85	**3**
CA14	180	1	4	2.82	.89	**4**
CA13	180	1	4	2.80	.85	**5**
CA4	180	1	4	2.78	.87	**6**
CA2	180	1	4	2.74	.86	**7**
CA5	180	1	4	2.71	.78	**8**
CA3	180	1	4	2.70	.86	**9.5**
CA7	180	1	4	2.70	.85	**9.5**
CA12	180	1	4	2.56	.80	**11**
CA10	180	1	4	2.54	.91	**12**
CA9	180	1	4	2.53	.89	**13**
CA1	180	1	4	2.44	.86	**14**

Tab. 2.6.2. The ranking of the importance of entrepreneurial competencies made by academics, employers, and students/ graduates together – in order of item list

Item	N	Minim	Maxim	Mean	Std.dev.	Rank
CA1	180	1	4	2.44	.86	**14**
CA2	180	1	4	2.74	.86	**7**
CA3	180	1	4	2.70	.86	**9.5**
CA4	180	1	4	2.78	.87	**6**
CA5	180	1	4	2.71	.78	**8**
CA6	180	1	4	2.91	.75	**2**
CA7	180	1	4	2.70	.85	**9.5**
CA8	180	1	4	2.99	.78	**1**
CA9	180	1	4	2.53	.89	**13**
CA10	180	1	4	2.54	.91	**12**
CA11	180	1	4	2.85	.85	**3**
CA12	180	1	4	2.56	.80	**11**
CA13	180	1	4	2.80	.85	**5**
CA14	180	1	4	2.82	.89	**4**

Tab. 2.6.3. The ranking of the achievement of entrepreneurial competencies made by academics – in decreasing order of means

Item	N	Minim	Maxim	Mean	Std.dev.	Rank
CA8	67	1	4	2.85	.82	**1**
CA6	67	1	4	2.81	.78	**2**
CA11	67	1	4	2.76	.80	**3**
CA2	67	1	4	2.70	.80	**5.5**
CA3	67	1	4	2.70	.85	**5.5**
CA5	67	1	4	2.70	.76	**5.5**
CA14	67	1	4	2.70	.90	**5.5**
CA4	67	1	4	2.67	.93	**8**
CA7	67	1	4	2.54	.86	**9**
CA13	67	1	4	2.52	.75	**10**
CA12	67	1	4	2.46	.80	**11.5**
CA10	67	1	4	2.46	.88	**11.5**
CA1	67	1	4	2.45	.82	**13**
CA9	67	1	4	2.42	.91	**14**

Tab. 2.6.4. The ranking of the importance of entrepreneurial competencies made by academics – in order of item list

Item	N	Minim	Maxim	Mean	Std.dev.	Rank
CA1	67	1	4	2.45	.82	**13**
CA2	67	1	4	2.70	.80	**5.5**
CA3	67	1	4	2.70	.85	**5.5**
CA4	67	1	4	2.67	.93	**8**
CA5	67	1	4	2.70	.76	**5.5**
CA6	67	1	4	2.81	.78	**2**
CA7	67	1	4	2.54	.86	**9**
CA8	67	1	4	2.85	.82	**1**
CA9	67	1	4	2.42	.91	**14**
CA10	67	1	4	2.46	.88	**11.5**
CA11	67	1	4	2.76	.80	**3**
CA12	67	1	4	2.46	.80	**11.5**
CA13	67	1	4	2.52	.75	**10**
CA14	67	1	4	2.70	.90	**5.5**

Tab. 2.6.5. The ranking of the achievement of entrepreneurial competencies made by employers – in decreasing order of means

Item	N	Minim	Maxim	Mean	Std.dev.	Rank
CA6	35	1	4	3.03	.71	**1**
CA14	35	1	4	3.00	.87	**2**
CA13	35	1	4	2.91	.82	**3**
CA11	35	1	4	2.89	.80	**4**
CA4	35	1	4	2.80	.72	**5.5**
CA8	35	1	4	2.80	.84	**5.5**
CA2	35	1	4	2.77	.88	**7**
CA5	35	1	4	2.69	.83	**8**
CA9	35	1	4	2.63	.84	**9**
CA3	35	1	4	2.57	.78	**11**
CA12	35	1	4	2.57	.70	**11**
CA7	35	1	4	2.57	.85	**11**
CA1	35	1	4	2.54	1.01	**13**
CA10	35	1	4	2.43	.88	**14**

Tab. 2.6.6. The ranking of the importance of entrepreneurial competencies made by employers – in order of item list

Item	N	Minim	Maxim	Mean	Std.dev.	Rank
CA1	35	1	4	2.54	1.01	**13**
CA2	35	1	4	2.77	.88	**7**
CA3	35	1	4	2.57	.78	**11**
CA4	35	1	4	2.80	.72	**5.5**
CA5	35	1	4	2.69	.83	**8**
CA6	35	1	4	3.03	.71	**1**
CA7	35	1	4	2.57	.85	**11**
CA8	35	1	4	2.80	.84	**5.5**
CA9	35	1	4	2.63	.84	**9**
CA10	35	1	4	2.43	.88	**14**
CA11	35	1	4	2.89	.80	**4**
CA12	35	1	4	2.57	.70	**11**
CA13	35	1	4	2.91	.82	**3**
CA14	35	1	4	3.00	.87	**2**

Tab. 2.6.7. The ranking of the achievement of entrepreneurial competencies made by students/ graduates – in decreasing order of means

Item	N	Minim	Maxim	Mean	Std.dev.	Rank
CA8	78	1	4	3.19	.74	**1**
CA13	78	1	4	2.99	.86	**2**
CA6	78	1	4	2.94	.73	**3**
CA11	78	1	4	2.91	.91	**4**
CA7	78	1	4	2.90	.91	**5**
CA4	78	1	4	2.86	.88	**6**
CA14	78	1	4	2.85	.88	**7**
CA2	78	1	4	2.76	.91	**8.5**
CA3	78	1	4	2.76	.91	**8.5**
CA5	78	1	4	2.72	.79	**10**
CA10	78	1	4	2.65	.94	**11**
CA12	78	1	4	2.64	.84	**12**
CA9	78	1	4	2.59	.89	**13**
CA1	78	1	4	2.40	.83	**14**

Tab. 2.6.8. The ranking of the importance of entrepreneurial competencies made by students/ graduates – in order of item list

Item	N	Minim	Maxim	Mean	Std.dev.	Rank
CA1	78	1	4	2.40	.83	**14**
CA2	78	1	4	2.76	.91	**8.5**
CA3	78	1	4	2.76	.91	**8.5**
CA4	78	1	4	2.86	.88	**6**
CA5	78	1	4	2.72	.79	**10**
CA6	78	1	4	2.94	.73	**3**
CA7	78	1	4	2.90	.91	**5**
CA8	78	1	4	3.19	.74	**1**
CA9	78	1	4	2.59	.89	**13**
CA10	78	1	4	2.65	.94	**11**
CA11	78	1	4	2.91	.91	**4**
CA12	78	1	4	2.64	.84	**12**
CA13	78	1	4	2.99	.86	**2**
CA14	78	1	4	2.85	.88	**7**

Appendix 2.7.

ANOVA analysis – for the significance of inter-group differences for the level of achievement of entrepreneurial competencies

Tab. 2.7.1. ANOVA analysis – inter-group differences for the level of achievement of entrepreneurial competencies

		Sum of Squares	df	Mean Square	F	Sig.
CA14	Between Groups	2.127	2	1.064	1.343	.264
	Within Groups	140.184	177	.792		
	Total	142.311	179			
CA13	Between Groups	8.354	2	4.177	6.038	.003
	Within Groups	122.446	177	.692		
	Total	130.800	179			
CA12	Between Groups	1.151	2	.575	.900	.408
	Within Groups	113.177	177	.639		
	Total	114.328	179			
CA11	Between Groups	.856	2	.428	.592	.555
	Within Groups	128.094	177	.724		
	Total	128.950	179			
CA10	Between Groups	1.846	2	.923	1.127	.326
	Within Groups	144.882	177	.819		
	Total	146.728	179			
CA9	Between Groups	1.458	2	.729	.926	.398
	Within Groups	139.342	177	.787		
	Total	140.800	179			
CA8	Between Groups	5.755	2	2.877	4.982	.008
	Within Groups	102.223	177	.578		
	Total	107.978	179			
CA7	Between Groups	5.392	2	2.696	3.836	.023
	Within Groups	124.408	177	.703		
	Total	129.800	179			
CA6	Between Groups	1.266	2	.633	1.142	.322
	Within Groups	98.129	177	.554		
	Total	99.394	179			
CA5	Between Groups	2.686E-02	2	1.343E-02	.022	.978
	Within Groups	109.368	177	.618		
	Total	109.394	179			
CA4	Between Groups	1.286	2	.643	.851	.429
	Within Groups	133.825	177	.756		
	Total	135.111	179			
CA3	Between Groups	.827	2	.413	.550	.578
	Within Groups	132.973	177	.751		
	Total	133.800	179			
CA2	Between Groups	.155	2	7.735E-02	.103	.902
	Within Groups	132.573	177	.749		
	Total	132.728	179			
CA1	Between Groups	.512	2	.256	.344	.710
	Within Groups	131.932	177	.745		
	Total	132.444	179			

Tab. 2.7.2. Multiple Comparisons (Games-Howell) between groups for the level of achievement of entrepreneurial competencies

Dependent Variable	(I) Group of respondents	(J) Group of respondents	Mean Difference (I-J)	Std. Error	Sig.
CA14	Academics	Employers	-.30	.19	.245
		Graduates	-.14	.15	.596
	Employers	Academics	.30	.19	.245
		Graduates	.15	.18	.666
	Graduates	Academics	.14	.15	.596
		Employers	-.15	.18	.666
CA13	Academics	Employers	-.39	.17	.061
		Graduates	-.46	.14	.002
	Employers	Academics	.39	.17	.061
		Graduates	-7.29E-02	.17	.903
	Graduates	Academics	.46	.14	.002
		Employers	7.29E-02	.17	.903
CA12	Academics	Employers	-.11	.17	.759
		Graduates	-.18	.13	.391
	Employers	Academics	.11	.17	.759
		Graduates	-6.96E-02	.16	.890
	Graduates	Academics	.18	.13	.391
		Employers	6.96E-02	.16	.890
CA11	Academics	Employers	-.12	.18	.735
		Graduates	-.15	.14	.547
	Employers	Academics	.12	.18	.735
		Graduates	-2.45E-02	.17	.989
	Graduates	Academics	.15	.14	.547
		Employers	2.45E-02	.17	.989
CA10	Academics	Employers	3.41E-02	.19	.981
		Graduates	-.19	.15	.413
	Employers	Academics	-3.41E-02	.19	.981
		Graduates	-.23	.18	.440
	Graduates	Academics	.19	.15	.413
		Employers	.23	.18	.440
CA9	Academics	Employers	-.21	.19	.477
		Graduates	-.17	.15	.485
	Employers	Academics	.21	.19	.477
		Graduates	3.88E-02	.18	.973
	Graduates	Academics	.17	.15	.485
		Employers	-3.88E-02	.18	.973
CA8	Academics	Employers	5.07E-02	.16	.941
		Graduates	-.34	.13	.024
	Employers	Academics	-5.07E-02	.16	.941
		Graduates	-.39	.15	.020
	Graduates	Academics	.34	.13	.024
		Employers	.39	.15	.020
CA7	Academics	Employers	-3.41E-02	.17	.978
		Graduates	-.36	.14	.023

Dependent Variable	(I) Group of respondents	(J) Group of respondents	Mean Difference (I-J)	Std. Error	Sig.
	Employers	Academics	3.41E-02	.17	.978
		Graduates	-.33	.17	.162
	Graduates	Academics	.36	.14	.023
		Employers	.33	.17	.162
CA6	Academics	Employers	-.22	.16	.318
		Graduates	-.13	.12	.558
	Employers	Academics	.22	.16	.318
		Graduates	9.27E-02	.15	.799
	Graduates	Academics	.13	.12	.558
		Employers	-9.27E-02	.15	.799
CA5	Academics	Employers	1.58E-02	.16	.995
		Graduates	-1.65E-02	.13	.991
	Employers	Academics	-1.58E-02	.16	.995
		Graduates	-3.22E-02	.16	.980
	Graduates	Academics	1.65E-02	.13	.991
		Employers	3.22E-02	.16	.980
CA4	Academics	Employers	-.13	.18	.721
		Graduates	-.19	.14	.428
	Employers	Academics	.13	.18	.721
		Graduates	-5.90E-02	.18	.925
	Graduates	Academics	.19	.14	.428
		Employers	5.90E-02	.18	.925
CA3	Academics	Employers	.13	.18	.719
		Graduates	-5.49E-02	.14	.926
	Employers	Academics	-.13	.18	.719
		Graduates	-.18	.18	.514
	Graduates	Academics	5.49E-02	.14	.926
		Employers	.18	.18	.514
CA2	Academics	Employers	-6.99E-02	.18	.918
		Graduates	-5.49E-02	.14	.921
	Employers	Academics	6.99E-02	.18	.918
		Graduates	1.50E-02	.18	.996
	Graduates	Academics	5.49E-02	.14	.921
		Employers	-1.50E-02	.18	.996
CA1	Academics	Employers	-9.51E-02	.18	.881
		Graduates	5.03E-02	.14	.929
	Employers	Academics	9.51E-02	.18	.881
		Graduates	.15	.18	.737
	Graduates	Academics	-5.03E-02	.14	.929
		Employers	-.15	.18	.737

* The mean difference is significant at the .05 level.

Appendix 2.8.

Entrepreneurial competences – differences between the levels of importance and achievement according to Academics, Employers, and Graduates

Tab. 2.8.1. Paired Sample Test for differences of mean between importance and achievement of entrepreneurial competencies according to academics, employers and students/ graduates together – decreasing order of difference

	Item	Mean difference	Std dev.	t value	p value
Pair 9	**CI9 - CA9**	.69	.95	**9.758**	**.000**
Pair 7	**CI7 - CA7**	.67	1.00	**8.919**	**.000**
Pair 1	**CI1 - CA1**	.66	.88	**9.994**	**.000**
Pair 10	**CI10 - CA10**	.66	1.06	**8.384**	**.000**
Pair 3	**CI3 - CA3**	.61	.94	**8.761**	**.000**
Pair 12	**CI12 - CA12**	.58	.89	**8.795**	**.000**
Pair 6	**CI6 - CA6**	.57	.87	**8.871**	**.000**
Pair 4	**CI4 - CA4**	.56	.88	**8.564**	**.000**
Pair 2	**CI2 - CA2**	.51	.81	**8.390**	**.000**
Pair 11	**CI11 - CA11**	.51	.86	**8.016**	**.000**
Pair 5	**CI5 - CA5**	.47	.84	**7.586**	**.000**
Pair 8	**CI8 - CA8**	.47	.82	**7.710**	**.000**
Pair 13	**CI13 - CA13**	.46	.81	**7.571**	**.000**
Pair 14	**CI14 - CA14**	.43	.83	**6.894**	**.000**

Tab. 2.8.2. Paired Sample Test for differences of mean between importance and achievement of entrepreneurial competencies according to academics – decreasing order of difference

	Item	Mean difference	Std dev.	t value	p value
Pair 7	**CI7 - CL7**	.93	.93	**8.177**	**.000**
Pair 9	**CI9 - CL9**	.81	.96	**6.892**	**.000**
Pair 6	**CI6 - CL6**	.72	.93	**6.277**	**.000**
Pair 10	**CI10 - CL10**	.70	1.03	**5.574**	**.000**
Pair 12	**CI12 - CL12**	.70	.90	**6.346**	**.000**
Pair 14	**CI14 - CL14**	.70	.92	**6.232**	**.000**
Pair 1	**CI1 - CL1**	.69	.84	**6.701**	**.000**
Pair 13	**CI13 - CL13**	.64	.88	**5.953**	**.000**
Pair 4	**CI4 - CL4**	.61	.83	**6.006**	**.000**
Pair 5	**CI5 - CL5**	.57	.91	**5.111**	**.000**
Pair 8	**CI8 - CL8**	.57	.89	**5.208**	**.000**
Pair 3	**CI3 - CL3**	.52	.89	**4.784**	**.000**
Pair 11	**CI11 - CL11**	.52	.86	**4.977**	**.000**
Pair 2	**CI2 - CL2**	.46	.88	**4.323**	**.000**

Tab. 2.8.3. Paired Sample Test for differences of mean between importance and achievement of entrepreneurial competencies according to employers – decreasing order of difference

	Item	Mean difference	Std dev.	t value	p value
Pair 10	**CI10 - CL10**	.89	1.13	**4.630**	**.000**
Pair 2	**CI2 - CL2**	.74	.70	**6.273**	**.000**
Pair 9	**CI9 - CL9**	.71	.99	**4.280**	**.000**
Pair 3	**CI3 - CL3**	.69	.93	**4.352**	**.000**
Pair 4	**CI4 - CL4**	.69	.93	**4.352**	**.000**
Pair 8	**CI8 - CL8**	.66	.73	**5.360**	**.000**
Pair 12	**CI12 - CL12**	.63	.91	**4.085**	**.000**
Pair 6	**CI6 - CL6**	.60	.85	**4.190**	**.000**
Pair 7	**CI7 - CL7**	.57	1.12	**3.021**	**.005**
Pair 1	**CI1 - CL1**	.54	.82	**3.932**	**.000**
Pair 11	**CI11 - CL11**	.54	.70	**4.584**	**.000**
Pair 5	**CI5 - CL5**	.51	.82	**3.720**	**.001**
Pair 13	**CI13 - CL13**	.46	.89	**3.053**	**.004**
Pair 14	**CI14 - CL14**	.46	.70	**3.861**	**.000**

Tab. 2.8.4. Paired Sample Test for differences of mean between importance and achievement of entrepreneurial competencies according to students/ graduates – decreasing order of difference

	Item	Mean difference	Std dev.	t value	p value
Pair 1	**CI1 - CL1**	.68	.95	**6.340**	**.000**
Pair 3	**CI3 - CL3**	.65	.98	**5.904**	**.000**
Pair 9	**CI9 - CL9**	.58	.92	**5.554**	**.000**
Pair 10	**CI10 - CL10**	.53	1.04	**4.459**	**.000**
Pair 7	**CI7 - CL7**	.49	.98	**4.404**	**.000**
Pair 11	**CI11 - CL11**	.49	.92	**4.666**	**.000**
Pair 4	**CI4 - CL4**	.46	.89	**4.565**	**.000**
Pair 12	**CI12 - CL12**	.46	.86	**4.722**	**.000**
Pair 2	**CI2 - CL2**	.44	.78	**4.918**	**.000**
Pair 6	**CI6 - CL6**	.44	.80	**4.817**	**.000**
Pair 5	**CI5 - CL5**	.37	.77	**4.238**	**.000**
Pair 8	**CI8 - CL8**	.31	.78	**3.493**	**.001**
Pair 13	**CI13 - CL13**	.29	.67	**3.907**	**.000**
Pair 14	**CI14 - CL14**	.18	.73	**2.160**	**.034**

Appendices 3

OPEN ANSWERS OF THE PARTICIPANTS ON THE UNIVERSITY–ENTERPRISE PARTNERSHIP IN TRAINING ENTREPRENEURIAL COMPETENCES

A 3.1. Answers of the academics to the open questions

A 3.2. Answers of the employers to the open questions

A.3.3. Answers of the students and graduates to the open questions

Appendix 3.1

ANSWERS OF ACADEMICS TO THE OPEN QUESTIONS

Q 17: Do the hosting companies or enterprises promote an entrepreneurial culture?

- We try to promote an entrepreneurial culture by allowing the team of workers and trainees to build itself, to participate in the activities without controlling, and to humanize the management. (A-AT 01, tutor, director of department A)

- By increasing awareness of the opportunities for new business start-ups amongst employees. (A-AT 03, tutor, director of department C)

- Via entrepreneurial training possibilities. (A-CY 02, professor, practice coordinator)

- Exhibitions, conferences, social events. (A-CZ 01, senior lecturer, thesis supervisor)

- Open door days, lectures at universities, conferences. (A-CZ 02, professor)

- Continual education of employees, internal seminars, contacts to universities. (A-CZ 03, teacher, manager of life-long learning programs, thesis supervisor)

- Students often join start-up companies based on IT. So they can profit from the culture of entrepreneurship inherent to those companies. (A-DE 01, professor)

- Yes, help students to solve problems. (EE 01, practical placement advisor)

- Possibilities to make your own decisions, as independent works as possible. (A-FI 02, mentor)

- Students are informed about company business culture, [thus] helping the students to understand how to do business. (A-HU 01, deputy head of department, placement advisor)
- In our school we have a major called "Managing Small Enterprises". On this major this question is strongly emphasized. (A-HU 02, director, responsible for BSc internships, graduate career planning, and alumni management)

- The entrepreneurial culture is developed through devolution of specific tasks and responsibility, together with brainstorming exercises. (A-IT 01, responsible for financing of programs)

- The hosting company helps students to become independent by showing them how the job market works. (A-PT 03, assistant for educational programs)

- Through the ERASMUS program, and by having entrepreneurship opportunities which are offered in a class or project at the last semester of BSc degree. (A-PT 04, professor)

- Our university encourages its academic and support staff to try new ideas linked to: pedagogical methods; content of effective seminars, labs, projects and lectures; thematic of teaching or learning and research projects and activities. (A-RO 05, professor, responsible for new practical placement system development)

- Yes, by: treating employees with respect, supporting communication between employees for sharing expertise and good practices, maintaining long-term relationships with customers and suppliers. (A-RO 08, lecturer, tutor for practical placement)

- Exchanging their real life expertise. (A-TR 04, practice advisor)

Q 18: Do the hosting companies or enterprises encourage employees to try new ideas?

- We encourage employers and trainees to develop new ideas [and] to be able to fulfill the new needs coming from the market. In our sector, chemical technology and analysis, is very important to develop new procedures, according to the new requests. (A-AT 01, tutor, director of department A)

- They help to develop and establish new ideas in order to make employees' motivation higher. (A-AT 03, tutor, director of department C)

- Write proposals for projects, try to develop business plans. (A-CY 01, practice coordinator)

- Benefits, extra money. (A-CZ 01, senior lecturer, thesis supervisor)

- Presents, money, prizes, free time. (A-CZ 02, professor)

- Financial and other benefits. (A-CZ 03, teacher, manager of life-long learning programs, thesis supervisor)

- Yes, discussions about ideas. (A-EE 01, practical placement advisor)

- Development of new projects and training courses. (A-FI 01, mentor)

- By using brainstorming and other TQM methods. (A-GR 01, practice supervisor)

- By asking them to bring new ideas. (A-GR 03, practice supervisor)

- Asking students to develop any strange ideas to increase profits which might be interesting for the company. An outsider may have a different look of business opportunities than the traditional company approach. (A-HU 01, deputy head of department, placement advisor)

- It is clear from graduate surveys that this [encouraging employees to try new ideas] is one of the strongest advantages of our university. (A-HU 02, director, responsible for BSc internships, graduate career planning, and alumni management)
- With bonus system. (A-HU, 04, practice advisor)

- The entrepreneurial culture is developed through devolution of specific tasks and responsibility, together with brainstorming exercises. (A-IT 01, responsible for financing of programs)

- Companies give individual work, projects, challenges to do. (A-PL 01 coordinator of apprenticeship in the management department)

- By including students in projects to create new products, ideas. (A-PT 03, assistant for educational programs)

- By introducing leading concepts which were taught or learned during graduation. (A-PT, 04, professor)

- Our university encourages its academic and support staff to try new ideas linked to: pedagogical methods; content of effective seminars, labs, projects and lectures; thematic of teaching or learning and research projects and activities. (A-RO 05, professor, responsible for new practical placement system development)

- Yes, by: rewarding and disseminating creative ideas of employees, supporting the implementation of valuable new ideas of employees. (A-RO 08, lecturer, tutor for practical placement)

- Giving seminars. (A-TR 05, researcher)

Q 19: Do the hosting companies or enterprises foster and sustain innovation?

- Of course we have to sustain innovation and to implement environmentally friendly solutions. (A-AT 01, tutor, director of department A)

- By developing a common sense of purpose, from unleashing the creativity of people throughout our organization and from teaching them how to recognize unconventional opportunities. (A-AT 03, tutor, director of department C)

- It is necessary to us to foster innovation, trying to develop new techniques and processes that are favorable and not damaging for the environment. (A-AT 04, tutor, director of department D)

- Further education or training of employees; broadening of products and customer services. (A-CZ 01, senior lecturer, thesis supervisor)

- Support of employees in further education, internal seminars. (A-CZ 03, teacher, manager of life-long learning programs, thesis supervisor)

- By keeping up-to-date its knowledge for new technologies. (A-GR 03, practice supervisor)

- If the company would like to maintain its market position or even to develop it, then innovation in product, technology and organization is needed from time to time. (A-HU 01, deputy head of department, placement advisor)

- We have courses and competitions, workshops and case study projects in which innovation is encouraged and trained very much. (A-HU 02, director, responsible for BSc internships, graduate career planning, and alumni management)

- Tutoring and mentoring are essential for the student to develop skills and knowledge. (A-IT 01, responsible for financing of programs)

- Maybe, but very rarely for students who are doing apprenticeship. (A-PL 01, coordinator of apprenticeship in the management department)

- In our department of food engineering it is becoming more common within food companies to apply to university to collaborate in specific areas, especially for support on development of new food products, safe, and with good quality, to increase their business. Through application of hazard analysis and control of critical control points methodology, microbiological analysis, sensory evaluation, physic chemical analysis. (A-PT 02, lecturer, consultancy and collaboration with companies)

- By including students in new products [and] ideas development. (A-PT 03, assistant for educational programs)

- In our field [education], innovation is mainly achieved through research made by [the] faculty: The school fosters staff to do it. (A-PT, 04, professor)

- Our university supports, in principle and financially, the initiatives, design, and implementation of innovative actions and projects. (A-RO 05, professor, responsible for new practical placement system development)

- At questions 17, 18 and 19 I didn't understand to which company you refer. If you refer to all the companies with which our university is related, then the answers are mixed, of course. In my opinion question 17 has no sense, because a company is not interested to develop the entrepreneurial culture of its employees [because] they will leave the company :). (A-RO 07, professor, coordinator of foreign students placements)

- Yes, by: identifying and supporting innovative employees, encouraging the exchange of creative ideas within [the] organization, proving incentives for innovators. (A-RO 08, lecturer, tutor for practical placement)

- With research and development policies; by following congress and affairs. (A-TR 01, research assistant)

Q 20: Please describe the way the company ensures the development of entrepreneurial competences and skills for the students in practical placement.

- Our institute ensures the development of entrepreneurial competences by creating an environment where trainees can interact with each other, support each other and recognize each other's efforts and achievements. (A-AT 01, tutor, director of department A)

- By making people willing to contribute to a cause they believe in, and one that recognizes the value of their participation. (A-AT 03, tutor, director of department C)

- By teaching the students to take manageable risks and sometimes even about failing, but however it is worth trying and taking the risk. (A-AT 04, tutor, director of department D)

- Providing topics for bachelor and master thesis; company placements for students. (A-CZ 01, senior lecturer, thesis supervisor)

- Exhibitions, cooperation with universities, lectures, praxis for students, bachelor and master theses topics. (A-CZ 02, professor)

- Students [and] trainees attend institutional events; students are fully integrated in company life. (A-CZ 03, teacher, manager of life-long learning programs, thesis supervisor)

- Discussions with the staff of the company. (A-EE 01, practical placement advisor)

- Most of the placement in companies is aimed at the execution of projects so it is important to resolve problems and execute hard or complex work not necessarily or almost never entrepreneurial. (A-ES 01, professor, tutor)

- They do not. (A-ES 05, professor, tutor)

- Students can participate to all stages of the process: from the generation of the knowledge or result up to the final stage of commercialization, gaining valuable experience. (A-GR 01, practice supervisor)

- Placing the students to different sections of the company during placement work helps the students to understand how the company works on an every day base. (A-HU 01, deputy head of department, placement advisor)

- I think that practical training done in small business ensures the development of those skills. Doing internships at medium or bigger sized businesses or at institutes, NGOs ignore entrepreneurial competences. (A-HU 02, director, responsible for BSc internships, graduate career planning, and alumni management)

- PP [agriculture] is mainly connected to the governmental sphere where entrepreneurial competences and skills are less important than in the private sector. (A-HU 03, assistant professor, responsible for the practical placement of BSc students)

- Students start some individual work or are involved in some organizational projects, where [they] can work with more experienced employees. Sometimes [the] company gives possibility to attend some courses or trainings. Students can visit each department to see the whole production process. (A-PL 01, coordinator of apprenticeship in the management department)

- Companies generally include students in control processes associated with buying, storing, producing, logistics and quality. Students [come into] contact with inputs and outputs associated to these processes, as well with routine decisions, and with competences needed in order to maintain and improve them, namely social and innovation or creativity. (A-PT 01, member of a committee for practical placement)

- Through training periods in the company, following their procedures, to substitute their employees who are on holiday (…) and sometimes students are invited to get a placement in their companies. Lately, with "Bologna scheme," the training period which was compulsory (4 months) has been lost. (A-PT 02, lecturer, consultancy and collaboration with companies)

- Our university establishes the main ensuring elements of practical placement: content, tutorial matters, assessment process, etc., based on continuous co-operation with companies or institutions – host of the placements. (A-RO 05, professor, responsible for new practical placement system development)

- There are little or no efforts arriving from the companies to this goal. (A-RO 07, professor, coordinator of foreign students placements)

- There are little or no efforts arriving from the companies to this goal. (A-RO 07, professor, coordination of foreign students placements)

- The truth is that the company does not do it. They just accept students as ballast; [they] do not pay any attention to raise possible employees. (A-SK 01, professor)

- By giving an opportunity to students working with them via practical placement. (A-TR 01, research assistant)

- Allowing the students [to] participate in decision making meetings. (A-TR 03, assistant professor)

- Unfortunately, the company does not spend too much effort on this. (A-TR 04, practice advisor)

- During practical placements, development of entrepreneurial competencies is not of primary importance for the companies. Generally they prefer the students to participate in the regular jobs that the company has already undertaken. Some students even cannot find that opportunity. (A-TR 06, teaching assistant, reading the reports of practical placement)

Q 21: Which changes do you think the universities should operate in their curricula in order to increase the graduates' employability?

- Universities should have a look at the market demand in order to slightly tailor their offer accordingly. (A-AT 01, tutor, director of department A)

- Each university should offer a practical placement period in a company in order to increase the graduates' employability. (A-AT 03, tutor, director of department C)

- By teaching the following skills in order to increase graduates employability: communication and presentation, planning and problem solving, social development and interaction. (A-AT 04, tutor, director of department D)

- More lectures hosted by professionals. (A-CZ 01, senior lecturer, thesis supervisor)

- Lectures with managers; exhibitions. (A-CZ 02, professor)

- University – company cooperation extension (thesis, projects, involving external people as a standard part of study program. (A-CZ 03, teacher, manager of life-long learning programs, thesis supervisor)

- Degrees relevant to the business environment. (A-ES 01, professor, tutor)

- To keep closer to companies. (A-ES 05, professor, tutor)

- Students should be able to operate and understand concepts and ideas in a multi-disciplinary environment, which sometimes exceeds their main background. Moreover, they should learn to provide solutions to specific problems. (A-GR 01, practice supervisor)

- Modernization of study programs. (A-GR 03, practice supervisor)

- Besides giving solid theoretical background and methodological skills it is important to develop practical skills as well. It may happen by using case

studies or by organizing the placement work. (A-HU 01, deputy head of department, placement advisor)

- Paying attention for the continuous needs and signs coming from employers and not only saying, but doing the flexible short courses. (A-HU 02, director, responsible for BSc internships, graduate career planning, and alumni management)

- More practice oriented way of teaching. (A-HU 03, assistant professor, responsible for the practical placement of BSc students)

- Promoting more practical education. (A-HU 04, practice advisor)

- Include market analysis in curricula. (A-IT 01, responsible for financing of programs)

- First they need to gain knowledge about the labour market and its developments. Second they need to share this knowledge with the students in a module where students learn how to enter the labour market in their specific field of interest. The module has to contain role plays for practicing to work in an interdisciplinary team, with (actors that represent) students from a different background. The module also has to contain cases from which students learn to handle conflicts, work in hierarchic organized contexts, work with deadlines, solve problems, analyze pitfalls, etcetera. Practicing the placement and learning to make the right choice for a working field. (A-NL 01, coordinator of 300 placements a year, 40% abroad)

- Elongation of apprenticeship duration, special classes, where students are prepared for apprenticeships. (A-PL 01, coordinator of apprenticeship in the management department)

- Curricula should have projects with companies that [involve] work at [the] university and at the company, on a long term basis. Students should contact “real work” environments since early in their formation at the university. Optional subjects where students work in projects between [the] university and companies is one hypothesis, where all the processes associated with the company could or should be covered. Another hypothesis is the cooperation between [the] university and entities that provide social support, where students could [come into] contact with very

different human realities, learn from them, and at the same time apply innovation and creativity skills to improve processes. (A-PT 01, member of a committee for practical placement)

- To get the training period again is essential for future food engineers, as practical work is very important to enable them to get familiar with [new] technologies, to consolidate and validate the knowledge they receive at the university. To get more involvement with local companies. (A-PT 02, lecturer, consultancy and collaboration with companies)

- Provide more confidence, more autonomy and better relationship skills for students to work in entrepreneurial settings through soft skills courses. (A-PT 03, assistant for educational programs)

- Universities must create skills or competences of graduates which are directly connected to the actual society and economy and close [to the] future needs, through specific curricula components: subjects, chapters, applications, invited lectures, practical placements. (A-RO 05, professor, responsible for new practical placement system development)

- I don't consider that the curriculum is the main obstacle, but rather the economic conditions. (A-RO 07, professor, coordinator of foreign students placements)

- In order to increase graduates' employability, universities curricula must be adapted to fulfill employers' needs. (A-RO 08, lecturer, tutor for practical placement)

- More importance to the practical side of the disciplines of the curriculum. (A-RO 09, associate professor, practical placement coordinator)

- University is trying to change enterprises we were co-operating till now and to discuss common needs. (A-SK 01, professor)

- To encourage more industry partnered projects in the universities, and organize company programs providing academic credit for structured job experience. (A-TR 03, assistant professor)

- The universities and the academic staff should be much more involved in mutual real life projects with professional companies. (A-TR 04, practice advisor)

- Relationship with industry giving seminar. (A-TR 05, researcher)

- Projects originated from the needs of companies should be involved in the course plans. Realistic laboratory works can be arranged so that students can gain hands-on experience. (A-TR 06, teaching assistant, reading the reports of practical placement)

Q 22: Which changes do you think the universities should operate in their practical placement policies in order to increase the graduates' employability?

- The practical placement should be compulsory in each faculty, in order to give the students the chance to experience his or her potential job and to make them aware of the procedures implemented by the companies. (A-AT 01, tutor, director of department A)

- There should be compulsory practical placement policies giving the students the chance to do an internship abroad. (A-AT 02, tutor, director of department B)

- Universities should support graduates in the transitional stage to employment. (A-AT 03, tutor, director of department C)

- Increase [the] number of practical placements. (A-BE 02, practice coordinator)

- To visit the organizations often and prepare case studies together. (A-CY 01, practice coordinator)

- More lectures hosted by professionals; wider range of company placements. (A-CZ 01, senior lecturer, thesis supervisor)

- Lectures with top managers; trainee programs for students. (A-CZ 02, professor)

- Systematic analysis of feedback from students' company placements. (A-CZ 03, teacher, manager of life-long learning programs, thesis supervisor)

- To invite more lectures from the companies for the specific, practical cases to be discussed with the students. (A-EE 01, practical placement advisor)

- To do more research in market needs. (A-ES 06)

- Stronger links between universities, research centers and industries, comprising the three poles of the triangle Education, Research and Innovation, should assist in that direction. (A-GR 01, practice supervisor)

- Stronger relations between education and industry or enterprises. (GR 03, practice supervisor)
- To establish a good reliable long term partnership with those companies that are willing to offer placement work for students for years. (A-HU 01, deputy head of department, placement advisor)

- Regular and effective meetings should be organized among the actors of job market, not only networking type events. Long-term thinking from both sides would be wise, too. (A-HU 02, director, responsible for BSc internships, graduate career planning, and alumni management)

- Higher contracting freedom (less official form of contract). (A-HU 03, assistant professor, responsible for the practical placement of BSc students)

- Better proactive liaisoning with enterprises and firms, including regular visits of students to enterprises or firms to assess needs and interests. (A-IT 01, responsible for financing of programs)

- They have to take placements more seriously and value the supervising teachers more. They now get 8 hours for supervision, which is not enough to encourage good quality in supervision. Training for teachers who start placement supervision would be an idea, too. (A-NL 01, coordinator of 300 placements a year, 40% abroad)

- Stronger cooperation with more companies, more practitioner lectures to get students' interest for practical application of theoretic knowledge, models, and solutions. (A-PL 01, coordinator of apprenticeship in the management department)

- Practical placement should match [the] student's profile with company culture in order to both beneficiate from the process. The committee responsible for practical placement should know students and companies, in order to match profiles correctly. This committee should also be able to advise for social and technical improvement, but also so for seeking opportunities where companies could gain high value from students' work, and students could develop needed or new competences and leverage their

profile for employability. (A-PT 01, member of a committee for practical placement)

- To get the training period again is essential for future food engineers, as practical work is very important to enable them to get familiar with new technologies, to consolidate and validate the knowledge they receive at the university. To get more involvement with local companies. (A-PT 02, lecturer, consultancy and collaboration with companies)

- Better selection of companies and clear definition of goals for the students. (A-PT 03, assistant for educational programs)
- Universities must improve the curricula by introducing, design and supporting medium and long term practical placements in companies, institutions or other similar entities, based on continuous co-operation with them. (A-RO 05, professor, responsible for new practical placement system development)

- I would try to establish contractual relations (part time jobs) between the companies and the students, with the students performing real tasks for the companies. (A-RO 07, professor, coordinator of foreign students placements)

- To increase graduates' employability, universities must use only top employers for practical placement of students. (A-RO 08, lecturer, tutor for practical placement)

- Universities can give an industrial experience certificate to students that have their practical placement during university life. (A-TR 01, research assistant)

- Meetings of academic staff with employers about the companies' needs and expectancies concerning the students, so that they can assist students to find the right company for each student's capabilities and interests. (A-TR 03, assistant professor)

- The universities should adjust their curricula compatible with the needs of the [hiring] companies. (A-TR 04, practice advisor)

- Practical placements schedules could be reorganized so that students can study in companies for longer periods according to their fields [of interest]. Generally the outcome of the practical placement is a report which misleads the student. Most of the students only motivate themselves for satisfying the requirements of the report, part of which requires the student to find information about the structure and history of the company. Report outline should be revised, which will force both the student and company to collaborate for an ongoing project. (A-TR 06, teaching assistant, reading the reports of practical placement)

Q 23: Which could be the role of the companies or enterprises in the development of the entrepreneurial competences of students?

- The companies should offer a period of practical training to university students. (A-AT 01, tutor, director of department A)

- The companies should encourage responsibility and leadership opportunities, tolerance of learning errors and other practices to promote job ownership. (A-AT 03, tutor, director of department B)

- Enterprises should make the students implement the following skills: communication and presentation, planning and problem solving, social development and interaction. (A-AT 04, tutor, director of department C)

- Consulting and guiding [the student] during company placement. (A-CZ 01, senior lecturer, thesis supervisor)

- Active participation in the case studies and discussions with the students. (A-EE 01, practical placement advisor)

- Some business people may have to deliver some lectures at the universities explaining practical things on business planning and running business on domestic and international level. Giving the chance for students during the placement work to work together with the manager of the company for 2-3 days. (A-HU 01, deputy head of department, placement advisor)

- Giving the student individual projects on which they can work before, during, and after the placement. Organizing workshops that improve the given important skills. Giving feedbacks to students at the end of practical training. I mean real performance evaluation! (A-HU 02, director, responsible for BSc internships, graduate career planning, and alumni management)

- Frequent exchanges (mobility) and assignment of responsibilities or tasks. (A-IT 01, responsible for financing of programs)

- Provide relevant knowledge, insight into the operational management, individual tasks and responsibilities. (A-HU 03, assistant professor, responsible for the practical placement of BSc students)

- It could be a big role, but it might be wise to make entrepreneurial competences a standard part of the undertaking of any placement, starting at the preparatory phase at the university (with the help and counseling of, for instance, an experienced coach that works as an entrepreneur). (A-NL 01, coordinator of 300 placements a year, 40% abroad)

- Preparing of concrete apprenticeship programs, also with cooperation with universities. (A-PL 01, coordinator of apprenticeship in the management department)

- By collaborating with the university in a model suggested at point 22, companies could improve their work processes and/or products and leverage their technical or human skills by interacting with university actors, [such] as professors and students. Companies could also select better future collaborators. (A-PT 01, member of a committee for practical placement)

- To open some areas and give the opportunity to students to improve their own skills, through collaboration in small projects, with their supervision. (A-PT 02, lecturer, consultancy and collaboration with companies)

- Give them autonomy but with guidance in their work. (A-PT 03, assistant for educational programs)

- To involve students to the real business life. (A-SK 01, professor)

- The role of the companies or enterprises is to participate in the curricula design, to support university labs and projects, and to assure the necessary conditions for practical placements activities, based on continuous co-operation with universities. (A-RO 05, professor, responsible for new practical placement system development)

- Maybe offering them a closer look to the business and management layers of the company's activity and not only involving them in technical aspects. (A-RO 07, professor, coordinator of foreign students placements)

- Companies could be laboratories for the development of the entrepreneurial competences of students. (A-RO 08, lecturer, tutor for practical placement)

- Allowing the students [to] participate in decision making meetings. (A-TR 03, assistant professor)

- Universities and companies should work together as frequent as possible. Universities should act as the R&D [research and development] divisions of the companies. (A-TR 04, practice advisor)

- Companies may emphasize the way that they follow the market and how they identify and respond [to] the opportunities in [the] market. [The] strategy of the company should be stated and how they use their strategy to make a selection among different opportunities. [The] competitive advantage of the company should also be conveyed to the students and how it affects the condition of the company in the market. (A-TR 06, teaching assistant, reading the reports of practical placement)

Appendix 3.2

ANSWERS OF EMPLOYERS TO THE OPEN QUESTIONS

Q 17: Do the hosting companies or enterprises promote an entrepreneurial culture?

- Our enterprise promotes an entrepreneurial culture by creating a sense of ownership mentality that creates a powerful incentive for inventive thinking. When an individual is clearly aware of how his or her interests are aligned with those of the company, the employee has a good reason to further the mission. (E-AT 01, CEO in a medium-sized software development company, tutor for practical placement)

- By talking about our experiences with our business. (E-AT 02, owner of a small company in the field of gastronomy, tutor for practical placement)

- Social events, further education of employees, exhibitions. (E-CZ 01, product manager in a medium-sized company, trainee leadership)

- Variety of benefits on the base of new ideas, products. (E-CZ 03, head of the marketing department in a small IT services provider, trainee leadership)

- Jobs contain a wide range of tasks, responsibility and in general contact with customer. Encourage the employees making mistakes and risk failures. Profit sharing model for employees. (E-DE 01, HRM in a large software producing company, responsible for supervising the practical placement of students)

- With each internship or thesis we give students the responsibility to managing their own projects. They have to learn being on one site, independently, and, on the other hand, team oriented. The good students manage the balance between these competences and finish their projects very successful. In the past a lot of students could be employed after their studies, because of their learned skills. (E-DE 02, head of the employee

development department in a large industrial automation company, supervisor for about 50 students in practice each year)

- Letting room for the initiative of employees. (E-ES 01, project manager in a medium-sized engineering company, tutor)

- Research activities aim in providing technological solutions and products in the area of micro and nanotechnology by exploiting innovative research results to successful market products. (E-GR 01, research director in a medium-sized research unit in nanotechnologies, practice supervisor)

- In-house training and development of relevant case studies (E-GR 04, practice tutor)

- Trainings for employees. Sales ranking by products to motivate employees to better performance. (E-HU 01, manager in a large industrial company, practice supervisor)

- No, because our company is a smaller company employing less than 20 employees. (E-HU 02, CEO in a small investment management company, practice supervisor)

- Yes because once you are given general guidelines, the person may act on his own. (E-IT 01, manager, small enterprise)

- By participating with the manager in meetings, events etc. (E-IT 02, practice tutor)

- By inviting the training student to contact all the activity sectors of the company to get a bird's eye view. (E-IT 03, owner, small business)

- By searching new ideas, forms for motivation of employees to work better, using their inner resources. (E-LT 01, practice tutor in an insurance company)

- Yes. We emphasize training during practical placement period of students. (E-TR 01, manager, medium-sized enterprise)

- Yes, we do. This is the way how we have founded our company. We always need such a new member who has entrepreneurial ability for our company's future. In this context, he or she can be our partner. (E-TR 02, CEO in a small-sized hardware and software producing enterprise)

- Any entrepreneurial ideas and projects are encouraged by managers and founders. Our company has a supportive atmosphere in which people feel free to express their ideas without the risk of criticism or ridicule. (E-TR 03, HRM in a medium-sized enterprise, organization of the practical placement)

- Arranging best business idea competitions, supporting start up projects. (E-TR 04, manager, small-sized enterprise)

Q 18: Do the hosting companies or enterprises encourage employees to try new ideas?

- Yes, our company encourages greater involvement of the employees and makes sure that each employee knows how his or her work affects company performance. (E-AT 01, CEO in a medium-sized software development company, tutor for practical placement)

- By giving the chance to try new things. (E-AT 02, owner of a small company in the field of gastronomy, tutor for practical placement)

- New ideas are evaluated; best are rewarded with extra money or benefits. (E-CZ 01, product manager in a medium-sized company, trainee leadership)

- Variety of benefits, change of position. (E-CZ 03, head of the marketing department in a small IT services provider, trainee leadership)

- There is no program for that; it is part of the company philosophy and the leadership model. The individuals are encouraged to suggest new ideas. It is the philosophy of a learning company. (E-DE 01, HRM in a large software producing company, responsible for supervising the practical placement of students)

- By employing students our company tries to get fresh external impulses from students so that we can improve our business, processes, etc. Often new ideas come up, because an external sees or processes differently and gives valuable input for improvements. Sometime the new ideas can not be implemented because of historical requirements which the students do not know. Sometimes it is also difficult convincing employees of new ideas. But this experience is very valuable for students as this shows the reality. Students often come with new ideas, but fail because they cannot realize it, as some important factors are not considered. So it is a win-win solution, as only the good ideas will be realized. (E-DE 02, head of the employee development department in a large industrial automation company, supervisor for about 50 students in practice each year)

- In the frame of existing projects they are encouraged to manifest their own solutions. (E-ES 01, project manager in a medium-sized engineering company, tutor)

- Promotion of new ideas and concepts is at the heart of our activity. (E-GR 01, research director in a medium-sized research unit in nanotechnologies, practice supervisor)

- There is "new project" competition among employees. The new projects (and project leaders) are evaluated by the management board. (E-HU 01, manager in a large industrial company, practice supervisor)

- By rendering financial benefits. (E-HU 02, CEO in a small investment management company, practice supervisor)
- The regular meetings of the management, where all the heads of the departments of the institute are present, are an open forum where the new ideas can be introduced, discussed and evaluated by all the department heads of the institute. (E-HU 03, employee of international relations in a medium-sized agricultural research institute)

- Yes, every employee can suggest new ideas during weekly meetings. (E-IT 01, manager, small enterprise)

- By involving students in new projects and asking them for new proposals. (E-IT 02, practice tutor)

- By comparison of products made by competitors. (E-IT 03, owner, small business)

- Organization of social research, investigation of public opinion, inclusion of the employees into the process of decision making. (E-LT, 01, practice tutor in an insurance company)

- The companies usually offer employees training and ask them for feedback. (E-RO 02, manager of a small consultancy company)

- New ideas are very important for companies for the development. Managers or founders emphasize [the] importance of the new ideas and everyone can say ideas freely without any fear. According to ideas value and earnings, staffs that create and perform entrepreneurial projects are rewarded with bonus or gifts. As Teknodrom, we developed E-FIKIR (E-IDEA) system in our company to share new ideas among the staff. When someone types new ideas to [the] E-FIKIR program which [is] embedded to our server system

and all other staff can read the idea and help to improve it. Besides, patent application is the other important subject about new ideas. If companies have patent strategy and explain to employees the importance of patents, [the] staff will attach importance to innovation. (E-TR 03, HRM in a medium-sized enterprise, organization of practical placement)

- Yes. We encourage engineers to try new ideas in electronic circuits. (E-TR 01, manager, medium-sized electronics company)

- Yes we do. But it is important whether the idea is considerable or not. (E-TR 02, CEO in a small-sized hardware and software producing enterprise)

Q 19: Do the hosting companies or enterprises foster and sustain innovation?

- Our company sustains innovation giving each employee a clear sense of mission that empowers them to act on new ideas. (E-AT 01, CEO in a medium-sized software development company, tutor for practical placement)

- We discuss ideas and try new things. (E-AT 02, owner of a small company in the field of gastronomy, tutor for practical placement)

- Investment in qualified human resources (further education, seminars, training); innovation of supply and distribution methods; broadening range of products and services. (E-CZ 01, product manager in a medium-sized company, trainee leadership)

- Internal information bulletin on new products in the field. (E-CZ 03, head of the marketing department in a small IT services provider, trainee leadership)

- There is innovation process in the company; also it is part of the company philosophy and the leadership model. The individuals are encouraged to suggest new ideas. It is the philosophy of a learning company. (E-DE 01, HRM in a large software producing company, responsible for supervising the practical placement of students)

- We have established an own team of lawyers specialized on patents which supports anyone, which come up with an innovative idea. Several students are participants of patents which had been worked out during the internship. Also our group wide process of KAIZEN fosters innovative ideas and changes within the organization. (E-DE 02, head of the employee development department in a large industrial automation company, supervisor for about 50 students in practice each year)

- In the frame of existing projects they are encourage to manifest their own solutions. (E-ES 01, project manager in a medium-sized engineering company, tutor)

- Via supporting and counseling of new businesses. (E-FI, 01, mentor)

- Over the year we have created a portfolio of patented technologies and products available to potential customers through various seems (e.g., licensing, spin-off companies, strategic alliances) for the promotion of tangible and intangible innovative assets. (E-GR 01, research director in a medium-sized research unit in nanotechnologies, practice supervisor)

- By allocating specific activities for research projects. (E-GR, 04, practice tutor)

- In our company there is a bottom-up innovation project, which means that all employees can send new ideas or proposals to an innovation team to assess the idea. Best ideas are rewarded. (E-HU 01, manager in a large industrial company, practice supervisor)
- The company fosters and sustains innovation both in the form of financial and moral recognition. (E-HU 02, CEO in a small investment management company, practice supervisor)

- If the management of the institute decides that a new idea is feasible then a responsible person from among the employees of the institute is appointed and the management follows and monitors the development of the innovation and discusses the process at the regular meetings. (E-HU 03, employee of international relations in a medium-sized agricultural research institute)

- By being updated to new trends and problems. (E-IT 02, practice tutor)

- By encouraging them to propose their ideas to the tutor. (E-IT 03, owner, small business)

- Searching of new ideas and forms in advertising and sale of services. (E-LT 01, practice tutor in an insurance company)

- Through implementation of new IT solutions and localization of business software to changing country conditions. (E-PL 01, manager in a small IT company, practice supervisor)

- Yes, we do. We encourage our personnel to create new ideas when they meet resistance against trying new systems. (E-TR 01, manager, medium-sized electronics company)

- Yes, we do. We are the company based on technology. Technology is innovation. (E-TR 02, CEO in a small-sized hardware and software producing enterprise)

- Innovation and R&D projects are the way of development for companies. We reward innovation and celebrate success. Appropriate incentives can play a significant role in encouraging staff to think creatively. (E-TR 03, HRM in a medium-sized enterprise, organization of practical placement)

- Promote openness between individuals and teams. Good ideas and knowledge in one part of our business should be shared with others. Team working, newsletters and intranet help stuff share information and encourage innovation. (E-TR 03, HRM in a medium-sized enterprise, organization of practical placement)

- Being managing company of university's techno park, these actions are part of our mission. (E-TR 04, manager, small-sized enterprise)

Q 20: Please describe the way the company ensures the development of entrepreneurial competences and skills for the students in practical placement.

- By encouraging them to take decisions and to stimulate their creativity. (E-AT 01, CEO in a medium-sized software development company, tutor for practical placement)

- Leadership of trainee by experienced staff and their involvement in real projects. (E-CZ 01, product manager in a medium-sized company, trainee leadership)

- Company gives list of topics for BSc and MA thesis, the student can choose one of them; he or she goes to the company where he or she has a supervisor from university and a consultant in the company; the student works out individually the thesis as his or her own project which solves a concrete problem. (E-CZ 03, head of the marketing department in a small IT services provider, trainee leadership)

- They are involved in real projects and not in special trainings task, also they have responsibility for whole part of a project, a comprehensive view is important. (E-DE 01, HRM in a large software producing company, responsible for supervising the practical placement of students)

- We give them the freedom and support of exploring new ideas. That's why we employ them for 6 months. Additionally they are working on projects which teach them the reality in daily business. Sometimes this also creates new ideas, or they realize that soft skills are very important to drive things through. Of course not every student takes the opportunity to use the freedom. (E-DE 02, head of the employee development department in a large industrial automation company, supervisor for about 50 students in practice each year)

- Entrepreneurship is not the capacity we look for in students in practical placements but hard work at problem solving. (E-ES 01, project manager in a medium-sized engineering company, tutor)

- Students can participate to all stages of the process: from the generation of the knowledge or result up to the final stage of commercialization, gaining

valuable experience. (E-GR 01, research director in a medium-sized research unit in nanotechnologies, practice supervisor)

- They get the chance to work and apply what they have learned. (E-GR 02, manager in a small-sized food quality control company, supervisor for practical placement)

- Possibilities for:
    - taking part in preparing reports
    - preparing analysis
    - taking part in organization of programs, events, and workshops
    - synergies with more departments
    - contact with agencies
    - preparing competitor analysis
    - preparing product trainings
    - taking part in preparation of product launches. (E-HU 01, manager in a large industrial company, practice supervisor)

- Students hosted by our company have the possibility to get an insight of business processes and all business areas and we contribute to the preparation of a substantial and well considered dissertation. (E-HU 02, CEO in a small investment management company, practice supervisor)

- By visits to the producers, processing companies etc. (E-HU 03, employee of international relations in a medium-sized agricultural research institute)

- We organize meetings in which the students can suggest us new ideas and new ways to do the job. (E-IT 01, manager, small enterprise)

- Having updated didactic programs, following the main trends in terms of innovation and experimentation, always enhancing students' motivation. (E-IT 02, practice tutor)

- Each intern has to perform a project proving maturity, independence, intellectual ability, contacts with others. (E-PL 01, manager in a small IT company, practice supervisor)

- We do this by convincing them that they can always create something new if they intent to do so. We let them to try their ideas no matter how silly they look to them. (E-TR 01, manager, medium-sized electronics company)

- We let them learn foreign languages, appropriate software programs, and give them any education they need to take. (E-TR 02, CEO in a small-sized hardware and software producing enterprise)

- Companies have to give real jobs to the students in practical placement and promote opportunities for new ideas or projects. But it's very hard in the Turkish practical placement system. Practical placement term must be at least one year. (E-TR 03, HRM in a medium-sized enterprise, organization of practical placement)

- Arranging the training programs, encouraging and supporting their new innovative ideas. (E-TR 04, manager, small-sized enterprise)

Q 21: What changes do you think the universities should operate in their curricula in order to increase the graduates' employability?

- Universities should offer a compulsory training period done within a company dealing with the sector of specialization of the student. (E-AT 01, CEO in a medium-sized software development company, tutor for practical placement)

- Making them more familiar with different cultures and ways (…) things are done. Preparing them to be more open minded. (E-AT 02, owner of a small company in the field of gastronomy, tutor for practical placement)

- More case studies. (E-CZ 01, product manager in a medium-sized company, trainee leadership)

- Cooperation with enterprises (members of scientific board, BSc and MA thesis, practical placement) and on these bases modifying curricula. (E-CZ 03, head of the marketing department in a small IT services provider, trainee leadership)

- More practical experience. (E-DE 01, HRM in a large software producing company, responsible for supervising the practical placement of students)

- Each student should work at least 6 months in a company to see the real working life. We often have students which are brilliant in technical know-how, but are lost with soft skills to manage a project. Each company is different and has hidden [implicit] rules. These rules can never be trained in universities. For the companies it also has the advantage that they see the soft skills of the student. With these they can decide much easier if the student fits to the company or not. The reduction of the German internships because of the bachelor or master concept was the biggest mistake. Trainee jobs have to be offered by the companies now, as students with a bachelor or master degree have no clue about working life. These competences must be trained during the studies, so that engineers can be used immediately after the studies, working highly productive. Without an internship this will never be possible. Just copy the old concept of a university for applied technologies, which was the perfect model for the industry. Please believe that nowadays it is not important if a student is one year older than the average starting a job. Most important is, as mentioned before, that the combination of theoretical know-how and soft skills are in a balance, so that the students can work productive from the first second. (E-DE 02, head of

the employee development department in a large industrial automation company, supervisor for about 50 students in practice each year)

- Practical placements are a good idea. Degrees more adapted to business requirements. (E-ES 01, project manager in a medium-sized engineering company, tutor)

- Universities should have more practical exercises like case studies. It is also important to notice that graduates are not ready right away and that the most important thing is the attitude. They can give a lot for the company but also companies and older employees can give a lot for them. (E-FI 02, training manager)
- Students should be able to operate and understand concepts and ideas in a multi-disciplinary environment, which in most cases exceeds their main background. Moreover, they should learn to provide solutions to specific problems. (E-GR 01, research director in a medium-sized research unit in nanotechnologies, practice supervisor)

- Update studies. (E-GR 02, manager in a small-sized food quality control company, supervisor for practical placement)

- Participation with the industry in common (applied) research programs. (E-GR 04, practice coordinator)

- More practical skills, e.g. ensure more students participation in practical placement programs. (E-HU 01, manager in a large industrial company, practice supervisor)

- Strengthening practical studies and inclusion of more case studies into curricula. (E-HU 02, CEO in a small investment management company, practice supervisor)

- Practical knowledge of the business environment... Encourage, assist and award the students and to take the initiative and to innovations. (E-HU 03, employee of international relations in a medium-sized agricultural research institute)

- We think a good knowledge of two languages and computer also. (E-IT 01, manager, small enterprise)

- Promoting interdisciplinary abilities and capacity to get an overall vision of the professional activities. (E-IT 03, owner, small business)

- To make the students practice more flexible, to change its time, replacing spring semester to autumn. (E-LT 01, practice tutor in an insurance company)

- More practical training, practical real life cases to be discussed, more stress on foreign languages and teamwork. (E-PL 01, manager in a small IT company, practice supervisor)

- The most important skill that a student must be given is the creativity. This is as important as the accumulation of theoretical knowledge. Another most important skill is the ability to communicate with other people. (E-TR 01, manager, medium-sized electronics company)

- In my opinion, they have to take applicable courses in business, like: programming, management, and present technology research. (E-TR 02, CEO in a small-sized hardware and software producing enterprise)

- Students haven't got enough idea about real business life. First of all, university has to teach them business ethics, market structure, work style. But the problem is not just students or curricula. If students can take an important role at company's project they can get serious experiences. (E-TR 03, HRM in a medium-sized enterprise, organization of practical placement)

- Deploying efficient practical application and internship programs. (E-TR 04, manager, small-sized enterprise)

Q 22: What changes do you think the universities should operate in their practical placement policies in order to increase the graduates' employability?

- Universities should monitor the practical placement in a company in order to assess and evaluate the skills and knowledge of the students and to better define his or her potential attitude to a specific job. (E-AT 01, CEO in a medium-sized software development company, tutor for practical placement)

- Not to choose by grades, but by their view of going abroad and experiencing something new. (E-AT 02, owner of a small company in the field of gastronomy, tutor for practical placement)

- Motivate students to be useful and personally involved in [the] results of the hosting company. (E-CZ 01, product manager in a medium-sized company, trainee leadership)

- React to [the] present situation in industries, to experience from student practical placement. (E-CZ 03, head of the marketing department in a small IT services provider, trainee leadership)

- More practical experience. (E-DE 01, HRM in a large software producing company, responsible for supervising the practical placement of students)

- Implement immediately at least one practical internship of 6 months in companies. The gained know-how of the students after 6 months working in a company is priceless. Please avoid that the students have to go to exams during this time as it will distract their daily activities at the company. (E-DE 02, head of the employee development department in a large industrial automation company, supervisor for about 50 students in practice each year)

- More tailored training and practical placements. Maybe they should have compulsory practical placement - many universities and programs do not have it. (E-FI 02, training manager)

- Stronger links between universities, research centers and industries, comprising the three poles of the triangle Education, Research and

Innovation should assist in that direction. (E-GR 01, research director in a medium-sized research unit in nanotechnologies, practice supervisor)

- To take legislative measures making the practical training compulsory for the diploma award and to be incorporated in the (national) social care system. (E-GR 04, practice coordinator)

- Long-term contracts or agreements with more companies regarding practical placement program. (E-HU 01, manager in a large industrial company, practice supervisor)

- More weekly hours of practical skills, significantly more practical placement of the students at operating companies. (E-HU 02, CEO in a small investment management company, practice supervisor)

- Introducing the testing of the students' practical knowledge. Practical placement should be carried out at numerous companies or enterprises in order to see various management solutions. (E-HU 03, employee of international relations in a medium-sized agricultural research institute)

- Must be incorporated in the curriculum practical subjects that enable the student already able to work; also a lot of stages in the companies in which they could touch the reality of job life. (E-IT 01, manager, small enterprise)

- Universities should promote internships and work experience through all the study period. (E-IT 02, practice tutor)

- By fixing in their schedule the must, (in order) to obtain a degree, of a professional stage during the studies. (E-IT, 03, owner, small business)

- Internships shall last longer than one month – preferably 3 months or one semester – it will give more profit both to the enterprise and the intern. (E-PL 01, manager in a small IT company, practice supervisor)

- Perhaps the place could be determined a long period before the practice so that the student may have some time for a preparation. This way the student may gain better qualities during the practice period. (E-TR 01, manager, medium-sized electronics company)

- The relation between industry and universities is weak. They should make this link stronger. The only way to do it is make students familiar to business life by making theoretical and practical education together. (E-TR 02, CEO in a small-sized hardware and software producing enterprise)

- The universities have to change their practical placement rules and system. One or two months are not enough for practical placement. During this short period, students can take a role and get just a few ideas about application which they learned at school. But they don't learn anything about market or business development. Practical placement must be at least one year. During practical placement, university or teachers should control students work and wanted periodical report about practical placement. (E-TR 03, HRM in a medium-sized enterprise, organization of practical placement)

- Building up sustainable university-industry collaboration. (E-TR 04, manager, small-sized enterprise)

Q 23: Which could be the role of the companies or enterprises in the development of the entrepreneurial competences of students?

- Companies should encourage the students to take their decision and to make them understand they are responsible for any future development. (E-AT 01, CEO in a medium-sized software development company, tutor for practical placement)

- The practical part. (E-AT 02, owner of a small company in the field of gastronomy, tutor for practical placement)

- Giving lectures by managers; providing specific topics for diploma thesis. (E-CZ 01, product manager in a medium-sized company, trainee leadership)

- Cooperation with university (members of scientific board, BSc and MA thesis) and influence curricula. (E-CZ 03, head of the marketing department in a small IT services provider, trainee leadership)

- The company will guide, support and help students with the daily requirements at the company. Tutors act as a personal coach for the student in terms of practical working experience and soft skills. The responsibility of the university is the training of actual theoretical knowledge. This combination will lead to a successful education which will be very competitive in the world.
  Please allow me one comment to the questionnaire. Please do not think that companies only want to employ students with good entrepreneurial competences. We also need highly qualified employees which are happy and satisfied with normal positions in production, marketing or R&D. If each new employee would like to become managing director, companies would get huge problems. In my point of view, the questionnaire is too much biased on entrepreneurial competences. As described in answer 21 and 22 it is important finding people for the right position. If companies have to start training students after their studies so that they fit the working place something went wrong. Therefore companies have to cooperate with universities [for] finding the best fit student already during the studies. This is only possible during a 6 month internship. (E-DE 02, head of the employee development department in a large industrial automation company, supervisor for about 50 students in practice each year)

- That could be big, but companies should have some kind of benefits from that also – and not just better employees' cause for all companies: This is not important. (E-FI 02, training manager)

- With the allocation of responsibilities and with the right guidance, companies contribute to the development of the students' professional skills. (E-GR 02, manager in a small-sized food quality control company, supervisor for practical placement)

- To offer a short employment test contract (following their practical training), in case of successful students. (A-GR 04, practice tutor)

- Organizing practical placement programs, give possibility to more students to take part in it. (E-HU 01, manager in a large industrial company, practice supervisor)
- Providing possibilities for obtaining of certain practical skills by the students. (E-HU 02, CEO in a small investment management company, practice supervisor)

- By testing their decision making ability; by making test decisions; discussion of crises situations; demo decision making. By discussions between the students and the managers of the companies or enterprises the actual decisions taken analyzing the pros and cons of an actual decision taken by the management. (E-HU 03, employee of international relations in a medium-sized agricultural research institute)

- The role of business is to offer internships and apprenticeships in which students can gain experience. (E-IT 01, manager, small enterprise)

- Being themselves testimonials of innovation and experimentation in workshops, special lessons and visits to the companies themselves. (E-IT 02, practice tutor)

- It would be very important to invite company leaders and/or experts during the lectures: They could explain how the problems are faced in their companies and what is the environment the new graduate can find when he finds the first job. (E-IT 03, owner, small business)

- The student could be given the FEELING that he or she can CREATE! (E-TR 01, manager, medium-sized electronics company)

- Companies are like families. If the boss is father, the student is going to be his or her child. The only mission of the father is to make his child grown up and happy. (E-TR 02, CEO in a small-sized hardware and software producing enterprise)

- At this system it's very hard to development of the entrepreneurial competences of students. If practical placement is extended, companies can share experience with students and teach them how to develop new ideas and make it real. We can give different roles to students in different departments. So they can understand all factors that influence entrepreneurship. (E-TR 03, HRM in a medium-sized enterprise, organization of practical placement)

- Being open minded for innovative business ideas of the students. (E-TR 04, manager, small-sized enterprise)

Appendix 3.3

ANSWERS OF GRADUATES AND STUDENTS TO THE OPEN QUESTIONS

Q 17: Do the hosting companies or enterprises promote an entrepreneurial culture?

- [By means of the] institutional internal information system. (GS-CZ 03, male, 26, student, 2nd year in management and marketing, master level)

- Our firm is a big multinational company, which is focusing on the client's needs, and client satisfaction, and this is also communicated towards the employees. CSR activities are also promoted. The message is that the company takes responsibility toward the clients, the employees and also the society. (GS-HU 01, male, 22, bachelor's degree, 2010, working in a position not related to the degree)

- Everybody is having their place, knowing their duty, in hierarchy and in the field of work as well. (GS-HU 02, female, 23, 4th year student in rural development)

- All interns had a few days workshop. (GS-LT 01, female, 23, bachelor's degree in marketing, unemployed, but having previously been employed)

- By giving members of organization trainings, inspiring to take proactive, initiative approach to their daily tasks, providing mentorship and coaching programs. (GS-LT 03, female, 22, bachelor's degree in economics, 2010)

- I had a summer internship (3 months, 2008) at the [international] company ZZZ in Bucharest. During this period I did not realize anything special about entrepreneurial culture. (GS-RO 01, female, 24, 1st year student in engineering and management, master level, in an Erasmus exchange program at a university in Sweden)

- I worked in an IT company, XYZ for over 2 years and it promoted an entrepreneurial culture. (GS-RO 07, male, 24, 1st year student in engineering, master level)

- Yes, because it was an international research center and the center gave all the opportunities for entrepreneurship. (GS-NL 00, female, 28, 4th year in bioengineering, doctoral level)

- I studied in a university laboratory with people from different cultures. My supervisor encouraged me to have a relationship with them and to share my ideas about my subject. (GS-DE 00, female, 24, 2nd year in bioengineering, master level, working in a position related to the bachelor's degree)

- The hosting company feels free to give all detailed information about itself and this promotes entrepreneurial abilities of participants and gives them future ideas to improve their entrepreneurial culture. (GS-TR 03, male, 25, bachelor's degree in metallurgical and materials engineering, 2007)

- They were trying to figure out the existing problems and were listening [to] diverse ideas of employees, which are the outcomes of systematic project periods. (GS-TR 09, male, 22, 4th year student in mechanical engineering, bachelor level)

- Watching the new developments, even implementing them. (GS-TR 27, no demographics, working in the field of machinery)

Q 18: Do the hosting companies or enterprises encourage employees to try new ideas?

- [By means of] benefits. (GS-CZ 01, female, 25, master's degree, 2009, working in a position not related to the degree)

- Rewards, bonuses, benefits. (GS-CZ 03, male, 26, student, 2nd year in management and marketing, master level)

- All new ideas based on lab work (I was working in [a] molecular biology lab that research new drugs etc) were tried or at least discussed with the supervisor. The environment was very innovative. (GS-DK 01, female, 22, bachelor student, 3rd year)

- Not in a large scale, but management was encouraging new ideas and techniques in order to solve problems. (GS-GR 01, male, 27, master's degree in information technology, 2008, working in a position related to the degree)

- Nobody but me knows anything about Hungary, but not even the bosses try to "know better" the ways. (GS-HU 02, female, 23, 4th year student in rural development)

- Yes, by promoting and developing new strategies of eco-sustainable tourism. (GS-IT 01, female, 27, bachelor's degree in tourism management, working in a position related to the degree)

- By giving new tasks, projects and finally, if they like those new ideas, by implementing them. (GS-LT 01, female, 23, bachelor's degree in marketing, unemployed, but having previously been employed)

- They asked to suggest new ideas about every project and implement them in casual tasks. (GS-LT 02, male, 22, bachelor's degree in international economics, 2010)

- By empowering employees to have [their] own initiatives realized (GS-LT 03, female, 22, bachelor's degree in economics, 2010)

- Yes, because it was a very successful research place and people working there are expert on their subjects. (GS-NL 01, female, 28, 4th year in bioengineering, doctoral level)

- By encouraging us in trying new solutions and fostering us in developing new projects in the sustainability field. (GS-PT 01, male, 29, master's degree in economics, 2005, unemployed, but having been previously employed)
- During the summer internship at the [international] company ZZZ in Bucharest, for example, I could come up with new ideas that were taken into consideration: e.g., possibility of writing a report about my work, possibility of doing my bachelor thesis related to the company's field, freedom of choosing my way of solving a problem (it was important the result, not the way of doing it). (GS-RO 01, female, 24, 1st year student in engineering and management, master level, in an Erasmus exchange program at a university in Sweden)

- The hosting company respects the ideas of employees by implementing the best of them and rewarding those who have had [them]. (GS-RO 07, male, 24, 1st year student in engineering, master level)

- All proposals for improvement were analyzed, and the ones considered to be good were implemented and rewarded. (GS-RO 08, male 23, engineer, looking for the first job)

- I had a chance to try new ideas in parallel to our study subject. Sometimes I asked and suggested new trials and after batting around it, if it made sense I was allowed to try. (GS-DE 01, female, 24, 2nd year student in bioengineering, master level, working in a position related to the bachelor degree)

- Yes, because it was a research center that has many patents in the field of animal biotechnology. (GS-ES 06, female, 28, 4th year student in biotechnology, doctoral level, working in research area)

- Logically, after a filtering process any "valuable" idea was trying to be put into life. (GS-TR 09, male, 22, 4th year student in mechanical engineering, bachelor level)

- Both companies and the public appreciate new ideas for reducing production costs and to produce new products. (GS-TR 10, male, 29, master's degree in biology, 2006, worked 2 years in a position related to the degree)

- There is a suggesting system. Any employer may suggest their ideas to the management (GS-TR 27, no demographics, working in the field of machinery)

Q 19: Do the hosting companies or enterprises foster and sustain innovation?

- [They have an] internal information system including news about innovative practice approaches. (GS-CZ 03, male, 26, student, 2nd year in management and marketing, master level)

- By trying new methods and ideas, not sticking to the "good old." (GS-DK 01, female, 22, bachelor student, 3rd year)

- Having a look at the procedures fostering innovation, implemented in other companies. (GS-ES 04, female, 24, 3rd year student in journalism, bachelor level)

- Yes, innovation and taking new patents are encouraged with the needs of the private sectors. (GS-ES 06, female, 28, 4th year student in biotechnology, doctoral level, working in research area)

- By adopting latest technologies and collaborating with other similar companies from other countries. (GS-GR 01, male, 27, master's degree in information technology, 2008, working in a position related to the degree)

- There are always some new ideas to reduce costs and time spent on unnecessary things, and new technologies to help the employees concentrate on their work, and make it easier. We have instant message programs, video conferences, etc. (GS-HU 01, male, 22, bachelor's degree, 2010, working in a position not related to the degree)

- By promoting new and innovative forms of tourism, respecting nature and environment. (GS-IT 01, female, 27, bachelor's degree in tourism management, working in a position related to the degree)

- The company follows innovations. The company buys new software in order to develop and improve its work. (GS-LT 01, female, 23, bachelor's degree in marketing, unemployed, but having previously been employed)

- They are following the newest trends in the world in their field. (GS-LT 02, male, 22, bachelor's degree in international economics, 2010)

- Yes, but without a concrete system, just by empowering employees to have their own initiatives realized. (GS-LT 03, female, 22, bachelor's degree in economics, 2010)

- It is not the company, nor the enterprise, it's almost a governmental institution (powers given by the Ministry of Finance), which functions are important for all people in the country (especially investors, commercial banks). There are not many innovations approved: only those of [the] IT sector and those, which are necessary to make services of securities depository, payments and settlement. (GS-MT 04, female, 23, working student, 4th year in finance, bachelor level)

- Yes, they do not work only with the known methods; they also encourage students to try new things. (GS-NL 01, female, 28, 4th year in bioengineering, doctoral level)

- Applying new environmentally friendly procedures. (GS-PT 01, male, 29, master's degree in economics, 2005, unemployed, but having been previously employed)

- ZZZ, being a multinational company, is a place where innovation is very important to maintain their position on the market, especially in the competitive field of FMCG (fast moving consumer goods). (GS-RO 01, female, 24, 1st year student in engineering and management, master level, in an Erasmus exchange program at a university in Sweden)

- The hosting company fosters and sustains innovation by always looking for people with innovative ideas. Innovation is the soul of a sustainable development. (GS-RO 07, male, 24, 1st year student in engineering, master level)

- New ideas were always seriously analyzed and rewarded if approved. (GS-RO 08, male, 23, engineer, looking for the first job)

- The participant usually has a broad point of view about operational controls in the company and expresses his or her thoughts freely and so has a more open-minded point of view. (GS-TR 03, male, 25, bachelor's degree in metallurgical and materials engineering, 2007)

- They support students to try new ideas. (GS-TR 07, female, 31, bachelor's degree in agriculture engineering, 2002, working in a position related to her degree)

- They are actually trying to build a R&D department in which employees that are trained by said company can try to do improvements on the existing projects. (GS-TR 09, male, 22, 4th year student in mechanical engineering, bachelor level)

- Technologically they support the innovations. Most of the equipments are new. (GS-TR 27, no demographics, working in the field of machinery)

Q 20: Please describe the way the company ensures the development of entrepreneurial competences and skills for the students in practical placement.

- Work on real projects; involvement in company's life. (GS-CZ 01, female, 25, master's degree, 2009, working in a position not related to the degree)

- A student works out a project individually only with support of a consultant from the company. (GS-CZ 03, male, 26, student, 2nd year in management and marketing, master level)

- They give presentations about their thesis and projects mostly every week. It makes students to see what the others had done and to make a decision what they should do more and how they can make it better. (GS-DE 01, female, 24, 2nd year in bioengineering, master level, working in a position related to the bachelor degree)

- By involving the students in each procedure. (GS-ES 04, female, 24, 3rd year student in journalism, bachelor level)

- Students were placed in different divisions of the IT department. They were not coming close to the decision centers, so it wasn't easy to develop entrepreneurship or other management skills. They were focused mostly into technical skills. (GS-GR 01, male, 27, master's degree in information technology, 2008, working in a position related to the degree)

- I do not think that the dedicated goal is to develop entrepreneurial competences in practical placements. Usually on practical placements interns are trained to be good employees, and not entrepreneurs. Firms teach skills [on] how to work in a multinational and multicultural environment, how to act in a team, how to meet the deadlines, develop business language skills, but they do not teach (…) interns how to lead, how to develop new ideas, how to negotiate etc… My goal is to develop these skills, so I have to pay attention on my leaders, managers, and try to learn. This is not an easy task without direct help. (GS-HU 01, male, 22, bachelor's degree, 2010, working in a position not related to the degree)

- Not really. I am the first trainee, and I think, the last one for a while. (GS-HU 02, female, 23, 4th year student in rural development)

- Participating in business meetings. (GS-HU 03, male, 25, master's degree in corporate finance, working in a position related to the degree)

- We developed and partly establish an eco-sustainable program. (GS-IT 01, female, 27, bachelor's degree in tourism management, working in a position related to the degree)
- Students have real challenges and task everyday: contacts with customers on daily basis, projects development and implementation, presentations of some new projects. (GS-LT 01, female, 23, bachelor's degree in marketing, unemployed, but having previously been employed)
- They do not do that. (GS-LT 02, male, 22, bachelor's degree in international economics, 2010)

- My tasks were really challenging ones, a huge range of competences as marketing, HR, events, project management, strategic planning was needed to complete the tasks. The tasks itself and the atmosphere was ensuring my development. (GS-LT 03, female, 22, bachelor's degree in economics, 2010)

- Firstly, the host institution wants a student to learn specific English language, correspondence formulas with the brokers, banks, investors, etc. (in the field of securities delivering and operations in clients' bank accounts). Secondly, they require to use [the] computer a lot (you must be computer-literate, as well as to know the techniques of working on special program of depository); finally, people in an institution communicate a lot, a student naturally gains adoption of organizational ethics. (GS-MT 04, female, 23, working student, 4th year in finance, bachelor level)

- They are open to innovation and give full support to the students. (GS-NL 01, female, 28, 4th year in bioengineering, doctoral level)

- There are some tasks to be performed individually, needing information and entrepreneurship in gathering information, but working in a mine means rather less entrepreneurship. (GS-PL 01, male, 21, 3rd year student in a mining engineering program)

- Leaving us the opportunity to create and develop new projects. (GS-PT 01, male, 29, master's degree in economics, 2005, unemployed, but having been previously employed)

- Practical work; contact with new product; contact with new situation. (GS-PT 03, female, 34, master's degree in sustainability, working in a position not related to the degree)

- The company ensures the development of entrepreneurial competences and skills for the students in practical placement by accepting every idea of students as to arrive at a creative idea [which] is needed to combat many other ideas. (GS-RO 07, male, 24, 1st year student in engineering, master level)

- The company encourages the working abilities of the student by giving him or her a place in the work cycle of the company and also it gives responsibility to the participants and teaches them "how to decide" in certain situations, and sometimes "critical" situations. These abilities help the participants to develop their future entrepreneurial competences and skills. (GS-TR 03, male, 25, bachelor's degree in metallurgical and materials engineering, 2007)

- Depart a specified department for students where they need brainstorming, new ideas, new techniques, etc. (GS-TR 06, female, 22, 4th year student in manufacturing, bachelor level)

- Unfortunately, the company does not spend time and effort on it. (GS-TR 07, female, 31, bachelor's degree in agriculture engineering, 2002, working in a position related to her degree)

- The students generally are not encouraged to or motivated to develop their skills. (GS-TR 08, male, 30, master's degree in business administration, 2006, working in a position related to the degree)

- Even if it is weak, they (…) [tried to put] me into a small project. But (…) [the information wasn't] available for me because of the privacy policy. It ended with an accumulation of my own experience and in the end I learned that they were already thought by some other person beforehand. If I were able to reach that schematics and reports I could go further and come up with a product. (GS-TR 09, male, 22, 4th year student in mechanical engineering, bachelor level)

- [Within the] company, during the internship, students may want to produce new ideas or [work on] existing projects, and projects run in different ways

to contribute to the project [they] can provide. (GS-TR 10, male, 29, master's degree in biology, 2006, worked 2 years in a position related to the degree)

- Education should be started from the core; students should be employed as interns so that the education starts earlier. (GS-TR 27, no demographics, working in the field of machinery)

Q 21: What changes do you think the universities should operate in their curricula in order to increase the graduates' employability?

- Theory taught in universities should be combined more with practical examples or case studies. Thus, the students can apply the studied material once before they are supposed to do that in practice. I was in situations whereby I should have known the meaning of certain situations and words from theory but as I had never seen an applied case it took me some time to realize how the theory I learned before could look in the real world. (GS-BE 02, female, 26, master's degree in agricultural economics, 2009, working in a position related to the degree)

- More lectures hosted by specialists. (GS-CZ 01, female, 25, master's degree, 2009, working in a position not related to the degree)

- More visiting people from companies at lectures, seminars. (GS-CZ 03, male, 26, student, 2nd year in management and marketing, master level)

- I suggest giving some lectures in cooperation with companies or plants. (GS-DE 01, female, 24, 2nd year in bioengineering, master level, working in a position related to the bachelor degree)

- More group-work for sure, and teachers have to emphasize it so that students understand why it is needed. Ability to work as a group – share ideas and gain ideas from others – is in my mind more important than individual skills. (GS-DK 01, female, 22, bachelor student, 3rd year)

- Universities should take into account the demand coming from the market and modify, accordingly to it their offer, in order to fulfill the need and to increase the students' employability. (GS-ES 04, female, 24, 3rd year student in journalism, bachelor level)

- Include subjects mores related with the research and innovation. (GS-ES 05, female, 26, master's degree in industrial engineering, working in a position related to the degree and doing post graduate study)

- Have compact relationships with the industry and [be] aware of the industrial needs. (GS-ES 06, female, 28, 4th year student in biotechnology, doctoral level, working in research area)

- I think universities develop only academic skills. Graduates (…) lack (…) practical skills. They are not able to solve real life problems in their work. They do not know how to use their academic skills in the practice. So I think universities have to start practical education before the placement with guest speakers, on the spot training during site visits. Students should deal [with] real life problems in school, and should practice real life situations. Teachers should not explain only theoretical things, but "how to do this or that" too. (GS-HU 01, male, 22, bachelor's degree, 2010, working in a position not related to the degree)

- They could give at least contact lists... very hard to find anything in a foreign country (GS-HU 02, female, 23, 4th year student in rural development)

- Give more practical and useful information regarding the jobs in real life. (GS-HU 03, male, 25, master's degree in corporate finance, working in a position related to the degree)

- Offer courses that are based on case studying and team working. Develop presentation, communication and time management skills of the students. (GS-GR 01, male, 27, master's degree in information technology, 2008, working in a position related to the degree)

- Universities, faculties and specializations should be in line with the continuous changes within the labour market. (GS-IT 01, female, 27, bachelor's degree in tourism management, working in a position related to the degree)

- The universities have to include more practical methods: real challenges for the students, real business experience, contacts with companies or business people. (GS-LT 01, female, 23, bachelor's degree in marketing, unemployed, but having previously been employed)

- More practice, less theory. (GS-LT 02, male, 22, bachelor's degree in international economics, 2010)

- The career center should organize more events for students, use and build the network of university partners to cooperate in concrete programs with more beneficial for both sides [of the] internship program. Career days is not enough, I believe centralized internship programs for students,

facilitated by [the] career center could be an option. (GS-LT 03, female, 22, bachelor's degree in economics, 2010)

- Professional internship is the first step to improve skills and prepare for employment (not only to get specific knowledge, but as a chance to start working in the same place). What is related to [the] studies' program, more practical tasks (not only the presentations on Power Point) should be included, for example, real-life situations, imitation in a group, working on solutions in a group. By the way, although the report that a student has to write, is an additional and hard work, it is very positive, because student then is stimulated to gain additional knowledge, ask other workers to explain new things, analyze the accounts, etc. (GS-MT 04, female, 23, working student, 4th year in finance, bachelor level)

- There must be a strong relationship between the university and [the] industry. (GS-NL 02, female, 28, 4th year in bioengineering, doctoral level)

- More contacts with the employers, but in our faculty the studies are very practical and developing employability. (GS-PL 01, male, 21, 3rd year student in a mining engineering program)

- Universities should increase the cooperation with enterprises and allow the students to practice more their skills in the real business world. (GS-PT 01, male, 29, master's degree in economics, 2005, unemployed, but having been previously employed)

- Contact with the company. Development [of] a new product with companies. (GS-PT 03, female, 34, master's degree in sustainability, working in a position not related to the degree)

- I think the necessary changes that should be brought to the curricula are: the use of practical examples and past experiences when teaching a subject and the introduction of mandatory practical placement. (GS-RO 06, male, 24, 1st year student in industrial engineering, master level)

- To increase the graduates' employability the universities should find a better rapport between theory and practice, because in many universities is made too much theory and too little practice. (GS-RO 07, male, 24, 1st year student in engineering, master level)

- They need to increase hands-on experience and practical training. (GS-RO 08, male, 23, engineer, looking for the first job)

- The universities' top priority is to "increase" the amount of time students spare in companies or enterprises. This can be done in forms of "lesson ending" projects and these projects should become a necessity for the students and their performances should be followed carefully as a part of university politics. (GS-TR 03, male, 25, bachelor's degree in metallurgical and materials engineering, 2007)

- Make companies feel sure about their student's education, capabilities. (GS-TR 06, female, 22, 4th year student, bachelor level in manufacturing)

- This can be done formal. They are concentrated on real life projects. (GS-TR 07, female, 31, bachelor's degree in agriculture engineering, 2002, working in a position related to her degree)

- Workshops and/or case studies should be organized to prepare the students for the business life. (GS-TR 08, male, 30, master's degree in business administration, 2006, working in a position related to the degree)

- For engineering departments, project management is an important skill and this should be started to be imposed far before the last year, in a longer period of time. (GS-TR 09, male, 22, 4th year student in mechanical engineering, bachelor level)

- The universities need more practice lessons and real experience. (GS-TR 10, male, 29, master's degree in biology, 2006, worked 2 years in a position related to the degree)

- Employers care about the experience generally. That's why the university graduated people could not be hired mostly. Practical training days should be increased. (GS-TR 27, no demographics, working in the field of machinery)

Q 22: What changes do you think the universities should operate in their practical placement policies in order to increase the graduates' employability?

- Some universities in Germany organize their own little "application fairs" with companies or institutions relevant to the study area. More universities should do that; also for rather specific study areas (it is already very common for business administration or economics but not so much for regional studies, linguistics or very specific life sciences). (GS-BE 02, female, 26, master's degree in agricultural economics, 2009, working in a position related to the degree)

- More practice in different companies. (GS-CZ 01, female, 25, master's degree, 2009, working in a position not related to the degree)

- Give students the possibility to cooperate more often with companies for working out tasks in each individual subject. (GS-CZ 03, male, 26, student, 2nd year in management and marketing, master level)

- They should be in communication with the companies. They can organize special days for students. (GS-DE 01, female, 24, 2nd year in bioengineering, master level, working in a position related to the bachelor degree)

- To promote more students to go abroad. (GS-DK 01, female, 22, bachelor student, 3rd year)

- Each university should be able to offer a wide range of practical placements so that the students could implement their skills and knowledge in the required sector. (GS-ES 04, female, 24, 3rd year student in journalism, bachelor level)

- More practical placements in companies. (GS-ES 05, female, 26, master's degree in industrial engineering, working in a position related to the degree and doing post graduate study)

- Match students and employers interests in order to increase [the] level of understanding between counterparts. (GS-GR 01, male, 27, master's degree

in information technology, 2008, working in a position related to the degree)

- Maybe before the real practical placement, there should be more small (2-3 weeks) but mandatory placements (founded and coordinated by the university), so students could meet different companies, and could choose which is the more interesting area for him or her. For example, I worked in the public sector and in the private sector too, and I know the differences, I know in which I want to work in the future. (GS-HU 01, male, 22, bachelor's degree, 2010, working in a position not related to the degree)

- Provide proper information in time. (GS-HU 03, male, 25, master's degree in corporate finance, working in a position related to the degree)

- The training periods should be compulsory and should last at least six months. (GS-IT 01, female, 27, bachelor's degree in tourism management, working in a position related to the degree)

- Universities could get into (…) contact with companies in order to work and create business opportunities together. (GS-LT 01, female, 23, bachelor's degree in marketing, unemployed, but having previously been employed)

- To start more intensive communication between [the] university and businesses. (GS-LT 02, male, 22, bachelor's degree in international economics, 2010)

- This centralized internship facilitated by university career center would be beneficial for students and companies as there would be only one source to get all needed information, less administration work. (GS-LT 03, female, 22, bachelor's degree in economics, 2010)

- No changes are needed. Maybe the university should find more contacts, partners, to which students can go and make their internship (because every student is interested in different fields of economics and banking); on the other hand, the success of getting into [a] good place of internship depends on a student: if he knows what he wants and what he is keen on doing, he will find it on his own and initiate the triangular treaty between him, university and a host institution. (GS-MT 04, female, 23, working student, 4th year in finance, bachelor level)

- Universities should invest more in the partnership with the labour market. (GS-PT 01, male, 29, master's degree in economics, 2005, unemployed, but having been previously employed)

- Courses with practical time in companies (GS-PT 03, female, 34, master's degree in sustainability, working in a position not related to the degree)

- I consider it would be necessary that the universities have a closer approach to companies, the summer internships should be longer (at least 2 months), the placement should be finished with a project, [when giving the instructions for the summer internships] there are explained also the benefits of the practical placement, in order to motivate the students to put in all their efforts, but also to start to have a view of their profession in [the] future. (GS-RO 01, female, 24, 1st year student in engineering and management, master level, in an Erasmus exchange program at a university in Sweden)

- I think the change the universities should operate in their practical placement policies is collaborating with different companies from different industries in order to give the students the opportunity to choose the field they want to specialize in. (GS-RO 06, male, 24, 1st year student in industrial engineering, master level)

- About their practical placement policies, the universities should increase the awareness on the benefits of these programs because they make efficiently the transition between the studies from [the] university and the real job. (GS-RO 07, male, 24, 1st year student in engineering, master level)

- Increased control and evaluation of the student's activity. (GS-RO 08, male, 23, engineer, looking for the first job)

- There is a lack of serious control mechanism of practical placement of students in most universities. Practical placement of students is a must in the scope of their education program, but the performance of students is not examined carefully or in a detailed manner. More attention should be paid by university management to this control and performance mechanism. The students should be encouraged in a way that increases their entrepreneurial competences personally by their instructors. (GS-TR 03, male, 25, bachelor's degree in metallurgical and materials engineering, 2007)

- The universities should match their CV with the companies. (GS-TR 07, female, 31, bachelor's degree in agriculture engineering, 2002, working in a position related to her degree)

- Universities should tailor their policies for the business environment and the possibility of new growing industries around so that they can (…) [guide] the students. (GS-TR 08, male, 30, master's degree in business administration, 2006, working in a position related to the degree)

- Practical placements should be considered seriously as a course, and the company and [the] university should be in contact. Leaving a student to a company doesn't solve things. Because no one can know what the other side expects. Universities should focus on needs in market and prepare a solid program for practical placements. In that way, they can manipulate the companies to apply the program and start to graduate "ready-to-work" students. With a good feedback mechanism (not essentially grading) this could work. (GS-TR 09, male, 22, 4th year student in mechanical engineering, bachelor level)

Q 23: Which could be the role of the companies or enterprises in the development of the entrepreneurial competences of students?

- Companies could require new recruits to write little reports or give short presentations about their work, so that they can reflect about what they are doing and whether it was successful. Cooperation with universities for case studies already during the study programs would further enhance entrepreneurial skills; e.g. XXX does this with the MSc program "AgriBusiness" of the University of ZZZ. (GS-BE 02, female, 26, master's degree in agricultural economics, 2009, working in a position related to the degree)

- Providing topics for diploma thesis. (GS-CZ 01, female, 25, master's degree, 2009, working in a position not related to the degree)

- Providing company environment for the student, providing possibility to compare theoretical knowledge from university with reality in a company. (GS-CZ 03, male, 26, student, 2nd year in management and marketing, master level)

- To give more chance to students from different departments to practice what they learn and to follow the innovations in universities. (GS-DE 01, female, 24, 2nd year in bioengineering, master level, working in a position related to the bachelor degree)

- Give them as much and different tasks as possible. (GS-DK 01, female, 22, bachelor student, 3rd year)

- Allowing that the workers improve professionally doing different works (GS-ES 02, female, 26, master's degree in industrial engineering, working in a position related to the degree and doing post graduate study)

- Companies should involve the students in their decision making procedures in order to stimulate them to find solutions to the problems. (GS-ES 04, female, 24, 3rd year student in journalism, bachelor level)

- Endorse new ideas and students' innovation by funding startup companies and use experienced employees as mentors for the young professionals.

(GS-GR 01, male, 27, master's degree in information technology, 2008, working in a position related to the degree)

- To develop these skills, completely different programs are needed. If we want entrepreneurial skills, we have to put the students near entrepreneurs and other decision makers, managers, leaders. The goal should be to educate a successful entrepreneur, so she or he should be next to a manager all day, and learn. Take part in meetings; learn the way they make the decisions. (GS-HU 01, male, 22, bachelor's degree, 2010, working in a position not related to the degree)

- They can show the students a little piece of the real world. (GS-HU 02, female, 23, 4th year student in rural development)

- Provide the first experiences of the real business life. (GS-HU 03, male, 25, master's degree in corporate finance, working in a position related to the degree)

- Only enterprises and companies allow students to put into practice the theoretical knowledge and allow them to acquire skills. (GS-IT 01, female, 27, bachelor's degree in tourism management, working in a position related to the degree)

- To develop new business opportunities together. Business people, owners of the enterprises could give an opportunity to do an internship in their companies. (GS-LT 01, female, 23, bachelor's degree in marketing, unemployed, but having previously been employed)

- To show how everything is working and the opportunities of having their own business. (GS-LT 02, male, 22, bachelor's degree in international economics, 2010)

- The most important is [the] active role of [the] university, that not only all companies could give placement for students, only those who want and can provide challenging job description and time to supervise the student. (GS-LT 03, female, 22, bachelor's degree in economics, 2010)

- They (not only the coordinator, but also other employees in a host institution) must be willing to give the student the knowledge of all the

fields the company is working in. But they should be taking half of a role – other side is upon a student – he must be interested and willing to work on these spheres. (GS-MT 04, female, 23, working student, 4th year in finance, bachelor level)

- They must work with the universities and allow students to have role in the production. (GS-NL 01, female, 28, 4th year in bioengineering, doctoral level)

- They can give students a much more complete and less academic approach to reality. (GS-PT 01, male, 29, master's degree in economics, 2005, unemployed, but having been previously employed)

- More practical; international training. (GS-PT 03, female, 34, master's degree in sustainability, working in a position not related to the degree)

- When the students perform their practical placement it should be more transparency between the employees and the students, in order to understand very well what is happening there, but also to have a global view of the field and to identify the external factors. This means that the students' activities are well planned and monitored by the persons working there, and they are encouraged to (…) [ask] questions inside the company. (GS-RO 01, female, 24, 1st year student in engineering and management, master level, in an Erasmus exchange program at a university in Sweden)

- The practical placement completes the student's theoretical knowledge… helps students to integrate into organizational environment and to develop entrepreneurship through the opportunities offered. (GS-RO 02, female, 24, graduated in 2010, working in a position related to the degree)

- In order to develop the entrepreneurial competences of students, the companies should offer the students access to as much information as possible for most of their departments so as to give the students a global view of how a business is run. (GS-RO 06, male, 24, 1st year student in industrial engineering, master level)

- The companies should have partnerships with universities and realize different presentations for the students to arouse their desire to come up with ideas for the development of various ongoing projects. (GS-RO 07, male, 24, 1st year student in engineering, master level)

- They could give the students more insight into the decision-making process of a company and make them be more interested in entrepreneurship. (GS-RO 08, male, 23, engineer, looking for the first job)

- The companies should pay more attention to [the] "practical placement" of participants. They should arrange serious training programs in their scope and make the participants feel (…) that they are able to do important things in their future business lives. (GS-TR 03, male, 25, bachelor's degree in metallurgical and materials engineering, 2007)

- Universities and companies should work together. (GS-TR 07, female, 31, bachelor's degree in agriculture engineering, 2002, working in a position related to her degree)

- Companies should share their vision with the students. (GS-TR 08, male, 30, master's degree in business administration, 2006, working in a position related to the degree)

- I don't expect much from companies. If the program, which is professionally built by universities, is applied in the companies, everything should work fine – assuming the program is made in coordination with the market. (GS-TR 09, male, 22, 4th year student in mechanical engineering, bachelor level)

- If the opportunity is given to fresh brains new and different ideas would come up. (GS-TR 27, no demographics, working in the field of machinery)

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